

ALWAYS THERE



ALWAYS THERE

A HISTORY OF AIR FORCE COMBAT SUPPORT

Graham O'Brien

© Commonwealth of Australia 2009

This work is copyright. Apart from any use as permitted under the *Copyright Act 1968*, no part may be reproduced by any process without prior written permission. Inquiries should be made to the publisher.

Disclaimer

The views expressed in this work are those of the author and do not necessarily reflect the official policy or position of the Department of Defence, the Royal Australian Air Force or the Government of Australia, or of any other authority referred to in the text. The Commonwealth of Australia will not be legally responsible in contract, tort or otherwise, for any statements made in this document.

Release

This document is approved for public release. Portions of this document may be quoted or reproduced without permission, provided a standard source credit is included.

National Library of Australia Cataloguing-in-Publication entry

Author: O'Brien, Graham, 1952-

Title: Always there : a history of Air Force Combat Support / Graham O'Brien.

ISBN: 9781920800451 (pbk.)

Subjects: Australia. Royal Australian Air Force. Combat Support Group--History.

Australia. Royal Australian Air Force--Ground support.

Air bases--Australia--History.

Dewey Number: 358.4131

Cover Photos

Front Cover:

A CSG tradesman (Corporal Peter Fisher) works on the construction of a modern military shelter at Kandahar, Afghanistan, 2007, while an early Air Force construction team (background) break during work on Bessoneau hangars at Point Cook in the 1920s (images courtesy of No 1 Air Operations Support Squadron and RAAF Museum)

Rear Cover, from top:

CSG health staff training for AME operations on the C-17 Globemaster, Kadena, Japan, 2007 (Health Services Wing)

An AME patient is loaded on to a C-47 Dakota during the Korean War, supervised by a RAAF nurse (Flight Officer Betty Washington), Kimpo, Korea, c. 1953 (RAAF Museum)

A mobile workshop of the Australian Flying Corps, Point Cook, 1916 (RAAF Museum)

ADGs patrol through the mulga in western QLD, 1998 (RAAF Museum)

[Faded in the background – A Bushmaster protected mobility vehicle with crew and a military working dog team, 2008 (No 395 Expeditionary Combat Support Wing)]

Published and distributed by:

Air Power Development Centre
TCC-3, Department of Defence
CANBERRA ACT 2600
AUSTRALIA

Telephone: + 61 2 6266 1355
Facsimile: + 61 2 6266 1041
E-mail: airpower@defence.gov.au
Website: www.raaf.gov.au/airpower

FOREWORD

The effectiveness of the Royal Australian Air Force depends on our ability to deploy air power wherever and whenever necessary. The RAAF must also have the ability to sustain deployed operations at a tempo of our own choosing for potentially long periods of time. Our unique geo-strategic position determines that most ADF operations will be, essentially and by necessity, expeditionary and the vast size of Australia's territory makes even exercises and training expeditionary in nature. In recent years, the RAAF has been repeatedly called upon to undertake air expeditionary operations in Timor, Bougainville, Solomon Islands, and Indonesia, as well as our ongoing commitments in the Middle East Area of Operations.

Australia is widely regarded as having the best smaller air force in the world. As this book makes clear, central to this assessment is our capacity and demonstrated ability to establish and operate forward air bases to sustain our air combat forces in theatre. Graham O'Brien takes us through the story of combat support, from the formative years of Australian military aviation in World War I through to the most recent activities of Combat Support Group elements in East Timor and the Middle East.

This book, however, is not just simply the story of the Air Force's support for air combat operations. Graham has drawn out and highlighted many valuable lessons in his extensive research of combat support operations and units. He narrates each operational commitment from the perspective of a commander - an approach to the subject matter that he is well qualified to take. In a career spanning 35 years as a RAAF navigator, Graham has extensive combat support experience: from his initial appointment to No 1 Operational Support Unit in the 1980s, through to his final posting as Officer Commanding No 395 Expeditionary Combat Support Wing in 2005; and through his participation in major combat support operations, including deployment to East Timor with INTERFET. As a staff officer, senior executive and commander, Graham has witnessed and helped shape the strategic policy and development of the Combat Support Group.

In 2008 the Combat Support Group celebrated its tenth anniversary, and I would like to congratulate Graham for this contribution to both the history of the RAAF and our professional understanding of combat support. I recommend this book to anyone involved in the planning and conduct of air operations and to those with a professional or personal interest in the support of air power operations.

Air Marshal Mark Binskin, AM
Chief of Air Force

ABOUT THE AUTHOR

Graham O'Brien served in a variety of posts during his 35-year Air Force career, as a navigator and qualified navigation instructor on C-130 and trainer aircraft, as an intelligence staff officer and extensively in combat support roles. Over several postings covering 20 years, as a unit and wing executive officer and commander, and as a staff officer at the strategic and operational levels, he developed an expansive knowledge of combat support and witnessed much of its history.

He lives bayside in Brisbane with his wife Janet, is a recent grandparent and plans to write some more.

CONTENTS

Foreword.....	v
About the Author.....	vi
Contents.....	vii
List of Illustrations.....	viii
Preface.....	xiv
Abbreviations.....	xvi
Chapter 1: AFC and the Early RAAF.....	1
Chapter 2: World War II.....	17
Chapter 3: Base Squadrons and Support Units.....	53
Chapter 4: Defence Reforms.....	89
Chapter 5: Down to Business.....	121
Chapter 6: Remedial Action.....	153
Chapter 7: Building a Legacy.....	177
Chapter 8: Reshape and Rebalance.....	211
Appendix 1: Commanders and Units – Combat Support Group.....	235
Appendix 2: Commanders and Units – Operational Support Group.....	239
Appendix 3: RAAF Combat Support Units of World War II.....	241
Appendix 4: Major ADF Operations Supported by CSG.....	245
Bibliography.....	247
Index.....	251

LIST OF ILLUSTRATIONS

Combat support to the Half Flight included mule teams, seen here recovering a very broken BE2c aircraft, Mesopotamia, c. 1916	4
Mobile aerodrome control tower, Suez (Egypt), c. 1916.....	5
AFC base camp with airfield in the background, Middle East, c. 1917	7
Equipment gifted from Britain for the new Air Force, Point Cook.....	9
Mobile radio workshop, late 1920s	11
Motor Transport Section, RAAF Point Cook, 1928.....	12
Chief of the Air Staff, Air Vice-Marshal Williams, inspects a Morris Cowley truck, Laverton, c. 1936.....	13
Response teams were mainly concerned with fires	19
New arrivals in the Middle East, possibly 450 Squadron, May 1941	21
Mess area, North Africa, c. 1943.....	23
No 1 Air Ambulance Unit provided aeromedical evacuation for all Allied forces, Sicily, September 1943.....	25
Christmas church service, Gambut, December 1942.....	26
Slit trenches and dispersal reduced the damage for the RAAF at Singapore ..	28
Radio operator, Corporal Bell, after escape from the base on Timor, March 1942	31
Damaged hangar at RAAF Darwin, with the landmark water tower in the background, 19 February 1942.....	34
The main store on fire, RAAF Darwin, 19 February 1942.....	35
No 2 Airfield Defence Squadron and Airfield Construction Squadron personnel go ashore at Tarakan, Borneo, May 1945	39
Mobile stores, probably of 25 Air Stores Park, at Noemfoor, PNG, October 1944.....	40
Mealtime, South-West Pacific, c. 1944	42
Airfield construction was critical to air operations	44
Clearing the airfield road with protection party, Noemfoor, PNG, November 1944.....	46
Bren gun crew, Noemfoor, August 1944.....	48
First arrivals in Japan with the Occupation Force, Bofu, 1945.....	53
Bofu barracks, Japan, c. 1946.....	55
Fire Section, Bofu, Japan, 1948.....	57
Forward area, Korea, c. 1955.....	59
Loading aeromedical evacuation patient, Kimpo, Korea, c. 1953	62
Unloading 2 Airfield Construction Squadron equipment.....	64

RAAF Ubon domestic area, Thailand, 1962	65
Prime Minister John Gorton visits 1 Operational Support Unit, Vung Tau, Vietnam, c. 1968	69
ADG Section (Watch-Dog 23) of 2 Squadron, Vietnam, March 1970	71
The original 'gun-buggy', Vietnam, c. 1969	72
Leading Aircraftman Colin Oakes washes off temporary camouflage paint, Toowoomba, c. 1986	75
Air Vice-Marshal Bernie Reynolds (AOCOC) visits Catering Section.....	76
No 2 Airfield Defence Squadron personnel, Exercise <i>Kangaroo</i> 83, Roebourne, WA, 1983.....	77
ANZAC Day 1986, Exercise <i>Pelicans Progress</i> , Windorah, QLD	78
Nuclear, biological and chemical defence training, Exercise <i>Green Exposure</i> , Toowoomba, 1989	80
RAAF Curtin was activated for the first time in Exercise <i>Kangaroo</i> 89.....	82
Joint exercises provided invaluable training – Exercise <i>Diamond Dollar</i> , Lakeland Downs, 1987	83
Squadron Leader Mark Gower, CO 1 Operational Support Unit, and some of the SPPKF Forward Operating Base team, Buka, 1994	85
Operation <i>Vista</i> , Butterworth, 1997	87
No 1 Operational Support Unit Fire Section with Oshkosh truck, Lakeland Downs, 1987	91
No 327 Contingency Air Base Wing Aeromedical Staging Facility (ASF), Exercise <i>Tandem Thrust</i> , Rockhampton, 1997	93
Strach hangar construction, Curtin, 1994	95
Driver training with the new Unimog trucks, Wide Bay, QLD, 1988.....	96
No 1 Operational Support Unit field catering course on the versatile mobile field kitchen, Townsville area, c. 1994	99
Loading fodder for airdrop, Narromine, c. 1994	100
Building bridges, Bluewater training area (Townsville), 1997.....	103
Laying AM2 matting, Darwin, with the landmark water tower in the background, 1994.....	104
Mobile air traffic control tower under camouflage, Scherger, 1998.....	108
Personnel of 2 Airfield Defence Squadron patrolling through town, Quilpie, QLD, 1998	111
On guard, Exercise <i>Swift Eagle</i> 96, Mount Garnet, QLD.....	113
Health Services Wing medical staff deploy to Sumatra following the Asian tsunami, 2004.....	115
Filling sandbags, Exercise <i>Northern Awakening</i> , Scherger, 1999	117

Airfield Defence Wing practised joint air base protection on Exercise <i>Winter Sun</i> , Quilpie, 1998	118
Corporal Tony Smith of MATU loads relief stores during Operation <i>Ples Drai</i> , PNG, 1998	123
Flying Officer Gabriel Carey, Operation <i>Ausindo Jaya</i> , 1998	124
Prime Minister John Howard welcomed by the traditional owners at the opening of RAAF Scherger, August 1998	126
Comoro airfield, Dili, c. October 1999	131
Early accommodation at Comoro, Dili, September 1999	132
Leading Aircraftmen David Clewes and Matt Larkin constructing latrines at Comoro, September 1999	134
Warrant Officer Laurie Best, 2 Airfield Defence Squadron, in the original Base Command Post, Comoro airfield, Dili, September 1999	135
Reporting from a perimeter weapon pit, Comoro, Dili, September 1999	138
Corporal Roger Shordan installs mains power with help from Kenyan engineers and local civilians, Comoro, 2000	140
The Dili tarmac was always congested with a variety of aircraft types, Dili, c. August 2000	142
Baucau offered greater tarmac space and a longer runway, November 1999	143
Change of the flag ceremony, Comoro, January 2000	145
Commander INTERFET, Major General Peter Cosgrove, addresses component staff at Obrigado Barracks, Dili, February 2000	146
Unidentified fitter of the CASG with maintenance vehicle in UN markings, Baucau, c. September 2000	147
CSG personnel served with UNTAET, Dili, December 2000	148
Meals for the needy, Dili, 2000	150
Prime mover on the Peninsular Development Road, Cape York, 2005	154
Leading Aircraftmen Bevan Gillam and Mark Fellows build a hardened command post, High Range, Townsville, 2004	159
Ground support equipment fitters atop new air conditioners, Singleton, 2004	160
The Air Transportable Hospital was a major beneficiary of the remediation projects, Singleton, 2004	163
The East Timor remediation projects, c. 2004	164
Bare base caches were upgraded and needed protection from the weather, Exercise <i>Remote Trek</i> , 1998	166
Tradesmen aloft on military shelter, Kandahar, Afghanistan, 2007	168
Unloading C-130, Exercise <i>Northern Station</i> , 2004	171
ADGs on security duty, Baghdad International Airport, June 2003	173

Loading C-130 passengers at Baghdad, 2004	179
Unloading stores in the Middle East, 2004.....	182
Baghdad traffic handled by the air traffic control detachment, June 2003 ...	185
Air Vice-Marshal Geoff Shepherd, Air Commander Australia, visits the air traffic control detachment, Baghdad, May 2004.....	186
Med Det Balad, Iraq, 2004	187
Squadron Leader Paul Muscat with an EHAT team, Baghdad, 2005	190
Warrant Officer Steve Wakeham at Tarin Kowt, Afghanistan, 2006.....	191
Camp Maintenance Team, Kamp Holland, Afghanistan, 2007	192
The military shelter construction team worked at night to avoid the hot days, Kandahar, Afghanistan 2007	193
AME teams prepare patients for evacuation, Denpasar, Bali, October 2005 .	195
Patient transfer at Williamtown after the Bali bombings of October 2005 ...	197
Wing Commander Marcus Skinner and Squadron Leader Jackie Hardy off-load an AME patient, Sumatra, Indonesia, January 2005.....	199
On the tarmac at Henderson field, Operation <i>Anode</i> , Honiara, c. 2004	203
Christmas 2003, Operation <i>Anode</i> , Honiara	205
Unloading a C-17 Globemaster III, Williamtown, May 2007	207
Flight Sergeant Colin Lyster recovers a World War II bomb, Operation <i>Nauru Assist</i> , 2005.....	209
No 1 Air Operations Support Squadron marshaller, May 2007.....	213
AME training on the C-17 for Health Services Wing with the US 18th Aeromedical Evacuation Squadron, Kadena, Japan, 2007.....	216
Bushmaster protected mobility vehicles were among the new equipment delivered by joint projects in 2007–08	217
Health Services Wing medical staff at Camp Bradman near Dhanni, Pakistan, 2006	219
Helping to clean up Innisfail after Cyclone Larry, 2006.....	220
CSG provided one of two ADF EHC teams to assist evacuate Australians from war-torn Lebanon, Operation <i>Ramp</i> , 2007	222
Health team for tsunami relief, Solomon Islands, April 2007.....	225
Air Commodore Keith Parsons (Retd), at the 50th anniversary celebrations of combat support at Butterworth, May 2008.....	227
Conferring with the Officer Commanding at Innisfail, 2006	228
CSG plant operators build a C-17 capable airfield, Bradshaw, NT, 2007	229
Former commanders of CSG at the tenth anniversary celebrations, Ipswich, June 2008	232

*For the members of CSG past and present
and for their predecessors who have paved the way*

PREFACE

When Mark Gower first approached me about writing a history of Combat Support Group, it quickly became obvious that we both wanted a broader history of Air Force combat support, simply because space restrictions have largely excluded it from previously published material. We wanted to document a part of Air Force history that was little known, record the achievements of Combat Support Group in its first decade and, perhaps, highlight a few enduring lessons on the way. I hope that I have achieved those early aims.

In the hope that some key aspects of combat support history might be studied further or used in future works on Air Force history, I have included extensive notes and a comprehensive index for ready reference.

A large number of people have assisted me and contributed to this book. A full list of contributors appears below, but some deserve a special mention. Firstly, Air Commodore Mark Gower who engaged me in the first instance, sponsored me with some Reserve days and encouraged me throughout. Air Marshal Errol McCormack and Air Vice-Marshal Roxley McLennan, whose time I recognise is sparse, did not hesitate in responding to my queries and provided valued input. Air Commodores Bruce Wood, Chris Beatty, Stew Cameron and Andy Kilgour also did not hesitate with their input and encouragement. I also wish to acknowledge the support provided by the staff at the Air Power Development Centre (Wing Commander Keith Brent for editing, Sandra Di Guglielmo, Graeme Smith (cover design and format) and Dave Clarke), the Office of Air Force History and the RAAF Museum who hosted me during my early research and assisted my access to their records.

Many contributions came from current and former members of Combat Support Group. While all of the contributors were enthusiastic with their inputs and encouragement, I particularly wish to acknowledge the assistance provided by Wing Commander Ross Wadsworth and the staff of Health Services Wing, and of Wing Commander Peter Noake and his staff at No 1 Air Operations Support Squadron. You both were overwhelming.

I gratefully acknowledge the contributions of the following people who responded promptly to my requests, or facilitated a response: Group Captains Guy Burton, Chris Crowley, Graeme Crombie (Retd), Paul Hislop, Ron Irons, Karen Leshinkas, Corrie Metz, Rob Shortridge (Retd), Tracy Smart, Peter Viggers and Greg Weekes (Retd); Wing Commanders Ian Browning, Neil Collie, John Coughlan, Kirrily Dearing, Rohan Gaskill, Ian Greer, Brian Hardy (Retd), John Leo, Geoff Lydeamore, Rob McKenzie, Chris Phelan, Steve Rampant and Scott Wardle; Squadron Leaders Marty Brewster, Paul Brnada, Iain Carty, Peter Kershaw, Paul Muscat, Kath Pyne, Damian

Reitsma, Craig Sedgman, Greg Whalen (Retd) and (Chaplain) Pat Woods, Gabriel Carey; Flying Officers Matt Crosbie, Anita Green, Belinda Johnson and Robert Skoda; Warrant Officers Phil Jones and Dave Neylan; and Mrs Sally Whitehead.

I also wish to acknowledge the administrative support provided by Wing Commanders Howard Thorpe and Peter Wheeler, Sally Mus and Graham Munce from Headquarters Combat Support Group and to my friends at the RAAF Association (Queensland Division) Combat Support Branch for their ongoing encouragement.

Finally, I would like to thank Janet, my wife. She not only encouraged me and endured the solitude, but she also helped enormously with my research by scouring libraries and locating several suitable references.

Notwithstanding the contributions, all interpretations and opinions expressed in this book, and any errors or omissions, are mine and nobody else's.

Graham O'Brien
August 2009

ABBREVIATIONS

2 RAR	2nd Battalion, The Royal Australian Regiment
6 RAR	6th Battalion, The Royal Australian Regiment
AATTI	Australian Army Training Team Iraq
AC	Aircraftman
AAU	Air Ambulance Unit
ADG	Airfield Defence Guard
AFC	Air Force Cross
AFC	Australian Flying Corps
AIF	Australian Imperial Force
ALG	Air Lift Group
AM	Member of the Order of Australia
AME	Aeromedical Evacuation
ANZAC	Australian and New Zealand Army Corps
ANZUS	Australia, New Zealand, United States
AO	Area of Operations
AOB	Advanced Operating Base
AOCOC	Air Officer Commanding Operational Command
AOSS	Air Operations Support Squadron
ATTU	Air Transportable Telecommunications Unit
BCAIR	British Commonwealth Air Group
BCOF	British Commonwealth Occupation Force
BIAP	Baghdad International Airport
CAF	Citizen Air Force
CAP	Contingency Activation Project
CASG	Comoro Air Support Group
CCS	Combat Communications Squadron
CLS	Combat Logistics Squadron
CDF	Chief of the Defence Force
CO	Commanding Officer
CSC	Conspicuous Service Cross
CSG	Combat Support Group
CSM	Conspicuous Service Medal
CSS	Combat Support Squadron
CSW	Combat Support Wing

DAMALSH	Deployable Aircraft Maintenance and Logistics Shelter
DER	Defence Efficiency Review
DFC	Distinguished Flying Cross
DRP	Defence Reform Program
DSM	Distinguished Service Medal
EATS	Empire Air Training Scheme
ECSS	Expeditionary Combat Support Squadron
ECSW	Expeditionary Combat Support Wing
EHAT	Explosive Hazard Awareness Team
EHC	Evacuee Handling Centre
EOD	Explosive Ordnance Disposal
FEG	Force Element Group
FLLA	Force Level Logistic Asset
FLSG	Force Logistic Support Group
HMAS	Her Majesty's Australian Ship
INTERFET	International Force East Timor
LAC	Leading Aircraftman
MATU	Mobile Air Terminal Unit
MRU	Manpower Required in Uniform
MT	Motor Transport
NCO	Non-commissioned Officer
OAM	Medal of the Order of Australia
OSG	Operational Support Group
PE	Peacetime Establishment
PMG	Peace Monitoring Group
PNG	Papua New Guinea
RAAF	Royal Australian Air Force
RABS	Review of Air Base Support
RAMSI	Regional Assistance Mission to Solomon Islands
RAR	The Royal Australian Regiment
RFC	Royal Flying Corps
RNZAF	Royal New Zealand Air Force

SMS	Specialist Military Skills
SNCO	Senior Non-commissioned Officer
SPPKF	South Pacific Peacekeeping Force
UK	United Kingdom
UN	United Nations
UNAMET	United Nations Mission in East Timor
UNMISSET	United Nations Mission of Support in East Timor
UNMOVIC	United Nations Monitoring, Verification and Inspection Commission
UNTAET	United Nations Transitional Administration in East Timor
USAF	United States Air Force
WE	Wartime Establishment

CHAPTER 1

AFC AND THE EARLY RAAF

The formation of Combat Support Group (CSG) in May 1998 did not signal a new role for the Royal Australian Air Force (RAAF). To the contrary, combat support in one form or another has always sustained Australia's air power. Landing grounds have always had to be maintained and defended against threats, just as aircraft spares have had to be managed and aircrews fed and kept healthy, since 1921 when the Air Force was formed and before, in the Australian Flying Corps (AFC). Although fewer in number and the systems more rudimentary—and no doubt the technology and expectations of today have increased the demand on support services and reduced their margin for error—the need for what the RAAF now calls combat support has always been present, through two world wars and numerous other conflicts in all parts of the world.

The first campaign involving Australia in the air, save an unnoteworthy mission to New Guinea in 1914 when the two aircraft involved remained in their shipping crates, was to Mesopotamia, modern-day Iraq, around the time of the ANZAC landings on Gallipoli. A request from India, then under British colonial rule, came in February 1915 for trained airmen with flying machines and motor transport to assist in their endeavours against the Turks. Military flying in Australia was embryonic; the Central Flying School at Point Cook had trained only four officers as pilots and the Army, of which the AFC was part, had only five training aircraft. Drivers, cooks, motor mechanics for aircraft and vehicles, farriers and batmen were needed, as well as the pilots to crew the aircraft. The ill-fated AFC Half Flight came together hurriedly, from pilots and a core of senior non-commissioned officers of the infant Central Flying School. Support staff were recruited from the Australian Imperial Force (AIF), though naturally, in early 1915, even AIF recruits had served for only a short time. Although farriers and batmen have no place in a modern air force, about half the personnel on that first deployment to Mesopotamia would now be included in the contemporary grouping of combat support.¹

¹ F.M. Cutlack, *The Australian Flying Corps in the Western and Eastern Theatres of War, 1914–1918*, University of Queensland Press, St Lucia, 1984, app. 2, p. 422. In March 1915, personnel of the Half Flight comprised of four pilots, one sergeant major, one quartermaster sergeant, one farrier sergeant, six woodworkers and riggers, 10 metalworkers, one blacksmith, 15 mule drivers, two cooks and four batmen. Six more drivers and one wheeler were added in May 1915.

One of the pilots and a senior member of the Half Flight, Captain T.W. (Tommy) White, chose the men from about 300 volunteers who had gathered at an AIF Training Depot at Broadmeadows in Victoria. Selection was not easy, he says in his book about the Half Flight, as all the men had a strong desire to serve overseas and 'spoke-up' their abilities. There was less choice for cook, only two volunteers for the two positions. White's description of the two cooks captures the character typical of the Australian recruits who volunteered to serve in support roles with the AFC, and the closeness of officers and men in the Half Flight:

Nobody would have suspected the old man of the pair, of a penchant for flying, nor the youth who might have been his grandson, of musical talent ... Yet the latter surprised us by demonstrating his ability on many a tropic night spent later aboard ship or in fever oppressed Basra, skilfully leading the sing-songs of the men with his tuneful fiddle. We had not been a week in camp before we discovered that letters addressed to a mysterious Mr. E., of the Fly Depot, were for our fatherly cook. A member of our mess learning that an injured aviator lay at the local hotel, lost no time in hurrying to see who had crashed, only to find our chef, who had been sent to town to have a knife cut on his hand treated by the local doctor, comfortably installed, surrounded by an admiring crowd, who had been entertained between drinks, with the unassuming story of how the injured limb had been gashed through coming in contact with the aeroplane propeller while our hero had been considerably throwing biscuits from the air to the troops ...²

The Half Flight personnel establishment was not finalised until a few days before embarkation, uniforms only two days before, on 20 April, and stores had to be purchased en route, at Adelaide and Perth. Equipment embarked included trucks, some fitted as repair shops, a motor car, a motorbike, portable hangars and six mule wagons with mule teams plus spare mules and three horses. The mule wagons were necessary in case the motor vehicles proved unreliable in the desert sand but the wagons themselves were unsuitable in the flood season and remained in India until September. Aircraft, which were supplied by the Royal Flying Corps (RFC) and not sighted until after the Half Flight arrived at Basra, were antiquated, even for 1915. They proved unreliable and poorly suited to the extreme conditions encountered in southern Iraq.

The Half Flight arrived at Basra barely in time to join the Indian and British divisions on their thrust northward against the Turks, to Baghdad. The AFC role was one of

² T.W. White, *Guests of the Unspeakable: The Odyssey of an Australian Airman – Being a Record of Captivity and Escape in Turkey*, John Hamilton Ltd, London, 1928, p. 15.

aerial reconnaissance and some sabotage missions to forward areas, well into enemy-dominated territory. After months of fierce fighting and heavy casualties on both sides, including the loss or capture of all but one of the four AFC pilots, the force lay under siege at Kut-el-Amara³ for four months, before capitulation to the Turks at the end of April 1916. Nine airmen of the AFC Half Flight were among the 13 000 prisoners taken at Kut-el-Amara. Just two of the Australian airmen captured and only 2000 of the total force taken prisoner survived their captivity, a wretched march of over 1000 kilometres across Turkey and into the Taurus Mountains of the south where they were set to work on railway construction.⁴

Some members of the Half Flight, withdrawn from Mesopotamia, joined No 1 Squadron AFC, which formed early in 1916 as a complete squadron and arrived in Egypt in April 1916. Australia was keen to maintain a national identity throughout World War I and was the only country of the British Commonwealth, other than Britain, to form a separate Flying Corps with its own squadrons. Nos 2, 3 and 4 Squadrons arrived in England in the northern winter of 1916–17, to equip and train prior to service on the Western Front. A further four squadrons (Nos 5, 6, 7 and 8 Squadrons AFC) were established and remained in England for training and replenishment purposes.⁵

With no experience in air war structures, AFC squadrons were organised along RFC lines with an established strength, on average, of 30 officers, two or three warrant officers and 190 other ranks. Combat support, but not called such until much later, was integrated into the squadron headquarters and the three flights, each ordinarily equipped with six aircraft. The organisation and the equipment holdings and personnel strength varied according to the squadron's role and with experience as the war progressed. The equipment officer, responsible for both supplies and the repair shops for technical maintenance of aircraft, machinery and vehicles, was attached to the squadron headquarters, as were the adjutant, responsible for administration among other tasks, and the wireless officer on those squadrons equipped with radio.

³ Also spelt Kut al Amara.

⁴ Cutlack, *The Australian Flying Corps in the Western and Eastern Theatres of War*, p. 26. Sergeant Sloss and Air Mechanic Hudson survived their captivity. Corporal Soley and Air Mechanics Curran, Williams, Rayment, Adams, Lord and Munro died in captivity. Note that the rank of Air Mechanic applied below the rank of Corporal in the AFC.

⁵ Alan Stephens, *The Australian Centenary History of Defence – Volume II – The Royal Australian Air Force*, Oxford University Press, South Melbourne, 2001, pp. 16–17. Nos 1, 2, 3 and 4 Squadrons AFC initially had the RFC designations of Nos 67, 68, 69 and 71 (Australian) Squadrons RFC, until January 1918. Nos 5, 6, 7 and 8 Squadrons were similarly designated Nos 29, 30, 32 and 33 Squadrons RFC.



Combat support to the Half Flight included mule teams, seen here recovering a very broken BE2c aircraft, Mesopotamia, c. 1916

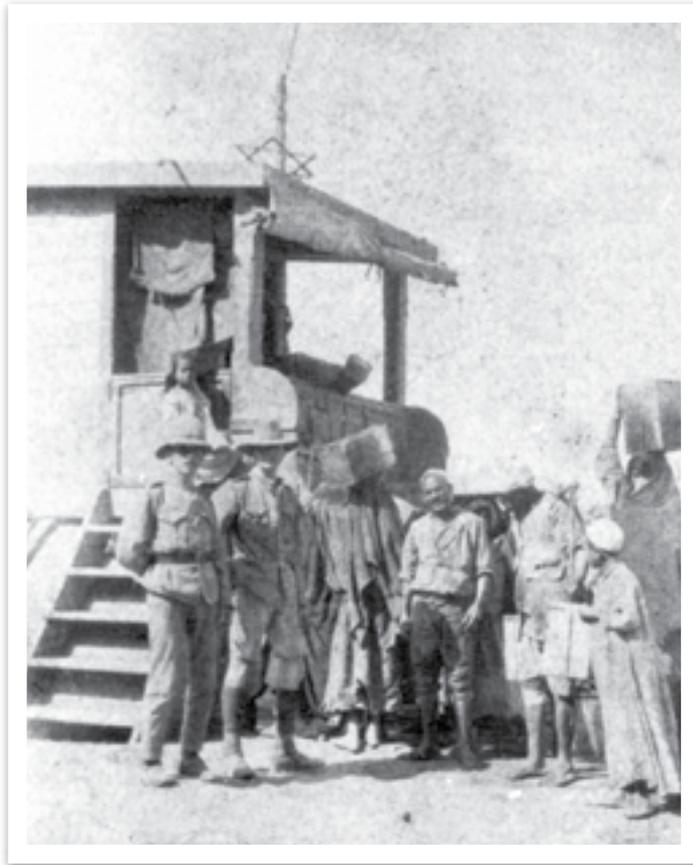
(Australian War Memorial Negative No. P00562.183)

Britain provided all equipment for the AFC in Europe and Palestine, including aircraft, motor transport, stores and workshop machinery, although the members of No 1 Squadron gifted their unit seven motorbikes and two motor cars before leaving for Egypt. Included among the equipment were specialised vehicles, such as mobile (wheeled) workshops and stores, and a truck fitted with a tower for aerodrome control purposes. Logistic support came from RFC deployable logistic units called Aircraft Parks, with demands for resupply placed through the RFC Wing Headquarters. AFC squadrons held adequate supplies only for their immediate needs and use, typically in the order of three days of consumption.

The Australian Army Medical Corps provided medical support, typically with two ambulances and a corporal orderly attached to each squadron with basic equipment, adequate for first aid and sanitation. Serious cases were treated by the nearest available field medical officer of the AIF or the RFC. Australian medical officers were allotted to some AFC squadrons from early 1918, initially to No 1 Squadron after an informal request from the Commanding Officer, Lieutenant Colonel Richard Williams (later the RAAF's first Chief of the Air Staff), and to Nos 2 and 4 Squadrons a few months afterwards when they were collocated at the same airfield.⁶ A 39-bed hospital at

⁶ Sir Richard Williams, *These are Facts: The Autobiography of Air Marshal Sir Richard Williams KBE, CB, DSO*,

Tetbury, home base of the AFC Training Wing in England, was opened for the exclusive use of the AFC in October 1918.



Mobile aerodrome control tower, Suez (Egypt), c. 1916 – AFC equipment for World War I was loaned from Britain at no cost

(RAAF Museum)

Though the role of the AFC Squadrons varied—No 1 was a general purpose squadron, conducting fighter, bomber and reconnaissance missions; Nos 2 and 4 were fighter squadrons; and No 3 conducted reconnaissance and Army support⁷—the ground support requirements differed little, except for communications and photography which were added requirements for the reconnaissance squadrons.

Australian War Memorial and Australian Government Publishing Service, Canberra, 1977, p. 84. Williams described his doctor, Captain J.R. Harris as a 'godsend'.

⁷ Stephens, *The Australian Centenary History of Defence – Volume II – The Royal Australian Air Force*, p. 17.

Early aviators doubted the value of radios for communicating, largely because of their size and limited range, and the ambient noise in the open cockpits of the aircraft. Army cooperation, however, particularly support to the artillery and later reconnaissance, required the pilot and observer to pass their observations on to ground forces in an expedient manner. Lightweight radios were quickly developed for use in the air and transmitters, but no receivers, were fitted to all aircraft in the artillery observation role by 1917. Weight and space limitations left no room for receivers. Artillery batteries placed coded strips on the ground in lieu of the aircraft's ability to receive radio transmissions and corrected their fall of shot based on the reports transmitted blindly from aerial observation. AFC wireless operators intercepted the transmissions and acted as intermediaries to the artillery.

Two AFC wireless operators were allotted to each artillery battery, to intercept reports from aircraft and pass them, usually by telephone, to the battery commander. AFC wireless operators were also assigned to the artillery brigade headquarters, and to an AFC Central Wireless Station, to intercept radio calls. Wireless sections routinely worked forward of the airfield, close to the front, to extend the limited range of aircraft radios. Later in the war, from August 1918 when radios had improved and wireless was used to pass information on enemy positions gained from aerial reconnaissance, a Central Intelligence Bureau system was introduced requiring wireless stations, with operators and wireless mechanics, to be established on the front to pass the intelligence to the Army unit concerned. Total strength of wireless operators in the AFC during World War I was 108.⁸

While the real dangers of fighting in the AFC lay with the pilots and observers, and their exploits, gallantry and the tragedy of their losses in aerial combat are documented elsewhere, support personnel were not devoid of danger. A number of AFC wireless operators suffered casualties in the offensives at Passchendaele while training with artillery batteries in Belgium during July 1917, before their squadron arrived at the front. Airfields, especially forward airfields established close to the front as advanced landing grounds, were occasionally bombed by enemy aircraft and support staff were at times subjected to attack when moving by road between airfields. Conditions were hard and the hours they worked were long. Tour lengths were open-ended, for the duration of the war.

As in the modern Air Force, ground staff conducted rostered duties; guard duty, Duty Corporal, work in the kitchen or elsewhere. In June 1918, the corporal of the guard at an AFC airfield in northern France had an unexpected encounter. An aircraft of 3 Squadron, returning from artillery patrol over the Somme, shepherded a German aircraft, a Halberstadt two-seater, and forced it to land at their AFC base. Major Blake,

⁸ Cutlack, *The Australian Flying Corps in the Western and Eastern Theatres of War*, app. 4, pp. 427–429.

the Commanding Officer of 3 Squadron, later described that ‘the Germans landed with their engine still ticking over, and appeared to be on the point of taking off again, when the situation was saved by the corporal of the guard, the only armed man in the vicinity, who ran up with his revolver and presented it at the head of the pilot with the order, “Hands up!” They did.’⁹



AFC base camp with airfield in the background, Middle East, c. 1917
(RAAF Museum)

Equipment staff, accompanied by maintenance crews, frequently recovered downed or crashed aircraft when the circumstances allowed. A few months before the unexpected capture of the German aircraft, during April 1918, the 3 Squadron Assistant Equipment Officer, Lieutenant Walter Warneford, led a small party to recover the aircraft and body of the celebrated German pilot, Baron Manfred von Richthofen (the ‘Red Baron’), who was shot down near the AIF lines about eight miles (13 kilometres) from the squadron airfield.¹⁰ Support staff also formed part of the guard the following afternoon at the Baron’s funeral when he was awarded full military honours.

⁹ *ibid.*, pp. 269–274. The captured aircraft was claimed as a war trophy and later presented to the Australian Government and, in turn, to the Tasmanian Government.

¹⁰ H.N. Wrigley, *The Battle Below: Being the History of No 3 Squadron, Australian Flying Corps*, Errol G. Knox, Sydney, 1935, p. 67; and N. Leybourne Smith, *History of 3 Squadron, AFC, RFC*, www.3squadron.org.au/history.htm, accessed 6 July 2007. The latter record credits the Equipment Officer (rather than his assistant) and a party of about 10 under command of Lieutenant Smith with the recovery. Regardless of who led the recovery, equipment staff played a vital role.

The AFC squadrons returned home in 1919 for demobilisation and disbandment following the Armistice in November 1918. Under generous but unplanned for arrangements, their equipment (aircraft, motor transport, machinery, tools, tents and the like) was returned to Britain at no cost, reducing the expenditure of the AFC involvement in World War I to no more than that of any other Australian unit.

The Royal Australian Air Force formed as a separate Service on 31 March 1921, following a year from January 1920 as the Australian Air Corps. The personnel strength of the new Service was 21 officers and 128 other ranks.¹¹ The formal submission that led to the formation of the RAAF noted under 'Provision of Personnel' that no particular problems were expected in recruiting non-technical specialisations and trades, that the medical aspect of flying is specialist work and would need young officers, and that administrative officers must be qualified as pilots.¹² Seventeen officers were appointed on the General List and four on the Quartermasters List. The largest of the 27 musterings, but barely, was clerk, the majority of whom were posted to RAAF Headquarters at Victoria Barracks in Melbourne. No 1 Flying Training School at Point Cook, the RAAF's first station and former home of the AFC, had its own cooks and mess staff, medical orderly, wireless operator and some fitters and other trades. The majority of tradesmen—motor mechanics, carpenters and painters—along with storekeepers and transport drivers were posted to No 1 Aircraft Depot, the second unit of the RAAF. Included among the initial specialisations of the Air Force were MT driver and cyclist, labourer, blacksmith, butcher and coxswain, along with the more familiar fitter (MT), cook, carpenter, wireless mechanic, wireless operator and others similar to those in the modern Air Force.

The Aircraft Depot, with its Stores, Aircraft and Engine Repair, and Motor Transport Repair Sections, maintained and managed the Air Force's equipment, while its Commanding Officer was designated as the Station Commander Point Cook, until the unit was eventually relocated to Laverton in March 1926 to allow for access to the nearby railway.

Equipment for the new Air Force came by way of a gift from Britain, keen to promote the development of air services in the Dominions. The gift equipment was extensive and included 128 aircraft, 285 motor vehicles—Crossley cars, ambulances and light tenders, Leyland trucks including mobile workshops and heavy tenders, trailers, motorcycles and sidecars—spare engines and parts for aircraft and vehicles, flying clothing, armament, radios and photographic equipment, workshop equipment,

¹¹ While 128 is the generally quoted number of other ranks on formation of the RAAF, RAAF Headquarters Routine Order Serial No. 1, 4 July 1921 (copy held by the Office of Air Force History) enlists 130 other ranks on 31 March, records one death on 6 April due to an aircraft accident and a separate discharge on the same day, making the strength of the other ranks on 31 March as 130, and on 6 April, 128.

¹² Williams, *These are Facts*, pp. 397–398.

machine and hand tools, canvas hangars, tents, windsocks and other airfield equipment. In all, 30 000 different categories made up of hundreds of thousands of individual items. The first shipment alone consisted of 600 packing cases, eight lorries, two trailers, seven tons of miscellaneous stores and 44 000 gallons of oil.¹³

The aircraft and some of the equipment were stored in the canvas Bessoneau hangars with wooden frames erected at Point Cook, though most of the gift equipment was stored in open woolsheds in the railway yards of suburban Melbourne, at Spotswood and Flemington, or in vacant brewery buildings at North Fitzroy where the MT repair shop was located. Accounting for the stores and maintaining them proved difficult, even though a large proportion of the Air Force, on paper at least, was dedicated to the task.¹⁴



Equipment gifted from Britain for the new Air Force included vehicles and airfield equipment like these Bessoneau hangars, Point Cook, early 1920s

(RAAF Museum)

¹³ John Bennett, *The Imperial Gift: British Aeroplanes which Formed the RAAF in 1921*, Banner Books, Maryborough, 1996, p. 19.

¹⁴ C.D. Coulthard-Clark, *The Third Brother: The Royal Australian Air Force 1921–39*, Allen & Unwin, North Sydney, 1991, pp. 21–22. An additional 36 clerks, drivers and storemen were added to the Air Corps strength in March 1920 specifically to manage the equipment and a further 42 technical and 12 non-technical staff were justified a month later to maintain, among other tasks, the vehicles that were pre-used and damaged in transit.

Not surprisingly, stocktakes throughout the 1920s—the first was in 1923—continually showed significant discrepancies in Air Force accounts. No-one in the RAAF had any experience in handling stores of this quantity and there was no system for checking receipts as the items arrived. The manufacturer and the British storemen who had packed them described the same items differently and the Air Force storemen signed receipt vouchers without proper checks. Satisfactory stocktake results were not obtained until 1928, after the introduction of mechanical ledger keeping and the creation of an independent Stores and Accounting Section at RAAF Headquarters to maintain central registers. During 1929, however, with much of the stock now obsolete or unusable due to the poor storage conditions, disposal action began through auctions held at Laverton.

The packing cases used for the gift equipment, not unlike modern shipping containers but of wood, served a variety of purposes; office space, flight line offices, storage of household goods for personnel posted overseas and even garages for married quarters. The Radio Section utilised one as their workshop from 1922. The original gift radio sets were World War I vintage, spark transmitters and crystal receivers. Because of financial restrictions, early development of the RAAF's communications capability was necessarily in-house. The wireless mechanics and operators, under the guidance of Flying Officer L.J. Balderson, a pilot formerly of the AFC and RAAF radio officer from 1923, built radios for both ground and air use.¹⁵ The first radio link from the packing case at Point Cook to Victoria Barracks was established in 1924 and then to the new base at Richmond in 1925. In June 1926, using equipment they had built, the Wireless Section established a radio link to the Royal Air Force (RAF), the first regular radio link of any kind between Australia and the United Kingdom (UK). The early wireless operators and mechanics worked not only on ground radios but also on aircraft radios and electronics. They fitted a Fairey IIID seaplane with a radio in 1924 for the first circumnavigation of Australia by air, a significant achievement that greatly enhanced the reputation and potential of radio, especially among the many pilots and observers in the RAAF who doubted its value. Later, in 1938, Amalgamated Wireless (Australasia) Ltd (AWA) built general purpose radios to specifications written by two RAAF SNCOs, Warrant Officer Gates and Flight Sergeant Reddrop. These radios, the first Australian-designed aircraft radios produced in any meaningful quantity, provided valuable service during World War II to Australian and US forces in air, ground and portable configurations.¹⁶

¹⁵ E.R. Hall, 'Fifty Years of RAAF Radio', in *Electronics Australia*, vol. 33, no. 1, April 1971, p. 13. Copy held by the Office of Air Force History.

¹⁶ *ibid.*, p. 17.



Mobile radio workshop, late 1920s

(RAAF Museum)

Some of the early achievements of the RAAF were long-range pioneering flights, such as the first flight around Australia in 1924, usually with a purpose to survey new air routes, gain familiarity with remote parts of Australia or to raise the profile of the RAAF. Support was under local arrangement or sometimes by pre-positioning of fuel and spares by road. Motor driver mechanics accompanied several ground surveys, marking out suitable landing grounds as in November 1923 when a small party traversed from Cloncurry to Darwin in two Model T lorries purchased especially for the purpose. Support staff rarely accompanied the long flights, other than an aircraft fitter, because of weight and space limitations. In 1927, a photographer, Corporal Endean, accompanied the Chief of the Air Staff (Air Commodore Williams), the Director of Works and Buildings (Squadron Leader Hepburn) and others in three aircraft on a seven-week survey of central Australia. Later in the 1920s and through the 1930s, forward bases with temporary photographic darkrooms and printing sections were established in remote areas, such as at Bowen and Cloncurry in Queensland and Port Hedland in Western Australia, to support prolonged mapping surveys of the Great Barrier Reef and northern Australia.

Army and Navy cooperation exercises, usually conducted from established bases or barracks, were frequent in the 1930s, particularly in the latter half of the decade. Training deployments to forward bases for operational or war training were almost unheard of, although No 1 Squadron deployed to Cootamundra for two weeks under field conditions during 1935. No 3 Squadron had organised an Aerodrome Defence Section from its ranks as early as July 1931 and conducted a field exercise to Scone in November 1937.¹⁷



Motor Transport Section, RAAF Point Cook, 1928

(RAAF Museum)

Command arrangements were, as they had been since 1921, through the Station (Base) Headquarters to the squadrons, the Station Commander reporting to RAAF Headquarters. Squadrons typically had three flights, each with crews and technical staff and a small number of combat support staff. The majority of support staff was posted to the Squadron Headquarters in the Administration, Stores, Signals or Photographic Sections, depending on the squadron role, and squadron mess staff worked in the centralised station messes. Station Headquarters controlled all administrative and disciplinary aspects of the base and issued all instructions and orders for operations. A typical squadron establishment was that of No 1 Squadron, with 27 officers and 169 other ranks on formation in 1925, over half of which were

¹⁷ No 3 Squadron Operations Record Book – RAAF Form A.50.

part-time, Citizen Air Force (CAF) positions.¹⁸ Squadrons were not brought up to full permanent strength until dedicated CAF squadrons were formed from the mid-1930s.



Chief of the Air Staff, Air Vice-Marshal Williams, inspects a Morris Cowley truck, Laverton, c. 1936

(RAAF Museum)

The number of RAAF bases grew from the original three of the 1920s (Point Cook, Laverton and Richmond) to seven with the addition of Pearce in 1937 and, in 1939, Darwin, Archerfield (QLD) and Rathmines (NSW). Personnel numbers had grown steadily too, from a total strength of just under 1000 in April 1935 to over 3000 in April 1939.¹⁹ Just 21 officers made up the Stores and Accounting Branch in 1935 and only four the Medical Branch, though there were a further eight medical officers, five chaplains and a stores officer in the active CAF.²⁰ In September 1939, at the outbreak of war, RAAF strength stood at 310 officers and 3179 other ranks, with 12 squadrons,

¹⁸ No 1 Squadron Operations Record Book – RAAF Form A.50.

¹⁹ Coulthard-Clark, *The Third Brother*, p. 470.

²⁰ National Archives of Australia: Royal Australian Air Force, A1194, The Royal Australian Air Force List – 1927–1935, 03.21/15810, 1927–1935, <http://naa12.naa.gov.au/scripts/ItemDetail.asp?M=0&B=4039417>, accessed 7 May 2007.

including two CAF units, and 246 aircraft. Some six years on, at the end of World War II, this had increased to over 173 000 people in 570 units operating 5620 aircraft.²¹

While nominally self-reliant, the prewar squadrons depended heavily on fixed base infrastructure for their support, particularly supplies and facilities. Squadron establishments included motor transport—light cars, trucks and tarmac vehicles—and tradesmen for their repair, barracks tradesmen, mess staff, clerks, storemen and a number of general hands who invariably were used for airfield guard duty. But squadrons were not equipped or manned for any sustained deployment away from their home base. In any case, they had rarely practised for such deployments. The two Aircraft Depots (No 2 Aircraft Depot formed at Richmond in 1936) provided warehousing and deeper maintenance for aircraft and motor transport, but there was no intermediate, deployable warehouse or equipment maintenance facility, or no established procedures to support a deployed squadron. Medical services, under the administrative control of the Army, were limited to a small sick quarters on each base.

The initial response of the Australian Government on declaration of war in September 1939, for the air effort at least, was to offer Britain an expeditionary force of a Fighter Wing and two Bomber Wings (each of two squadrons) supported by a Station Headquarters, an Air Stores Park, a Medical Receiving Station and a Base Depot, with a total strength of 3200.²² It was an impressive and quite capable force, on paper, but the offer was obviously well beyond the RAAF's immediate capacity. Aircraft and aircrew availability aside, the RAAF's operational concept leading into World War II, at least for support away from home base, stopped at squadron level.

There had been practically no training for expeditionary operations beyond a few aircraft operating from an established base for a few days, and no apparent thought given to the support requirements of an independent deployment of several squadrons to a forward base in a war zone. The inclusion of a Station Headquarters and the other support units might have addressed that, but those support units did not exist and they would take some time to establish. The personnel strength alone, on offer to Britain in the expeditionary force, was beyond the total strength of the RAAF at the time and acceptance of the offer would have left no residual capacity for expansion, itself then a very likely prospect.

By December, Britain's need for aircrew and not expeditionary air forces was apparent and, as Alan Stephens describes in his 2001 history of the RAAF, 'the idea sank as

²¹ Stephens, *The Australian Centenary History of Defence – Volume II – The Royal Australian Air Force*, p. 173.

²² Douglas Gillison, *Australia in the War of 1939–1945 – Series 3 (Air) – Volume I – Royal Australian Air Force, 1939–1942*, Australian War Memorial, Canberra, 1962, p. 58. Using RAF terms of the era, a Base Headquarters was a base support unit equivalent to a modern-day Expeditionary Combat Support Squadron (ECSS) with an 'air operations' command function, an Air Stores Park was a deployable stores unit, a Medical Receiving Station was a nominal 100-bed hospital, and a Base Depot was for national administration and training of personnel.

quickly as it had surfaced.²³ Australia agreed to provide aircrew for Britain, trained under the Empire Air Training Scheme (EATS) and to serve on RAAF squadrons, yet to be formed, as its primary commitment to the Empire's air war effort. Support staff, always a part of Australia's plan for the EATS squadrons, would prove more difficult and become a major shortfall in the national character and identity of many of the RAAF's wartime squadrons serving under British command.

Two Australian squadrons, each with significant numbers of support staff, were committed for overseas service before the Empire Air Training Scheme commenced. No 10 Squadron, formed in July 1939 and in part already in the UK to take delivery of new Sunderland flying boats at the outbreak of war, would remain as part of RAF Coastal Command. In July 1940, No 3 Squadron deployed to the Middle East with the 6th Division AIF and was integrated into the RAF wing structure for operations and support.

More squadrons would soon follow, to serve with the RAF as the air training scheme grew the numbers, but Australia would also soon have major commitments much closer to home, and the RAAF a need for specialist support units in numbers unimaginable at the outbreak of war.

²³ Stephens, *The Australian Centenary History of Defence – Volume II – The Royal Australian Air Force*, p. 75.

CHAPTER 2

WORLD WAR II

RAAF members fought in every theatre during World War II. Australian squadrons served in Europe and the North Atlantic with the RAF Fighter, Bomber and Coastal Commands, and with their expeditionary wings in the Middle East, North Africa, the Mediterranean and the Far East in Burma, Malaya and Singapore. Closer to home, in the South-West Pacific and parts of South-East Asia, and in Australia, the RAAF fought independently and with the US as part of the Allied Air Forces under General Douglas MacArthur.

In every theatre, RAAF squadrons and individual aircrew distinguished themselves in the air. On the ground, combat support, though that label was not used until modern times, was critical to the air war effort and the eventual success of the Allies. RAAF combat support had various forms, integrated into air combat squadrons, grouped with the base headquarters and as separate and multiple specialised support units. In the Pacific and Australian theatres, initial support concepts were found lacking and support forces ill-prepared, but they soon learnt and developed rapidly as the war progressed.

No 10 Squadron was the first Australian squadron on active service, assigned to RAF Coastal Command for maritime patrol, anti-submarine and shipping escort duties. The squadron had already flown three operational missions before the main body of the unit, made up of volunteers from across the RAAF, arrived in December 1939. Volunteers were called for and chosen within a week, and sailed for England within two weeks. The two officers and 183 other ranks embarked in secret and without publicity, leaving RAAF Richmond at night to board RMS *Orontes*, and were joined en route by more volunteers at Melbourne and Adelaide.¹ All Air Force support specialisations were represented; carpenters, clerks, cooks, mess staff, wireless operators and technicians, storekeepers, motor transport drivers and mechanics among them.

Based at RAF Station Mount Batten, Plymouth, from April 1940 after initial conversion training to Sunderland flying boats at Pembroke Dock (Wales), 10 Squadron relied on the RAF for base support with their own personnel supplementing station staff

¹ Total strength of No 10 Squadron was then 10 officers and 238 other ranks, including those already in the UK. RAAF Headquarters called for volunteers on 3 November 1939. Selections were complete by 10 November and initial embarkation from Sydney was on 17 November.

in most tasks including messing, security and firefighting teams. Squadron personnel also maintained their own stores, barracks, motor transport and operated ground radios and base telephones. A squadron Ground Defence Section formed in May 1940 to supplement base defences provided by the RAF Station Defence Squadron amid reports of a possible invasion by German paratroopers. Ground defence was a secondary duty, before guards or gunners were introduced as a specialisation in the RAAF, and was led by a squadron pilot. Later in the war, from March 1943, Group Captain Alexander, a former Commanding Officer of 10 Squadron, became the Mount Batten Station Commander which, under RAF and RAAF early wartime concepts, included both base support and air operations responsibilities.

The Plymouth area was subject to constant raids by German bombers, targeting Mount Batten for the first time on 1 July 1940, the same day that 10 Squadron sunk its first German submarine (U26). Forty other raids followed in July, although the primary target of the bombers was the docks in Plymouth Sound, bordering the base, and nearby areas where the civilian casualties were high. Enemy bombing on the night of 17 November 1940 destroyed two Sunderland flying boats and again, in April 1941, badly damaged another three. During the April bombings, when up to 80 enemy aircraft dropped over 400 incendiary bombs on Mount Batten, damage to the base was severe with utilities and telephones cut, and very few buildings left undamaged. A major fire, which burned for four days after the November raid, raged in fuel storage tanks just a few hundred metres from the base causing the evacuation of all serviceable flying boats for fear of an explosion.

Response teams made up of support staff and all available personnel were concerned primarily with fires so as not to attract further bombing. Occasionally, No 10 Squadron response teams led by one of the Equipment Officers assisted with firefighting in nearby towns. There was no dedicated bomb disposal team, though unexploded bombs, sometimes undetected in the water, were common and, certainly in the early period, squadron volunteers led by armament staff occasionally worked to render them safe.² There were no RAAF deaths resulting from the raids on Mount Batten, though a number of 10 Squadron airmen were killed in the bombings of London and another at Pembroke Dock.

² No 10 Squadron Operations Record Book – RAF Form 540.



Response teams were mainly concerned with fires – The oil fire (background) closed 10 Squadron’s UK base for four days, RAF Mount Batten, Plymouth, November 1940

(Australian War Memorial Negative No. SUK10476)

By March 1942, No 10 Squadron’s strength had grown to 62 officers and 439 other ranks, about 200 of whom were aircrew. Unlike the other Australian squadrons serving with the RAF in the UK and the Middle East, Nos 3 and 10 Squadrons were Permanent Air Force squadrons and enjoyed a plentiful supply of RAAF support staff and aircrew. Other Australian squadrons serving with the RAF in the UK and in the Middle East and Mediterranean, Nos 450 to 467 Squadrons (except No 465), formed as part of the Empire Air Training Scheme (EATS) agreement and were referred to as the Article XV squadrons. Unit drafts of ground staff, for both aircraft maintenance and combat support duties, formed in Australia through 1940–41, mainly at Williamstown, and deployed to the UK or to the Middle East to join their allocated Article XV squadron. Due to a surplus of aircraft fitters in Australia during 1941, additional drafts not formed as a squadron, mainly of aircraft maintenance staff though including a small number of clerks, medical orderlies and supply staff, were

sent to gain experience with RAF squadrons while awaiting formation of Article XV squadrons.³

A typical unit draft was No 450 Squadron, formed at Williamstown in February 1941 and embarked on 9 April for an unknown destination. Minus aircrew and SNCOs (to be provided by the RAF) they were integrated into the base staff of a RAF station near the Suez Canal (Egypt) for two months before being assigned to No 260 Squadron RAF.⁴ Total strength was seven officers, one Warrant Officer Disciplinary (WOD) and 273 other ranks, 166 of whom were combat support staff.⁵ Officer categories included Administration, Medical and Equipment, and a Ground Defence officer who joined the unit later in Egypt. No 451 Squadron, with a similar strength and make-up, also preceded their squadron aircrew and was initially employed unloading troop ships in Egypt, carrying AIF wounded from Crete.

Despite serious shortages of ground wireless operators and of experienced NCOs, the RAAF provided nearly 1800 ground personnel to the UK under the EATS agreement by the end of 1941, adequate for the seven squadrons formed at that stage but well short of the 5000 planned for 1942.⁶ The entry of Japan into the war at the end of 1941, however, and their swift thrust south in early 1942, caused existing plans for staffing future Article XV squadrons to be held in abeyance. The Australian War Cabinet refused to release any further ground staff for the EATS squadrons, other than for No 453 Squadron, which was based in Malaya, and Nos 3 and 10 Squadrons, which were not part of the EATS agreement in any case.

The make-up and character of the RAAF squadrons formed under the EATS agreement varied significantly. Aircrew, ground staff and aircraft were available at differing rates and times, and thus squadrons were formed with Australian ground or air crew only, or with varying proportions of maintenance crew, aircrew and support staff. A few squadrons were Australian in character, while some had very few Australians at all. Of the seven RAAF squadrons operating in the Middle East and Mediterranean, Nos 3, 450 and 451 were truly Australian in make-up, Nos 458 and 459 partly Australian and Nos 454 and 462 distinctly non-Australian.⁷

³ These later drafts were referred to as the 'Infiltration Scheme'.

⁴ No 260 Squadron RAF ground crew were delayed en route to the Middle East because the ship conveying them was torpedoed.

⁵ Leonard L. Barton, *The Desert Harassers: Being Memoirs of 450 (RAAF) Squadron 1941–1945*, Astor Publications, Mosman, 1991, p. 9. Breakdown of the combat support musterings was: General Hand 50, MT Fitter 2, MT Driver 26, Clerk Stores 2, Clerk General 4, Steward 10, Storekeeper 7, Ground Gunner 41, Cook 14, Service Police 4, Phone Op 4, Messman 1, and Carpenter 1.

⁶ John Herington, *Australia in the War of 1939–1945 – Series 3 (Air) – Volume III – Air War against Italy and Germany, 1939–1943*, Australian War Memorial, Canberra, 1954, pp. 452–453.

⁷ *ibid.*, p. 384.



New arrivals in the Middle East, possibly 450 Squadron, May 1941 – No more Australian support staff joined the EATS squadrons after Japan entered the war

(Australian War Memorial Negative No. 007474)

While No 3 Squadron worked up in northern Egypt during September and October 1940, the Aerodrome Defence Section of general hands and ground gunners practised ground-to-air gunnery with ‘camera guns’ and towed targets, while other support staff attended RAF airfield fire and ‘anti-gas’ courses.⁸ They quickly put the training to use as the *Regia Aeronautica* (Italian Air Force) attacked the squadron airfield on at least two occasions within days of their arrival in the western desert early in November, though neither side suffered any significant damage.

Air attacks on Allied airfields were common throughout the North African and Mediterranean campaigns, though they were not usually as heavy or consistent as those inflicted by Germany on Great Britain, and rarely sustained for more than two consecutive nights. Injuries, sometimes fatal, from air attacks were frequent and damage to aircraft on the ground was common. The basic concept adopted for

⁸ No 3 Squadron Operations Record Book – RAAF Form A.50. A ‘camera gun’ utilised a camera fitted to the gun to photograph the aircraft in lieu of live firing.

airfield ground defence by the Australian squadrons in the western desert with the threat from the air, and anti-air weapons available only on rare occasions, was a static defence with two machine-gun pits at either end of the runway. Two guards, under strict instructions not to fire unless the airfield was illuminated or under attack so as not to give away the airfield position, manned each gun pit.⁹ Officers and SNCOs slept in four-man tents, airmen in two-man bivouac tents in groups of four about 100 metres apart, all near or over a slit trench. Although stretchers were not issued to airmen, most 'acquired' one at some stage during their tour.¹⁰

War in the North African desert was fluid and the air forces, with their limited range aircraft, were necessarily very mobile, their movement dictated by the ebb and flow of the battle. Airfields and landing grounds were gained, lost and regained as the battles moved to the west, back to the east as the Germans regained ground lost by the Italians, and then west again to defeat the German forces in Libya and Tunisia. In one 10-day period during early 1941, No 3 Squadron operated from nine different airfields and No 450 Squadron from ten in a 14-day period.

Initially, squadron mobility was based on independent movement of the three flights, each self-supporting with its own small party of technical, support and defence staff, and a rear squadron headquarters for replenishment and sustainment. From late 1941, all fighter squadrons in the Middle East adopted a leapfrog concept with two support parties, each self-contained and mobile, moving in a leapfrog fashion while the heavier headquarters party, with Administration, Stores, Workshop and Transport Sections, followed in the rear. The wing operated a similar concept on a larger scale, with squadrons leapfrogging as they moved. Two RAF stores units (Air Stores Parks) and a field hospital (Medical Receiving Station) moved with the wing to provide the deeper level of support.

Squadron moves relied heavily on motor transport and on the drivers and fitters who operated them, often under difficult and trying circumstances. Vehicles, many of which were unsuitable for the desert conditions and required constant maintenance and improvisation to keep them going, were fitted for purpose, such as an operations room, stores, kitchen, medical, workshop and similar.¹¹ Spares and extra vehicles were

⁹ E.S. Johnston, *The RAAF Ground Staff of the Desert Air Force Squadrons*, E.S. Johnston, Point Lonsdale, 1992, p. 79. Note that Johnston states the weapon type used was the Lewis machine gun, a World War I vintage gun still in use during World War II, as was the Vickers machine gun (also World War I vintage). More modern guns, such as the Bren gun, were not available to RAAF units until much later in the war. The personal weapon issued to airmen, though only on an individual basis when considered necessary, was the bolt action, Lee-Enfield .303 rifle, also World War I vintage, though an improved version.

¹⁰ Barton, *The Desert Harassers*, p. 8.

¹¹ *ibid.*, p. 24. Charlie Dulhunty, MT Fitter, 450 Squadron, states that the first CO's vehicle was a 4x2 Ford station wagon that bogged easily and suffered broken axles, and that the engines in the squadron Chevrolet trucks lasted no more than 4000 miles because of oil and air filter problems.

acquired from battle wrecks or any other opportunity that presented. No 3 Squadron obtained an abandoned Italian ambulance and a workshop vehicle, fully fitted out, while the 'old-boy net' provided six new Chevrolet engines for 450 Squadron which, at one stage, held close to 60 vehicles.¹²

Road moves were hazardous. Apart from the extreme climatic conditions of the desert, the roads were poor and often crowded, especially during a major move, movement off-road risked the danger of landmines and natural hazards, and the threat from enemy fighters and ground forces was always present. Squadrons often moved at a few hours notice, orienting at their new location from the operations tent, and forward airfields, or the roads to them, were frequently in close proximity to the battle.



Mess area, North Africa, c. 1943 – Squadrons operated under adverse conditions and often moved at a few hours notice

(RAAF Museum)

On 14 January 1941 when the Allies were readying to attack Tobruk, then in Italian hands, two communicators of No 3 Squadron, Corporal Vincent Jarvis, wireless operator, and Leading Aircraftman John Parr, technician, set out in a radio truck from

¹² Ross A. Pearson, *Australians at War in the Air 1939–1945, Volume Two*, Kangaroo Press, Kenthurst, 1995, p. 126. Flight Sergeant Roy Denny, Equipment Section, 450 Squadron, describes how they were 'allowed' access to the RAF Store overnight, to swap their old engines for new.

Gambut to conduct maintenance on radio equipment attached to the AIF artillery batteries around Tobruk. Hampered and disoriented by a severe dust storm, they drove too close to the Italian defences and came under enemy fire. Corporal Jarvis was killed immediately while Parr jumped from the truck, came under fire but was not injured and was eventually captured by an enemy patrol and held prisoner at Tobruk. Eight days later, when Allied ground forces captured Tobruk, Parr had taken charge of the gendarmerie barracks where he was held and was in control of the local police when Allied forces entered the town.¹³ He returned to his unit later that day.

In November 1941, a 451 Squadron advance party of two officers and 10 airmen was taken prisoner and a wireless operator killed by machine-gun fire when a German column attacked their overnight encampment. They had joined the 5th New Zealand Brigade at Sidi Azeiz, unable to reach their intended destination due to enemy activity. Treated well but very weak due to a general shortage of food and supplies, the airmen returned to their unit one month later, recaptured when the Allies took Bardia.¹⁴

An ironic and tragic incident occurred in December 1942 after the first and very welcome air move by 3 Squadron support staff, in lieu of the usual and often tiresome road move. Fuel, ammunition and a support party of 50 were flown to Marble Arch, only hours before occupied by the now retreating Germans, to allow a quick turnaround of squadron aircraft. Three airmen were killed instantly and four seriously injured, two of whom died soon after, when one member of the refuelling party stepped on a landmine.¹⁵

No RAAF medical units served in the Middle Eastern, Mediterranean or European theatres other than No 1 Air Ambulance Unit, unique in its role of dedicated air evacuation of wounded. Staffed with just four nursing orderlies, 1 Air Ambulance Unit evacuated 8252 patients in total during its tour from July 1941 to February 1944. Initially intended for the evacuation of AIF wounded, 1 Air Ambulance Unit carried patients from all Allied countries and some injured enemy prisoners of war. Although its aircraft were clearly marked with the Red Cross and tasked only in the medical role, they were subject to attack, both in the air and on the ground, including on at least one occasion by friendly forces.¹⁶ No 1 Air Ambulance Unit was poorly

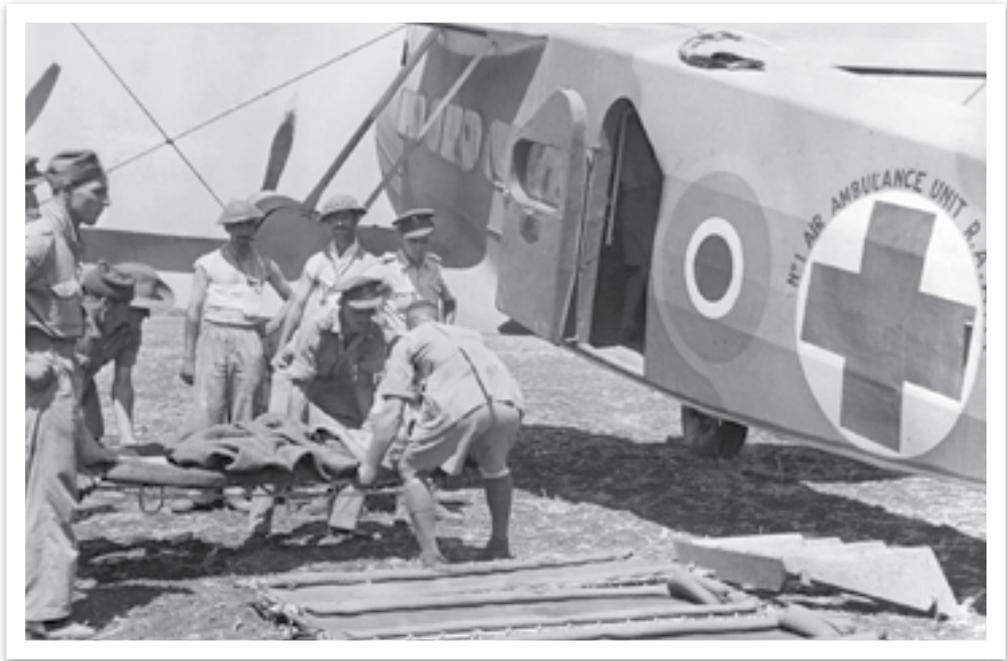
¹³ Herington, *Air War Against Germany and Italy*, p. 66, n. 5.

¹⁴ *ibid.*, p. 210.

¹⁵ No 3 Squadron Operations Record Book – RAF Form 540.

¹⁶ Leonard L. Barton, *Succour from the Sky: No 1 Air Ambulance Unit RAAF 1941–1944*, L.L. Barton, Mosman, 2001, pp. 55–56. The aircraft, obsolete and few in number, were not in the published recognition manual and mistaken for enemy. Numerous friendly fire incidents occurred during World War II. A similar ground-to-air incident occurred in Timor in February 1942, involving RAAF ground staff and US Douglas Dauntless dive-bombers.

staffed for support and relied entirely on cooperation with other squadrons for basic supplies, catering, water and ground transport.¹⁷



No 1 Air Ambulance Unit provided aeromedical evacuation for all Allied forces, Sicily, September 1943

(Australian War Memorial Negative No. 043264)

An underlying feature of the Article XV squadrons was the poor administration of the ground staff. Unlike their counterparts in 3 and 10 Squadrons and 1 Air Ambulance Unit, who undertook 12 to 18-month tours and who were subject to normal RAAF administration, pay and promotions, and of the aircrew whose tour lengths were also fixed, the ground staff in the Article XV squadrons were administered by the RAF. They were paid at the lower RAF pay rates (though the difference could be drawn later), had limited to no promotion prospects and there was no plan for rotation or repatriation to Australia. After Japan entered the war and threatened Australia, many of the men had a strong desire to return home and help defend Australia, just as the AIF and the Navy had returned home. Media reports in Australia also did not help, initially labelling them as not wanting to return home, then as ‘forgotten heroes’ and selectively

¹⁷ *ibid.*, pp. 11 and 67–70. The initial support staff posted to 1 Air Ambulance Unit totalled one clerk, one storeman and one general hand. A cook and a guard were added later.

citing official letters to families that indicated it was the RAF and not the RAAF that controlled their tenures, which was close to the truth but denied by Australia.¹⁸

Despite an Air Board Directive in October 1942 to remove the differences between the RAAF and Article XV squadrons, and to administer all RAAF personnel on an equal basis, at issue was the War Cabinet's refusal to allow any more ground staff overseas. Repatriation was not agreed until late May 1944, by which time the majority were serving their third or fourth year overseas. Some were in their fifth year and, with approval for just 100 rotations each month, there was little likelihood of a return home for most. Feelings among the men reached their climax during September 1943 when Air Vice-Marshal H.N. Wrigley, the Air Officer Commanding (AOC) RAAF Overseas Forces, visited 450 Squadron in Sicily to respond to strong representations made through the chain of command. During the visit 70 airmen sought, and received, a personal interview with the AOC.

One positive outcome of the 1942 initiative was an increase to the establishment of the Overseas Headquarters. Extra administrative staff, provosts and three chaplains were posted to London and Cairo, an indication perhaps that the initial offer in 1939 of a Base Depot as part of Australia's contribution to the Empire's air war effort may not have been such a bad idea after all. Indeed, the original offer of an expeditionary air force would have maintained an Australian and RAAF identity, impossible under the EATS arrangements, and would have been easier to administer and not dissimilar in size to the eventual contribution under EATS.



Christmas church service, Gambut, December 1942 – Chaplains raised morale among the airmen serving in the Middle East

(Penny Griffiths)

¹⁸ Johnston, *The RAAF Ground Staff of the Desert Air Force Squadrons*, p. 197; and Herington, *Air War Against Germany and Italy*, pp. 557–558.

The chaplains in the Middle East, in particular, were highly regarded by the airmen, many of whom quite understandably felt that the RAAF simply did not care about them. The chaplains were highly visible, regularly seen at all of the squadrons wherever they had heard Australians could be found, and they wrote reassuring letters home to their families. Affectionately known as the 'terrible three', Chaplains McKay, Davies and McNamara were thanked by the airmen with the presentation of a simple iron cross fashioned from the propeller blade of a German Heinkel that had been shot down on a raid on one of their airfields. The cross is still held in the RAAF Memorial Chapel at Point Cook.¹⁹

If an absence of sound personnel administration had underlined the Middle East experience, early operations in the Far East and South-West Pacific lacked preparedness. The defence of Singapore and Malaya, and the subsequent fall of the Netherlands East Indies and other islands to Australia's north early in 1942 was a disaster, both operationally and from a support perspective on the ground. The RAAF squadrons assigned to the RAF Far East Command, Nos 1, 8, 21 and 453, fought gallantly but were hopelessly outnumbered by superior Japanese aircraft and, severely depleted with heavy losses of aircrew and aircraft, were forced to retreat time and again, from Malaya to Singapore, to Sumatra, Java and ultimately to Australia leaving many of their people behind.

The first RAAF unit sent overseas in a combat support role, a Station Headquarters consisting of 26 officers and 236 other ranks, embarked for Singapore in August 1940. The Station Headquarters, commanded from August 1941 by Group Captain J.P.J. (John) McCauley, became known as RAAF Station Sembawang. The unit was evacuated to Palembang, Sumatra, on 29 January 1942 when air operations from Singapore became untenable, though a small detachment remained until 9–10 February, by which time the Japanese had captured nearby RAF Station Tengah and had reached the western perimeter of RAAF Sembawang. The unit's rear party then set in place the final phase of the Base Denial Plan, destroying fuel and stores, communications equipment, secret records and what buildings they could. En route to the harbour, they dug in on a hillside to help slow the Japanese advance but were bypassed and they then later boarded a small Norwegian ship bound for Batavia.²⁰

The RAAF squadrons had deployed north from Sembawang to various RAF airfields in Malaya in late 1941 when an invasion was imminent, including to Kota Bharu, where No 1 Squadron bore the brunt of the initial assault by the Japanese from 7 December. Unlike the units in the Middle East, these squadrons had only a small

¹⁹ Squadron Leader (Chaplain) Patrick Woods, email to the author, 18 April 2007.

²⁰ 'Report on RAAF Operations in Malaya, Singapore, Sumatra and Java, 1941–42', p. 76. Copy held by the Office of Air Force History.

administrative and equipment staff, on average less than 25 airmen, and were under command of the Station Headquarters for operations and support. Their operational effectiveness relied heavily on the efficiency of the station staff, especially when the airfield was under attack.²¹



Slit trenches and dispersal reduced the damage for the RAAF at Singapore. The Station Headquarters was the first combat support unit sent overseas, Sembawang, c. 1941

(RAAF Museum)

British priority for staffing and equipment was to the European and Middle East Commands. In the Far East, the RAF used locally employed civilians for messing and labour, and last-minute recruits, many from Australia and New Zealand, for some key administrative and equipment posts. With just brief discipline training and a quick survey of their duties, these 'raw' officer recruits assumed a number of key positions such as Defence, Movements, Stores and Transport Officer on RAF bases from which the RAAF squadrons operated. Equipment shortages were rife; scarce aircraft spares were difficult to obtain in the cumbersome RAF supply system, motor transport was

²¹ Douglas Gillison, *Australia in the War of 1939–1945 – Series 3 (Air) – Volume I – Royal Australian Air Force, 1939–1942*, Australian War Memorial, Canberra, 1962, p. 159. Gillison provides a brief description of the Far East command arrangements down to base level.

in desperately short supply and struggled to cope with the tropical wet conditions, communications were terribly unreliable and largely insecure, there were no tents and, after Singapore and Malaya, no field equipment in Sumatra.²²

The air bases in Malaya were understaffed and ill-prepared; even refuelling aircraft was extremely difficult with the outdated motor transport and harsh tropical road conditions. Some bases did not have a defence plan and some had no staff for the base operations room. Most bases were poorly planned for defence, sited in the open or close to the coast without due consideration to concealment or dispersal of assets. Defended by scarce resources, they made easy targets for the Japanese bombers and amphibious forces. When the time came for evacuations, movement was sometimes disorderly and spurred on by rumour rather than on orders issued by the Station Commander. Local relationships between the RAF and RAAF were at times strained, the RAAF squadrons having expected a similar preparedness to that of the RAF in the Middle East.

Criticism of RAAF evacuations of the bases in Malaya and an allegation of panic made by a Royal Navy officer led to a court of inquiry. While the records of the inquiry were lost or destroyed with the fall of Singapore, a later summary of recollection by the President of the Court, Group Captain John McCauley, indicates that at least some of the evacuations could have been better controlled, meaning control by the Station Headquarters. The officer who had raised the allegation of panic withdrew it when questioned by the court, on the grounds that he had based the allegations on 'wrong premises'.²³

RAAF Station Sembawang did suffer from equipment shortages and a lack of cooks and labour after the first air raids on Singapore in December 1941, but it was well staffed and well led by McCauley. He paid a short visit to the Middle East in November, to learn about current procedures, including those for airfield defence against air and ground attack, which he applied immediately on his return. Although the first raid on Sembawang was not until 17 January, the subsequent raids were heavy, by formations of 21, 24 and even 54 aircraft and including by artillery from late January. Casualties at Sembawang though were light and damage to aircraft was less severe than on the other Singapore airfields because the system of slit trenches was good and dispersal of assets well planned.²⁴

²² Much of the equipment that did survive Singapore was lost at sea before reaching Sumatra.

²³ Air Commodore J.P.J. McCauley, 'Report by Air Commodore J.P.J. McCauley, CBE, on the Findings of the Court of Inquiry: Evacuation of RAF Aerodromes Malaya: December 1941', 28 May 1946. Copy held by the Office of Air Force History.

²⁴ Gillison, *Royal Australian Air Force, 1939–1942*, pp. 335–336; and 'Report on RAAF Operations in Malaya, Singapore, Sumatra and Java, 1941–42', p. 100. The latter report lists total RAAF casualties as 376, including 228 prisoners. These figures are for the entire period, including Malaya and Singapore, and subsequent periods on Sumatra and Java.

The Station Headquarters continued to support air operations at Palembang for two weeks, until all Allied units were withdrawn to Java and ultimately Australia. Of note during this brief but torrid period on Sumatra is that, of the two Palembang airfields used by the Allies (P1 and P2), only P1 was found by the Japanese, invaded and captured by paratroops. P2, where the Australians operated, was well concealed and not detected by Japanese reconnaissance. Around 7000 members of the air forces (British, American, Dutch and Australian) were safely evacuated from Java, priority being given to aircrew and technical staff. Prisoners totalled about 1750, including the Commanding Officer and 160 members of No 1 Squadron.²⁵ The RAAF Station Headquarters, suffering one dead and 15 prisoners of war, was disbanded in early March 1942 on arrival in Fremantle.

On other islands to Australia's north the pattern repeated. Advanced bases on Timor, Ambon, New Guinea, the Solomon Islands and elsewhere were bombed and strafed from the air and then captured by ground troops inserted by parachute or over the shore. Though defending gallantly, the Australian squadrons, ill-equipped and without any means of warning, were ill-prepared for such an onslaught. On the ground the support concept of advanced bases was threadbare, at the end of distant lines of communications and destined to failure. The inevitable evacuations, though on a much smaller scale than those of Singapore and Java, were equally precarious and tragic.

Advanced operating bases (AOBs) were first established around the Australian coastline, mainly to the north, from the declaration of war in Europe in late 1939. From August 1941, three communications parties each of five men operated in civilian clothing in the Netherlands East Indies, presumably for intelligence gathering and reporting purposes as they were expanded from September to include, among others, an Intelligence Officer. A chain of advanced operating bases was established on the islands to the north in late 1941, extending from the Netherlands East Indies in the west, through New Guinea to Vila and Noumea in the east, to support an increasing flying boat surveillance effort. Commanded by a junior officer, the advanced operating bases had a typical strength of 20, including a marine craft and crew, storeman, cook, meteorologist and communications for aircraft reporting and tasking.

When aircraft deployments to the advanced operating bases increased in December 1941, arrangements for combat support proved totally inadequate. At Ambon, where six Hudsons of Nos 13 and 2 Squadrons had deployed, there were no spare engines, rations had to be obtained by local agreement with the Army Gull Force and urgent demands for clothing, boots and water bottles went unsatisfied. Air raids, as elsewhere, were frequent and there was no warning system. Ground defences, consisting of two Lewis machine guns supplemented by Browning machine guns retrieved from crashed

²⁵ *ibid.*, p. 444.

aircraft, had no effect other than improving the morale of the volunteers who operated them. Malaria and dysentery caused serious medical problems. Recommendations for additional support—labourers, general hands, storemen, equipment officer, cooks, clerks, messing and medical staff—went unanswered.²⁶ Tragically, by 25 January 1942, the two Hudson squadrons had lost 25 aircraft between them and when the evacuation was ordered the last remaining aircraft leaked fuel from recent battle damage and could not be repaired.

Wing Commander Ernest Scott, a staff officer on the local Area Combined Headquarters, two squadron pilots and eight support staff were stranded. Leading Aircraftman Laurence Walker, a wireless operator of the advanced operating base staff, operated a concealed radio for 24 hours, transmitting valuable intelligence on the invading forces until the radio batteries were exhausted. A Japanese patrol boat captured the party after they had made their way on foot across the hills to the north and attempted to escape by sea. Most were executed on 20 February.²⁷



Radio operator, Corporal Bell, after escape from the base on Timor, March 1942 – Advanced operating bases to the north fell quickly

(RAAF Museum)

²⁶ No 13 Squadron Operations Record Book – RAAF Form A.50.

²⁷ Gillison, *Royal Australian Air Force, 1939–1942*, pp. 376–377.

Poor communications, inadequate transport, dependence on local labour that became scarce after the first raids, an unresponsive supply system and a vastly superior enemy in the air typified operations from each of the island advanced operating bases. Squadron Leader W.D. (Bill) Brookes, a senior executive officer of No 24 Squadron, was direct in his after action report of Rabaul. 'It can not be too strongly emphasised', he wrote, 'from the experience gained that if it takes a certain personnel strength to operate a squadron on its home station, it requires at least this number of personnel to operate successfully under field conditions.'²⁸ Among calls for more capable aircraft after their initial engagements with the Japanese, which attracted strong criticism and signals traffic from southern headquarters, Wing Commander John Lerew, the Commanding Officer of 24 Squadron, explained some of the difficulties at the advanced operating base. 'It is apparent that the signals and cypher staff is totally inadequate to cope with the volume of signals associated with even one operation carried out by one aircraft ...'²⁹

No 24 Squadron was all but wiped out at Rabaul, in a mass raid of Japanese bombers and fighters on 20 January 1942, when six out of eight Wirraway aircraft were destroyed or badly damaged, six crew killed and five more wounded. Lerew successfully led the advanced operating base staff and all except four surviving members of 24 Squadron across the rough terrain of New Britain, for evacuation by flying boat. Sergeant Fred Higgs, a wireless operator who had separated from the main party to radio details for the flying boat rescue, and two other airmen escaped by means of an 18-foot sailing boat, guided on their 21-day journey to Cairns by a school atlas and a compass taken from a wrecked Wirraway. They avoided detection by a nearby enemy aircraft carrier they sighted on the southern coast of New Britain and escaped three enemy air attacks on their boat during their journey.³⁰

The rapid and unexpected thrust of the Japanese can possibly account for the makeshift nature of support arrangements at the advanced operating bases but it can scarcely account for the lack of preparedness at Darwin. Indeed, two practice responses were held at RAAF Darwin in the 10 days preceding the two devastating raids of 19 February 1942, but preparations proved largely superficial.

²⁸ Squadron Leader W.D. Brookes, 'RAAF Operations from Rabaul', Report to North-Eastern Area, 24 February 1942. File held by the Office of Air Force History.

²⁹ 'Operational Complaints and Difficulties Concerning Rabaul', extracts from North-East Area Headquarters File 7/75/Air. Copy held by the Office of Air Force History. Lerew's comment on signals staff strength is contained in his written report dated 21 December 1941. He also commented on the distance of the advanced operating base from his main base (18 miles) and the failure of communications equipment at the advanced operating base.

³⁰ Gillison, *Royal Australian Air Force, 1939–1942*, p. 362. The four members who were unable to be evacuated were either too ill for the hard journey or remained to destroy secret documents and airfield infrastructure.

The men were not properly trained, few had ground combat training, many had never fired a weapon and none, save those who had been evacuated from Timor that morning, had experienced an air raid. Ground-based defences were poor; weapons held were enough for barely 10 per cent of the 2000 or so RAAF personnel in the Darwin area, and those mostly pistols. There was no base recovery plan; that was a Department of Public Works responsibility. Water, electricity, building and runway damage remained untouched for at least a week after the bombings.

There was no apparent hierarchical order for the flow of information and orders to all ranks on the base, or if there was, it could not have been well practised for it was ignored when needed most. Many personnel simply wandered off after the second raid, apparently acting on a word of mouth that originated as an order to withdraw 'half a mile down the road then half a mile inland'.³¹ Passing informally around the base, the order was increasingly distorted until it became direction for a general evacuation, or a loose instruction simply to 'go bush'.

While 278 men were absent from duty four days after the raids, not everyone responded to rumour and there were many acts of bravery and courage during the initial raids on Darwin. The 50 or so staff that had weapons put up a spirited defence. The Base Orderly Room, with no weapons training at all, operated a Vickers machine gun, while the Base Adjutant, Squadron Leader Andrew Swan, and his senior Clerk, Warrant Officer Harry Chapman, manned a Lewis gun in a trench beside them. Between the raids, they led a small party of airmen to force open an ammunition store inside a burning hangar in search of extra weapons. They failed to retrieve any extra rifles for want of serviceable firefighting equipment and water but they carried the ammunition they found into the open for safety.

Wing Commander Archibald Tindal, the Base Armament Officer and veteran pilot of some of the early action at Rabaul, was the first RAAF officer killed in combat on Australian soil, hit by a cannon shell during the first raid as he sat on the edge of a trench firing a Vickers machine gun. Four airmen of Transport Section were killed during the second raid when a bomb hit their trench and buried them under loose earth. Other transport drivers, including Flying Officer Leslie Fenton in charge of Transport Section, were lucky when another bomb landed on the corner of their trench but failed to explode.³²

³¹ Douglas Lockwood, *Australia Under Attack: The Bombing of Darwin – 1942*, New Holland Publishers, Sydney, 2005, pp. 133 and 186; and Gillison, *Royal Australian Air Force, 1939–1942*, p. 429. The order was given by the Base Commander to his Adjutant with the intention of evacuating the base for fear of another raid and to get everyone together to account for and feed them. A sensible enough idea under the circumstances, but it needed firm direction, strictly enforced through a practised chain of command.

³² Lockwood, *Australia Under Attack*, p. 36.



Damaged hangar at RAAF Darwin, with the landmark water tower in the background, 19 February 1942 – Darwin was ill-prepared for the bombings

(RAAF Museum)

Perhaps the unluckiest was Leading Aircraftman Philips Latham, a transport driver bound for Batchelor with a load of bombs. He diverted to the RAAF Base between the two raids to check on his younger brother and took shelter in the trench that collapsed. Flying Officer Fenton had his section well drilled with dispersal, camouflage and salvage plans. During the second raid, he led them to manhandle the bombs from Latham's truck, which was badly damaged and threatened to explode in the vicinity of 50 other personnel and the burning Central Equipment Store.³³

Medical Section was another that was well led, by Squadron Leader Donald Howle the Senior Medical Officer. Evacuation of the section, which was crowded with patients arriving from the advanced operating bases, was well practised and complete within a few minutes, trenches ready for all. After the raid, medical staff treated the wounded in the open amid the destruction and burning buildings. As for the base

³³ *ibid.*, p. 130.

evacuation, they followed everyone down the road for about a kilometre to set up a first aid post, and later returned to work from the nursing quarters before moving to the Darwin hospital, their own sick quarters being completely destroyed.³⁴



The main store on fire, RAAF Darwin, 19 February 1942 – Four days after the bombings, 278 men were still absent from the Base

(RAAF Museum)

Damage from the two raids was severe. Twenty-three aircraft destroyed, on the ground or in the air, squadron hangars and workshops, transport section and all of their vehicles, medical section, barracks, messes and most buildings on the base destroyed or badly damaged. There were no other absentees from Transport Section the following day, nor from the Equipment Section which had an active post-attack role in the salvage of equipment, even though the bombings destroyed the Central Store. The Darwin death toll was 238, seven of whom were RAAF members.³⁵

³⁴ *ibid.*, pp. 131–132. Medical staff included six nursing sisters. Two RAAF doctors, evacuated from Ambon on the morning of the raids, joined to help despite their illness (one was quite ill with malaria).

³⁵ Gillison, *Royal Australian Air Force, 1939–1942*, p. 430; and RAAF Personnel Killed in Air Raids on Darwin 19/2/1942. Copy held by the Office of Air Force History. RAAF personnel killed were Wing Commander Archibald Tindal (Base Armament Officer), Corporal Robert Simons (Guard), LAC Philips Latham (Driver), LAC Leonard Barton (Driver), LAC Albert Schulz (Messman), AC Stanley Smith (Driver), and AC Francis Neaylon (Driver). The majority of deaths occurred during the first raid on shipping in the Darwin Harbour.

Justice Lowe, in his report from the Commission of Inquiry into the raids of 19 February, criticised the RAAF for not applying the lessons already learned overseas and found grave fault at the 'lack of ... training for action under a bombing attack'.³⁶ It is difficult not to agree with Justice Lowe, even considering the peculiar circumstances of the rapid expansion of the RAAF (from 3000 to 67 000 personnel in a little over two years), decades of underfunding by successive governments and the extreme shortages of equipment (such as weapons) which were beyond the RAAF's ability to address. The breakdown of discipline though, and the failure of the chain of command at the lowest level when it was most needed, is surely an enduring lesson for the Air Force in any context.

Justice Lowe was critical of all three Services, and it should be noted that the apparent breakdown in discipline was not limited to the Air Force alone.³⁷ The RAAF response, while accepting Lowe's finding with understandable qualifications about expansion, experience and equipment, addressed, among a range of other issues, ground defence training. Detailed instructions were issued on the protection of airfields, deception, camouflage, post-attack recovery and denial. Every RAAF member was now required to undertake weapon, firefighting and first aid training, and bases were directed to exercise defence measures at least once per week. Leadership and command responsibilities were given special emphasis and ground combat training became a requirement before a posting to a forward area.³⁸ Army assistance was sought to train Aerodrome Defence Officers and instructors, and Mobile Defence Instructional Sections were formed and toured to all RAAF units to improve the standard of airfield defence training.³⁹ There were no repeat circumstances in any of the 63 other raids on Darwin over the following two years, or elsewhere in the RAAF for the remainder of World War II.

An aside in the RAAF response to the Lowe Report mentions a conflict in the workload of commanders of dispersed squadrons, between operations and administration.⁴⁰ There is no mention however, of the conflicting and very demanding responsibilities of the Station Commander. While Area Commands were introduced to decentralise control of operations from RAAF Headquarters in early 1942, at a base level the

³⁶ Gillison, *Royal Australian Air Force, 1939–1942*, app. 3, pp. 714–716. The Lowe Report also commended Group Captain Scherger, the senior RAAF officer in Darwin and former Base Commander, and Squadron Leader Swan for their conduct.

³⁷ Lockwood, *Australia Under Attack*, pp. 158–164.

³⁸ 'Air Raids on Darwin – Comment by Department of Air on Report by Mr Justice Lowe', 24 April 1942, app. A. Copy held by the Office of Air Force History.

³⁹ Warrant Officer Lawrence Horley, 'ADI from 2 Course Talks', 1990; and 'Royal Australian Air Force – Australian Air War Effort', 5th Edition, 1 May 1943, pp. 23–24. Copies held by the Office of Air Force History.

⁴⁰ 'Air Raids on Darwin – Comment by Department of Air on Report by Mr Justice Lowe', para. 14. At the time of the initial raids on Darwin, squadrons were dispersed to Daly Waters (500 km to the south-east) and Batchelor.

Station Headquarters remained as the conduit between the Area Headquarters and the operational squadrons while retaining responsibility for the underpinning base administration and protection. At Darwin, the Station Commander had an unenviable array of responsibilities from air defence, aerial surveillance and bombing missions to ground defence of the base, administration, logistics and command of base personnel, most of whom were inexperienced and poorly trained for war fighting.

Further confusing the task for Wing Commander Griffith, who had been the Darwin Station Commander for just 18 days before the February bombings, the Area Headquarters was superimposed on the Base Headquarters and both were collocated with a Combined Headquarters. Some years later Griffith stated that the Area Headquarters overrode him to the extent that he had little effective authority on his base or in his operations room. Group Captain F.R.W. Scherger, a previous Base Commander, acting Area Commander and senior RAAF officer at Darwin during the raids, agreed that Griffith had little effective authority on the base.⁴¹

The simple tactical structure that had served the RAAF well since 1921, of part self-supporting squadrons and Station Headquarters stacked with support staff, would not survive the rigours of war. The tactical organisation taking shape from late 1942 was based on wings, each of several squadrons, reporting to the Area or Group Headquarters.⁴² With the continued expansion of the RAAF and the urgent need for airfields and mobile forces, more robust and capable combat support units were formed from early 1942, to be assigned to the wings or the Area or Group Headquarters depending on need. Support arrangements were flexible with units shaped to meet the immediate need.

Numbered operational bases replaced the Station Headquarters and then, from April 1942, formed as Operational Base Units (OBUs), 48 of which were established by August 1945, designated by numbers according to the area allocated. The Operational Base Units varied in size and capability from the staff of 13 on strength at No 73 Operational Base Unit (Corunna Downs, WA) to well over 200 in some of the units on the larger air bases in northern Australia and New Guinea. The primary roles of an Operational Base Unit were airfield (air traffic) control, airfreight and passenger handling, bulk fuel storage and aircraft refuelling, fire response, local communications, transient aircraft maintenance, domestic and logistic services for transients, and maintenance of base (common) equipment. Other capabilities were added when the need arose or in the absence of specialist units: guards, medical staff, construction teams, bomb disposal teams, marine craft and crews, even transport

⁴¹ Lockwood, *Australia Under Attack*, pp. 22–23.

⁴² The operational command structure consisted of Southern, North-Eastern, North-Western, Eastern and Western Areas, and No 9 Group in New Guinea and the South-West Pacific. No 10 Group was formed in late 1943, as a mobile force and was later designated the First Tactical Air Force.

aircraft. Two Beaufort aircraft and crews were assigned to No 47 Operational Base Unit, for example, for local transport support while at Noemfoor in early 1945.⁴³

A Base Wing at Darwin and an Administrative Wing at Port Moresby coordinated the large number of airfields and support units in their areas, though the only true operational wings of the support forces were the two airfield construction wings. Initially called Works Wings, Nos 61 and 62 Airfield Construction Wings commanded the ten Airfield Construction Squadrons and other units occasionally assigned to support them.⁴⁴ The construction wings were largely self-supporting with organic medical, supply, communications and security, established for over 6000 personnel in total to allow a continual (24-hour) work effort. They performed an indispensable role when airfield engineering works were urgently needed, both in northern Australia and in New Guinea and the nearby islands as the Allied forces advanced.

Guards posted to various units in the Darwin area were formed as a Security Guards Unit at Livingstone, south of Darwin, in late 1942. The unit operated detachments protecting airfields in the Northern Territory until 7 April 1945 when it was retitled No 1 Airfield Defence Squadron, then based at Nightcliff. In New Guinea and the islands to the north, guards were posted to Defence Flights in operational units until a similar pool concept was introduced in late 1944, but not as a formed unit until 10 April 1945 when No 2 Airfield Defence Squadron was raised on Morotai Island. Initially organised along Army lines, the 2 Airfield Defence Squadron of 1945 consisted of six companies, including a headquarters company of four machine-gun platoons and a domestic (support) platoon, and five rifle companies each of three rifle platoons.⁴⁵

Medical Receiving Stations and Medical Clearing Stations provided medical services in the forward areas from 1942 and late 1943 respectively. The former was a field hospital with a nominal bed capacity of 100, while the latter was lighter, with a 40-bed capacity, and more mobile. Eleven Medical Clearing Stations and six Receiving Stations were formed by February 1945, while seven RAAF Hospitals provided longer-term treatment and rehabilitation in the rear areas in southern Australia. Three Malaria Control Units also operated from 1943, two in New Guinea and another around Darwin, to combat a pest that caused higher casualty rates than the enemy in some units.

⁴³ *Precis History of No 47 Operational Base Unit and No 61 Operational Base Unit*, c. 1946. Copies held by the Office of Air Force History in 'Wings File'.

⁴⁴ A Works Wing initially consisted of three or four Mobile Works Squadrons, a Works Maintenance Unit, a Works Supply Unit and a Survey and Design Unit. All units were combined into ten Airfield Construction Squadrons on 1 July 1944, survey and design responsibilities transferring to the Wing Headquarters.

⁴⁵ *History of the First Tactical Air Force RAAF*, 25 Oct 1944 – 15 Aug 1945, p. 87; and *Airfield Defence History*, c. 1946. Copies held by the Office of Air Force History.



No 2 Airfield Defence Squadron and Airfield Construction Squadron personnel go ashore at Tarakan, Borneo, May 1945 – Airfield Defence Squadrons were formed late in World War II

(Australian War Memorial Negative No. OG2542)

The Operational Base Units initially provided forward warehousing and supply. In New Guinea and on some northern bases, Stores Units, later called Air Stores Parks (ASPs), performed the function. By August 1945, twelve Air Stores Parks (Nos 21 to 32) had been formed and deployed overseas. Nine Telecommunications Units, five Radio Installation and Maintenance Units (RIMU), a Service Police Unit, Bomb Disposal Units, nine Postal Units and a large number of smaller Post Offices completed the list of combat support units.⁴⁶

⁴⁶ 'Royal Australian Air Force – Australian Air War Effort', Editions 3–10, May 1942 to August 1945. Copies held by the Office of Air Force History. See Appendix 3 for a consolidated list of RAAF combat support units operating during the latter years of World War II.



Mobile stores, probably of 25 Air Stores Park, at Noemfoor, PNG, October 1944 – Mobility improved with some hard-learned lessons

(Australian War Memorial Negative No. OG1724)

There was little, if any, RAAF doctrine or procedures for combat support or air base operations, other than that garnished from the RAF and US forces. Standardisation was through Air Board Directives or instruction from the Area or Group Headquarters. The hard-learned lessons of Darwin and overseas were applied but, for the most part, inexperienced personnel, especially in expeditionary operations, simply learnt as the war progressed.

The absence of joint procedures for an air base was evident at Goodenough Island where the build-up of forces prior to the Battle of Milne Bay in August–September 1942, was haphazard. Milne Bay was an important victory for the Allies, the first defeat of Japanese forces on land and a setback to their progress forward towards Port Moresby. It was hard-fought on the ground with outstanding support from Spitfires of Nos 75 and 76 Squadrons and some Hudsons from Nos 32 and 6 Squadrons. The Army had already crowded the main airfield, Gurney, when the first RAAF unit, a signals detachment of 12 personnel, arrived in late June.⁴⁷ The remaining RAAF units, totalling over 660 personnel by late August, arrived piecemeal over several weeks from late July and located themselves in any available or suitable space they could find, on an airfield built for a single fighter squadron.

⁴⁷ Flight Lieutenant C.E. Knife, record of interview, 'First RAAF Unit at Milne Bay', 30 August 1944. Copy held by the Office of Air Force History. The signals detachment did not know its destination when it departed Australia, and was told that it would receive rationing support from US forces. After arrival at Milne Bay, it arranged support from AIF units.

Despite the presence of an Operational Base Unit, there was no local RAAF command or coordinating authority for air base matters. According to the senior RAAF officer at Milne Bay, Wing Commander Frederick Thomas, 'the result was absolute chaos'.⁴⁸ Thomas, appointed as the Air Liaison Officer to the Milne Force (Army) Headquarters, worked hard to reduce congestion on the base as well as planning air support to meet Army needs.⁴⁹ Despite the uncoordinated build-up of forces and rudimentary command arrangements of the airfields, the atrocious conditions, mud and torrential rain, overcrowding and a suggestion of personnel shortages, the RAAF played a decisive role in the Battle of Milne Bay for which it was highly praised.⁵⁰ At the height of the battle, all staff including mess staff, transport drivers and others, worked ceaselessly to rearm, refuel and turn around Spitfires engaging the enemy.⁵¹

With the lack of experience and established procedures for a forward operational air base, and equipment procured centrally by staff distant from the ever-changing circumstances of the war, much depended on the initiative and leadership of individuals. At Port Moresby, No 45 Operational Base Unit's Medical Officer, Flight Lieutenant John Shelton, improved the unit's rescue capability by securing a fast craft, which he fitted out for rescue and insisted on a dedicated rescue crew. In all, during 1943, No 45 Operational Base Unit rescued 35 downed airmen and recovered numerous bodies. One rescue in particular, in December of that year, saw Shelton and his team, guided by spotter plane along the Laloki River, become stranded overnight and eventually reach the crash site by swimming and wading in a waist-deep swamp for two hours. Finding the crew had been killed, the spotter plane then redirected them to recover a US rescue team that had become lost in the same search.⁵²

Aeromedical evacuations also entered a new phase in New Guinea. Despite the excellent service by No 2 Air Ambulance Unit, like its sister squadron in the Middle East, it was restricted by limited-role aircraft that were not employable on other tasks. Patients in quite significant numbers were being evacuated across the Owen Stanley Range on an opportunity basis by transport aircraft without any medical crew or specialist in-flight care or pre-flight preparation. Medical staff, appalled by the conditions under which patients were evacuated, were not employed routinely on the evacuations until 1944 when three Medical Air Evacuation Transport Units (MAETUs) were formed, two operating in New Guinea and the third from

⁴⁸ Group Captain FW. Thomas, 'Milne Bay – General', Report on Milne Bay, North-East Area file 24/56/ Air, c. 1942. Copy held by the Office of Air Force History. Thomas was a wing commander at the time of the action.

⁴⁹ Gillison, *Royal Australian Air Force, 1939–1942*, p. 606.

⁵⁰ For comment on base staff shortages, see Milne Bay Command, North-East Area File 24/56/AIR, undated signal from Garing. Copy held by the Office of Air Force History.

⁵¹ Gillison, *Royal Australian Air Force, 1939–1942*, p. 613.

⁵² Allan S. Walker and others, *Australia in the War of 1939–1945 – Series 5 (Medical) – Volume IV – Medical Services of the RAN and RAAF*, Australian War Memorial, Canberra, 1961, pp. 292–294.

Townsville south. The units provided medical teams for transport aircraft and flying boats diverted from other tasks when the need arose. No 1 Medical Air Evacuation Transport Unit evacuated over 14 000 patients in New Guinea, without a single loss of life in the air.⁵³

After victories at Milne Bay and elsewhere—the Battle of the Coral Sea a few months earlier, Guadalcanal in the Solomon Islands, on the Owen Stanley Range (Kokoda) in late 1942, and in the Bismarck Sea where the RAAF contributed to a stunning victory in March 1943—stopped the Japanese advance, the Allies began to move forward. From one island airfield to another, the sequence—capture the airfield, repair it or build anew, support the aircraft fighting to secure the next airfield—was repetitive and the time line ever-changing but always tight. Rapid mobility, usually by amphibious landing craft, introduced new challenges for the RAAF in New Guinea.



Mealtime, South-West Pacific, c. 1944 – Specialist support units were integrated into self-supporting wings for operations in the South-West Pacific

(RAAF Museum)

⁵³ *ibid.*, pp. 359–361. Note that only two MAETUs are included in the RAAF ‘Australian Air War Effort’ reporting to government, and in Appendix 3. The third MAETU referred to here and in Walker’s official history may have been No 2 Air Ambulance Unit, which operated from Queensland and Port Moresby.

Equipment would eventually be adapted, for easy off-loading from vehicles driven from the landing craft rather than packed as general cargo requiring special handling equipment, though suitable vehicles for beach landings remained in short supply until near the end of the war. The shortage was due more to space available on vessels sailing from Australia rather than a general shortage of vehicles, though the RAAF supply system was often unresponsive, sticking rigidly, at least until late 1943, to published unit entitlements rather than considering demands on merit.⁵⁴ US forces provided common items such as rations and aircraft and vehicle spares for forward units from late 1943, and the AIF provided them on the Borneo operations in 1945.

No 10 Group, formed in November 1943 as the highly mobile group for the Allied advance, retained direct command of the more specialised support units that were fewer in number, such as the Bomb Disposal Units, Postal Units, Malaria Control Units, the guards and eventually the Airfield Defence Squadron. Surprisingly, as many of its units were formed from scratch in Brisbane and Townsville and had just a few weeks to prepare and equip, the first move of No 10 Group to Nadzab was uneventful.

Preparations for the Momote landing, on Manus Island, in March 1944 were minimal because the planned move was unexpectedly brought forward by one month due to the tactical situation. When the advance elements arrived, the battle for the airfield was still underway. Their barge was unloaded within 300 metres of bombs dropping on enemy positions. Unloading was testing and damage to airfield equipment, caused in transit at sea and during the unloading, delayed air operations. The support units involved, No 49 Operational Base Unit, No 27 Air Stores Park and No 26 Medical Receiving Station, had no experience in amphibious operations, no handling equipment for unloading and they lacked protective cases or packaging material for the transit.

At Tadjj, where No 37 Operational Base Unit arrived in October 1944 without most of its equipment due to shipping delays, flying operations continued largely uninterrupted with support from the US though the resultant conditions for the squadrons based there, also without much of their own equipment, were atrocious and aircraft refuelling, directly from drums, was slow.

As the wings and units of No 10 Group gained experience in moves, such as to Cape Gloucester from Nadzab at just a few days notice, to Aitape soon after and then to Noemfoor at less than one days notice, unnecessary equipment was discarded and packing and loading procedures improved. Equipment was still damaged, mainly from

⁵⁴ Group Captain C.D. Candy (Senior Air Staff Officer, RAAF Command), notes of interview, 'Operations in New Guinea', 29 August 1944. Copy held by the Office of Air Force History. Candy cites an example demand for 4000 x 500-pound bombs required to keep up with the operational effort expected by the US, only to be told that the published entitlement was 1400.

exposure to the hot and humid tropical climate and the rough conditions encountered at sea, and some pilfering occurred but the preparedness of the RAAF in New Guinea to undertake a rapid move on a large scale, badly lacking at first, was improving.

The airfield works at Nadzab by No 62 Airfield Construction Wing were spectacular by any standard—two runways, sealed, with dispersal facilities for 200 aircraft, completed within four weeks of the first sod being turned. ‘A world record’, Group Captain Charles Candy, the Senior Air Staff Officer of RAAF Command in New Guinea proudly claimed in an interview in 1944, staking a claim for credibility against comparable American forces.⁵⁵ Tradesmen from across 10 Group had been added to the Construction Wing to ensure the Nadzab works were on schedule; nonetheless, the Airfield Construction Wings continually met tight deadlines under difficult and trying circumstances. They routinely landed in the early waves of assault forces, beginning their initial survey before the airfield was secured, and were frequently subject to attacks from the air and the ground during construction works. Candy’s claim for credibility too, was tacitly acknowledged when US engineering squadrons were placed under the command of Wing Commander William Dale, the commander of No 62 Wing, for airfield works at Aitape and Noemfoor.



Airfield construction was critical to air operations – A ‘world record’ was claimed for the construction efforts at Nadzab, PNG, February 1944

(RAAF Museum)

⁵⁵ *ibid.*

Ultimately, No 3 Airfield Construction Squadron was one of only two Australian ground units to participate in the Mindoro landings in the southern Philippines, accompanied by an attached party of seven members of No 5 Bomb Disposal Unit. Their task was to construct dispersal areas and the buildings and services for a US field hospital. During the landing on 15 December 1944, Leading Aircraftman William Barham was killed and Leading Aircraftman Paul Cutajar suffered petrol burns when a Japanese suicide bomber dived at the open doors of their landing craft. Under nightly air attacks until mid-January, and less frequent until mid-February, No 3 Airfield Construction Squadron remained at Mindoro until May 1945.⁵⁶ By then, illness in the unit was widespread; diagnosed as schistosomiasis and probably contracted at Leyte in the southern Philippines during a one-month period in most unhygienic conditions while preparing for the Mindoro operation.⁵⁷ Evacuation of the unit on medical grounds commenced in August, even though they returned to work at Morotai and then continued further airfield works at Balikpapan.⁵⁸

An American, Major Pat Long, who encountered an unknown Australian, likely to have been a plant operator of 3 Airfield Construction Squadron, at Mindoro during a Japanese naval bombardment best tells of the attitude and devotion to duty typical in the Construction Squadrons. 'When the attack commenced an airman walked into the operations room and asked the U.S. officer-in-charge if he could be of any help ... he had his bulldozer outside. His offer was readily accepted and the airman, who was hatless, proceeded to fill in the shell holes on the strip and remove crashed aircraft while shells were falling around him. He was thus instrumental in saving numbers of aircraft from crashing on the strip.'⁵⁹

Three members of the Bomb Disposal Unit proceeded further in the Philippines, to Luzon at the end of February 1945 where they deloused bombs, mainly from friendly aircraft and mostly entangled in trees and bush, working for three weeks continuously from first light to last. Two officers of the unit also deloused mines and booby traps left by the Japanese in Manila.

⁵⁶ David Wilson, *Always First: The RAAF Airfield Construction Squadrons 1942–1974*, Air Power Studies Centre, Canberra, 1998, pp. 75–81; and Mindoro Operation, File No. 2408/1/W, 9 January 1945, copy held by the Office of Air Force History. A RAAF Wireless Unit (signals intercept) also accompanied US forces to the Philippines.

⁵⁷ Common in tropical and sub-tropical climates, schistosomiasis (or bilharzia) is a parasitic disease that leads to chronic ill health and is caused by trematode flatworms of the genus *Schistosoma*. Larval forms of the parasites, which are released by freshwater snails, penetrate the skin of people who come in contact with contaminated water.

⁵⁸ Walker, *Medical Services of the RAN and RAAF*, pp. 305–309.

⁵⁹ George Odgers, *Australia in the War of 1939–1945 – Series 3 (Air) – Volume II – Air War Against Japan, 1939–1945*, Australian War Memorial, Canberra, 1968, p. 378.



Clearing the airfield road with protection party, Noemfoor, PNG, November 1944 – Bomb Disposal Units worked as squads attached to other units

(Australian War Memorial Negative No. OG1744)

The Bomb Disposal Units, which mostly operated in squads attached to other units such as an Operational Base Unit or an Airfield Construction Squadron, later participated in the Borneo operations in 1945 and at Morotai and the Admiralty Islands previously, rendering safe unexploded bombs and mines on the runways and nearby roads and occasionally on downed aircraft. According to the commander of No 5 Bomb Disposal Unit, Flight Lieutenant Henry Belcher, there were more bombs on Tarakan than in any of the areas they had operated.⁶⁰ In the Admiralty Islands, a seven-man bomb disposal squad accompanied the US 1st Cavalry Division on the invasion of Pityilu Island, off Manus on 30 March 1944. The Americans awarded Flight Lieutenant R. Taylor a Silver Star and four of his airmen Bronze Stars for their bomb disposal work forward of infantry and mechanised units, constantly under fire, dealing mainly with unexploded bombs dropped before the landing. Belcher and two members of his party, Sergeant Norman Horn and Leading Aircraftman

⁶⁰ Flight Lieutenant Henry Belcher (OIC No 5 Bomb Disposal Unit), Interview at Morotai, 22 May 1945. Copy held by the Office of Air Force History.

Henry Messenger, were seriously injured in the Admiralties during May 1944 when delousing a missile.⁶¹ Belcher was injured previously at Luzon, though overall injuries in the Bomb Disposal Units were relatively low.⁶²

The main threat to airfields throughout the war in New Guinea was from enemy aircraft, though they were by no means exempt from ground attack or mines. Even in late 1944, when the Allies had commenced offensive operations in the Philippines and air superiority was all but gained in New Guinea, a single air attack on Morotai by nine enemy aircraft killed three men and wounded eight more. The same attack destroyed 15 Allied aircraft, including nine Bostons of No 22 Squadron, and damaged 29 others. As a result, 22 Squadron was withdrawn from operations until it was re-equipped with Beaufighter aircraft.⁶³

Vulnerability to ground attack was highest during and immediately after the beach landings when new airfields were gained. Airfield ground defence was based on a static concept, with units responsible for their own areas and contributing to perimeter defence on a rostered basis. Initially, guards were posted to unit Defence Flights with around 60 on strength in a typical fighter squadron in 1942–43, including a Defence Officer.⁶⁴

As No 10 Group (later retitled the First Tactical Air Force) gained experience, the operational concepts for ground defence also progressed. Guards in the group, though remaining dispersed across several airfields, came under central command at Noemfoor. On future operations, in particular at Tarakan, Labuan and Balikpapan on Borneo during the *Oboe* operations of 1945, No 2 Airfield Defence Squadron was assigned the protection of vital assets, such as aircraft, bulk fuel storage and principal headquarters, cooperation with Army in broader airfield defence and protection of isolated sections, such as airfield construction teams and radar posts.⁶⁵ Guards did

⁶¹ Odgers, *Air War Against Japan, 1943–1945*, p. 180, n. 2.

⁶² Belcher, Interview at Morotai. According to Belcher there were no deaths among the approximately 60 RAAF personnel involved in bomb disposal duties (about half were assigned to the New Guinea, South-West Pacific Area). In all, two men each lost an eye, another was disabled by bomb fragments and discharged from the RAAF, one was shot through the leg by a sniper at Tarakan, plus Belcher's wounds which put him out of action for a few months.

⁶³ Odgers, *Air War Against Japan, 1943–1945*, pp. 311–12.

⁶⁴ National Archives of Australia: Royal Australian Air Force, A705, Air Force Headquarters – AMOE [Air Member for Organisation and Equipment] (Organisation) – Establishment – No 76 (Fighter) Squadron, 231/9/925 PART 1, 1942–1944, <http://naa12.naa.gov.au/scripts/ItemDetail.asp?M=0&B=167767>, accessed 7 May 2007; and National Archives of Australia: Royal Australian Air Force, A705, Air Force Headquarters – AMOE [Air Member for Organisation and Equipment] (Organisation) – Establishment HD-108 – No 77 (Fighter) Squadron, 231/9/926 PART 1, 1942–1944, <http://naa12.naa.gov.au/scripts/ItemDetail.asp?M=0&B=167771>, accessed 7 May 2007.

⁶⁵ Gary Waters, *Oboe – Air Operations over Borneo, 1945*, Air Power Studies Centre, Canberra, 1995, pp. 93 and 139.

conduct patrols with US forces while at Noemfoor but, as a standard practice, Army units maintained responsibility for defences beyond the immediate airfield perimeter on RAAF airfields.⁶⁶

In the latter stages of the war during the Borneo operations, Japanese soldiers made numerous desperate attempts to inflict damage on airfield and construction equipment. Nightly attacks by ground parties occurred on the airfield at Tarakan during May 1945, with occasional shelling by 75 mm guns and air raids, but with little damage. Ground attackers were usually armed with grenades, fuzed shells or bombs and knives, rarely with small arms. Under these conditions, floodlighting of cleared lines of fire on the perimeter and approach paths, combined with defensive posts each manned by four men with machine guns, was most effective, although some attackers still penetrated the perimeter.



Bren gun crew, Noemfoor, August 1944 – Ground attacks on the bases were frequent during the *Oboe* operations on Borneo

(Australian War Memorial Negative No. OG1580)

⁶⁶ C. Cugley, 'RAAF South West Pacific Islands World War II', the story leading to the formation of No 2 Airfield Defence Squadron, pp. 12–13, unpublished collection of papers and photographs held by RAAF Museum. RAAF guards at Noemfoor, jointly with US forces, conducted daily eight-man patrols. One such patrol killed three enemy soldiers and captured a fourth.

In the early hours of 5 May 1945, four days after the landing at Tarakan but still some 12 hours before the airfield was secured, Leading Aircraftman Thomas Irvine, a guard of 2 Airfield Defence Squadron, was killed when the enemy, armed with explosives in an attempt to destroy airfield construction equipment, infiltrated the 1 Airfield Construction Squadron camp area. Prompt action by other members of 2 Airfield Defence Squadron at his post routed the enemy party, leaving three dead. A Japanese grenade in the same attack wounded Leading Aircraftmen Stevens and Kleidon of 1 Airfield Construction Squadron, but Stevens opened fire and killed one of the enemy. Later in the month, around midnight on 31 May, a Japanese grenade killed Sergeant Keith Bradshaw of 1 Airfield Construction Squadron and seriously wounded Sergeant Harold Russenberg of 8 Airfield Construction Squadron when a large party of Japanese attempted to infiltrate the airfield. Personnel of 8 Airfield Construction Squadron engaged the enemy, killing four, and burnt out others from a culvert the next morning.⁶⁷

Construction work on the Tarakan airfield, which housed craters up to three metres deep and 18 metres in diameter, began on 6 May despite the Japanese attacks and the quagmire caused by a high water table. At one stage a bulldozer sunk deep into mud and was abandoned, left buried beneath the strip. Three members of No 3 Bomb Disposal Unit joined the Army battalions as they moved forward from the beach area, clearing roads and parts of the unsecured airfield. During 6–7 May, working through the night, they cleared 114 mines from the airfield and dispersal areas. Although not well camouflaged, the mines were indiscriminately placed and caused considerable casualties to personnel and damage to vehicles.⁶⁸

At Labuan in the early morning of 21 June 1945, No 2 Airfield Defence Squadron joined with an Army engineer company (2/7th Field Company) against infiltrators on the northern edge of the airfield, near dispersed aircraft. Together, they accounted for 13 enemy dead, five probably by 2 Airfield Defence Squadron. On the same morning a small group, apparently familiar with the base layout, targeted the First Tactical Air Force radio transmitters in the camp area but were detected and engaged by 2 Airfield Defence Squadron guards, killing one and seriously wounding another. The wounded enemy, later found dead, threw a demolition charge (which failed to explode) into the tented area before escaping. Both the latter infiltrators had 'aerial bombs' strapped to their backs. Other infiltrators, seemingly in search of food but also found to be

⁶⁷ History of First Tactical Air Force file, 'Borneo Operations, Invasion of Tarakan', pp. 124–126, copy held by the Office of Air Force History; and Odgers, *Air War Against Japan, 1943–1945*, pp. 458–460.

⁶⁸ History of First Tactical Air Force file, 'Borneo Operations, Invasion of Tarakan', p. 128; and Odgers, *Air War Against Japan, 1943–1945*, p. 458.

armed with bombs strapped to their bodies, were captured by Operational Base Unit personnel at Labuan.⁶⁹

The Borneo operations were very successful despite some significant shortcomings of the initial operation at Tarakan where the plans lacked detail and unloading of equipment was poorly coordinated. Orders were distributed late, some were seemingly ignored, rehearsals for loading and unloading and erection of equipment were not conducted and the Administration Instruction was vague in areas, telling units to deploy with 'adequate' quantities of some classes of supplies for example.⁷⁰ Poor intelligence was the main failure though, on the waterlogged state of the Tarakan airfield, which made it unsuitable and rendered the extreme efforts of the Airfield Construction Wing and the whole RAAF support contingent largely ineffective. The lessons of planning and unloading were addressed for the subsequent landings at Labuan and Balikpapan, which achieved their operational aims.

An interesting aside to the Borneo operations is the little-known account of Flight Lieutenant G.C. (Geoffrey) Ripley, a RAAF officer serving with the Allied Intelligence Bureau who led one of a number of small guerrilla parties to northern Borneo in 1945. Ripley's party, inserted on 23 June, collected four Australian prisoners who had escaped from Sandakan and were subsequently retrieved by an Auster aircraft on 20 September. These were four of only six survivors of the 2512 prisoners held at Sandakan by the Japanese.⁷¹

There is no doubt that the contribution of the RAAF to the Allied victories of World War II was nothing short of magnificent. The high tempo of operations, the diversity of tasks in multiple and quite different theatres, the rapid expansion of the RAAF and the eventual size it reached is unlikely to be repeated in modern times. The support forces, while not engaged in daily combat, were an integral part of air combat operations. Without them, success in the air could not have been achieved.

While it would be pointless to judge early 1940s support arrangements by today's standards, the wealth of experiences gained during World War II warrants a consideration of some aspects with today's wisdom.

The strategic level, at RAAF Headquarters, considered support capabilities in isolation rather than as a singular air base or support capability. Those support services with a parent directorate in Melbourne, such as airfield construction,

⁶⁹ First Tactical Air Force Intelligence Summary No. 7/45, extract contained in First Tactical Air Force file, 'First Man Ashore', copy held by the Office of Air Force History. Note that the first RAAF member ashore at Labuan was Flying Officer T.E. Higgins, in charge of safe-hand, landing nine minutes after the first assault wave. A detachment of 5 Bomb Disposal Unit followed soon after.

⁷⁰ Waters, *Oboe – Air Operations over Borneo, 1945*, pp. 50–53.

⁷¹ Lionel Wigmore, *The Japanese Thrust*, Australian War Memorial, Canberra, 1957, pp. 603–04; and Gavin Long, *The Final Campaigns*, Australian War Memorial, Canberra, 1963, p. 456.

medical, communications and meteorology, were well planned and equipped for their wartime tasks.⁷² Other capabilities lagged. In some cases, such as supply, probably because the responsible directorate had a great deal more to consider than the capability of units at one end of the supply chain, and in other cases because there was simply no parent directorate. Seemingly, no single directorate in RAAF Headquarters considered combat support as a whole; the array of units, rather than the air base itself, was the considered capability. As a result, some changes appear arbitrary at best. The Operational Base Units, for example, were little more than the old Station Headquarters retitled with the command function removed to the new Wing Headquarters, a fitting change given the increased focus on highly mobile, joint air operations, but the revised concept overlooked command of the expeditionary air bases, or at least relegated it to very much a secondary role. The multitude of specialist units too, supporting the mobile wings, can only have confused the air base coordinating role for which the Operational Base Units were suited if not designed, and which they achieved on the fixed bases in Australia.

Air base command, as distinct from airfield control (which was an air traffic function exercised by the Operational Base Units) was not exercised in any meaningful sense at the forward, expeditionary airfields. The variety of operations, ranging from a highly mobile squadron in the Middle East to fixed bases in northern Australia and large mobile wings in the South-West Pacific, would probably have confused any thoughts of a coordinated support concept at the strategic level. Even at the operational level however, at the Group and First Tactical Air Force Headquarters in New Guinea, planners do not seem to have realised the importance of unity on the air base. Operational plans did show a growing awareness of the importance of planning for the air base but coordination of unit effort and sharing of support resources was another matter.

The consequences of not controlling the land space around an airfield were well understood after the uncoordinated build-up of forces at Milne Bay in 1942, where control over the immediate airfield environment was overlooked. For the Borneo operations in 1945, First Tactical Air Force Headquarters allocated space at the airfields to units as part of the overall plan for the final landings and build-up of forces.

⁷² Candy, notes of interview, 'Operations in New Guinea', 29 August 1944. Candy cites the Signals Organisation as what can be done with 'proper forward planning ... proper thought ... and adequate provisioning'. Candy similarly praised the Airfield Construction Squadrons, developed as an initiative of the Building and Works Directorate. The Commonwealth Bureau of Meteorology became a Directorate of RAAF Headquarters under the Deputy Chief of the Air Staff from July 1941. Medical, after initial administrative ties to the Army, formed as a Directorate under the Air Member for Personnel soon after the outbreak of war.

The Air Force had certainly learned that combat support was needed both at home and at forward airfields, after the dearth of support at Rabaul and elsewhere in early 1942. The number of support units involved in the Borneo operations, with services duplicated for each wing and then some more for headquarters and other units was in stark contrast to the skeletal advanced operating bases established at the front line some three years earlier. The concept of self-supporting wings, with little regard for shared resources when collocated on the same airfield, is more akin to an Army concept and must have introduced an unnecessary strain on the AIF logistic support requirements for the Borneo operations at a time when opening the airfield and the immediate battle was predominant.

For the assault at Labuan in June 1945, typical of the Borneo landings, an Airfield Construction Wing with two self-supporting Airfield Construction Squadrons, two Operational Base Units, three Air Stores Parks and three Medical Units, in addition to two Communication Units and a large detachment of the Airfield Defence Squadron, detachments of a Bomb Disposal Unit, Service Police, Malaria Control and Postal Units made up the support footprint.⁷³ Logistic and sustainment needs aside, the coordination of so many units, disparate yet with a common purpose around the single airfield, would have been extremely difficult and probably doomed to fail in the case of a serious attack or emergency, as might have been encountered.

The Airfield Defence Squadrons were an appropriate grouping of the guards. Previously, with guards posted to various operational units, the ground defence capability was widely and thus thinly spread. While the Darwin bombings and fall of the advanced operating bases had identified the need for ground combat training, and the vulnerability of air bases and aircraft to ground attack was clearly evident after Malaya, the Airfield Defence Squadrons were formed far too late in the war to contribute to any useful development of an air base ground defence concept.

If nothing else, among the outstanding successes and deserved praise earned throughout World War II, the contrast between the advanced operating bases at the beginning and the Borneo operations at the end of the war demonstrated that the RAAF now understood its need for adequate combat support. Surprisingly, it would not prove to be an enduring lesson learned.

The final Borneo operations also showed that there was still more to learn about organising forward base support and coordinating support activities around a forward airfield. Perhaps, if the war had continued much longer, coordination of forward support would have been addressed. Certainly the idea must have been well under development because, immediately on cessation of the war, a single 'Base Squadron' concept was adopted for air base support to the RAAF forces in occupied Japan.

⁷³ Waters, *Oboe – Air Operations over Borneo, 1945*, pp. 108–11.

CHAPTER 3

BASE SQUADRONS AND SUPPORT UNITS

Base Squadrons became the mainstay combat support unit of the Air Force for the better part of 40 years following World War II. The wartime specialist support units were disbanded with demobilisation, except for two of the Airfield Construction Squadrons, and the all too familiar Station Headquarters reinstated for command and the provision of all base support on the home bases. Base Squadrons, combining all of the support roles into a single unit, had an expeditionary role initially and just a limited tenure on the home bases.



First arrivals in Japan with the Occupation Force, Bofu, 1945 – Base Squadrons replaced multiple units in the self-supporting wings of the postwar Mobile Task Force

(RAAF Museum)

The self-supporting wing concept, highly successful for mobile operations during war, was retained as the basic warfighting concept of the postwar Air Force. A fighter, heavy bomber and a transport wing formed the Mobile Task Force in 1947, each with its own Base Squadron and strengthened by a broader plan to add or subtract support personnel as needed for operations, from the Home Defence Force of which the Station Headquarters and hence much of the combat support force, were part.¹ The Mobile Task Force concept of three essentially self-supporting expeditionary wings would allow rapid deployments of varying size within an established RAAF command structure, but the effectiveness of the support units would depend on the proper allocation of resources.

No 381 Base Squadron formed in January 1946 from the specialist units of 81 Wing at Labuan and embarked for Iwakuni, Japan, in February as part of the British Commonwealth Occupation Force (BCOF). The Base Squadron role incorporated all of the wartime support functions from medical and barracks administration to supply, ground defence and security, airfield control and fire services, communications and personnel administration.²

In Australia, No 386 Base Squadron formed at Schofields in August 1946 and No 378 Base Squadron at Williamstown in June 1947, as part of 86 and 78 Wings respectively. Unfortunately, both the latter squadrons were short-lived. They suffered severely from a lack of resources—personnel, equipment and facilities—which reflected the lack of funds allocated by government to the Air Force and defence overall in the postwar years rather than a lack of commitment by the RAAF to the new support concept and squadrons.

Downsizing and demobilisation were the Government's priority following the war, to release workers into the community. The RAAF alone had downsized from over 170 000 to less than 14 000 by October 1946 and funds for any new initiatives were in short supply.³ Resources were so scarce that 386 Base Squadron at Schofields issued no bedding for the first eight months of its existence because of the lack of money for a laundry contract. Staff shortages were so desperate that the squadron Commanding Officer requested the use of Japanese prisoners of war and internees to help run the kitchen. A dilemma for the RAAF in the late 1940s was the need to balance limited personnel resources between deployable and home base support units, an enduring issue that would be confronted again, in modern times nearly six decades on.

¹ Alan Stephens, *Going Solo: The Royal Australian Air Force, 1946–1971*, Australian Government Publishing Service, Canberra, 1995, pp. 31–32.

² The support units, formerly of 81 Wing which contributed personnel and equipment to 381 Base Squadron at Labuan, included 47 Operational Base Unit, 24 Medical Clearing Station, 25 Air Stores Park and 2 Airfield Defence Squadron.

³ Stephens, *Going Solo*, pp. 19–20.

Neither 386 nor 378 Base Squadron reached close to even half of their personnel establishment before disbandment in April 1948 (No 378) and March 1949 (No 386), each re-forming as a Station Headquarters.⁴ At Amberley, where 82 Wing had moved in April 1946, No 3 Aircraft Depot in lieu of a Base Squadron provided base services until the Station Headquarters formed in 1947.⁵ The preferred organisation of permanently established, self-supporting wings never developed much beyond a concept, at least so far as standing self-support was concerned. For future deployments, and there would be quite a few, Base Squadrons were raised to purpose and manned with personnel drawn from across the Air Force.



Bofu barracks, Japan, c. 1946 – No 381 Base Squadron personnel lost their personal belongings in a barracks fire soon after arrival in Japan

(RAAF Museum)

Just 10 days after their arrival at Bofu, Japan, in March 1946, most members of 381 Base Squadron lost all of their possessions in a barracks fire. Despite the initial setback, the occupation of Japan proved largely uneventful, the Japanese accepting the Allies and peace. In the air, the three RAAF fighter squadrons of 81 Wing conducted largely a peacetime training program, relatively well resourced in comparison to the Australian-based squadrons at the time, and some surveillance sorties in the Inland Sea to detect any illegal entrants into Japan. No 381 Base Squadron supported flying

⁴ No 386 Base Squadron Unit History Sheet – RAAF Form A.50; and No 378 Base Squadron Unit History Sheet – RAAF Form A.50. Copies held by the Office of Air Force History.

⁵ Royal Australian Air Force (compiled by RAAF Historical Section), *Units of the Royal Australian Air Force: A Concise History – Volume 1 – Introduction, Bases, Supporting Organisations*, Australian Government Publishing Service, Canberra, 1995, p. 120.

operations from Bofu and then Iwakuni, a former Japanese Naval Air Force kamikaze base, and squadron detachments to Miho and elsewhere. The personnel strength of 381 Base Squadron peaked at over 600, though a number of those were attached for administrative convenience, and conducted tasks outside of the unit's primary role of air base support.⁶ From late 1946, No 381 Base Squadron became the sole source for all technical spares for the British Commonwealth Air Group (known as BCAIR), supporting not only the three RAAF squadrons but five other squadrons from Britain, India and New Zealand. The largest RAAF contribution to re-establishing Japan—indeed probably the most significant contribution of any Australian unit according to a noted RAAF historian—was made by the airfield engineers of No 5 Airfield Construction Squadron, the only Allied airfield engineering and construction squadron in Japan.⁷

Expected to remain in Japan for only a few months to complete airfield works at Iwakuni, Bofu and Miho, the damage to Japanese infrastructure and airfields caused by the US Army Air Force bombing during the war was devastating and the work for 5 Airfield Construction Squadron kept mounting, as did their reputation. With supervised Japanese labour, they reconstructed the three main airfields for BCAIR use, built or repaired a number of forward airfields and maintained several others. They renovated hardstands and taxiways, repaired or designed and built hangars and other technical facilities, roads, accommodation blocks, fuel storage installations, utilities such as power, water and sewerage systems, and they designed houses for construction by the Japanese. An attempt by RAAF Headquarters, which directly commanded 5 Airfield Construction Squadron in Japan, to withdraw the squadron after the initial airfield works were complete was strongly resisted by Air Vice-Marshal F.M. Bladin, the Chief of Staff of BCOF, who successfully argued that it was doubtful whether BCOF's full air force component could continue to operate should the unit be withdrawn.

No 381 Base Squadron remained in Japan until 1948 when, as Britain withdrew its forces, the Australian Government directed a reduced RAAF presence of a single squadron by year's end. All responsibilities for combat support and the necessary staff transferred to 77 Squadron from October, except for a small equipment accounting staff of the Base Squadron who remained until mid-1949. No 77 Squadron became the largest flying squadron in the RAAF with nearly 300 personnel and, undoubtedly, with the broadest range of responsibilities. Apart from flying operations and aircraft maintenance, 77 Squadron responsibilities now included numerous base tasks. Among them were base operations and air traffic control, medical and dental, meteorology, photography, postal, armament store and central store, accounting

⁶ The more general tasks included civil administration and linguist duties.

⁷ Stephens, *Going Solo*, p. 215.

and pay, bulk fuels storage and distribution, guards and security, communications, transport and air terminal, messing and accommodation, off-base clubs, education and technical library, motor transport and Link Trainer (simulator) maintenance, and dependants' housing.⁸ While the depth of the responsibilities would have diminished somewhat from the days of three RAAF fighter squadrons in Japan, the list of tasks transferred to 77 Squadron is still quite daunting; especially for a unit commander whose primary responsibility and skills were flying operations.



Fire Section, Bofu, Japan, 1948 – All base support responsibilities transferred to 77 Squadron in Japan, 12 months before the war in Korea

(RAAF Museum)

The Air Board considered the independent, self-supporting squadron concept, such as 77 Squadron had become in Japan, as an organisational concept some years later during 1959 after a government review of Australia's strategic outlook. The suggestion by Air Vice-Marshal C.D. Candy, the Air Officer Commanding Home Command at the time, was intended to allow squadrons the maximum flexibility to deploy rapidly and individually. The Air Board rejected the proposal on the grounds that not only did the wings offer a greater concentration of force but also substantial savings on maintenance and administration.⁹ Such savings are quite apparent on an air base where all squadrons must reside on common tarmacs and share some common services, such as fuel, communications, fire response and the like. The surprising element missing from the Air Board's rejection is consideration of the broad range of responsibilities and the workload of the commander of a self-supporting flying

⁸ No 381 Base Squadron Unit History Sheet – RAAF Form A.50. Copy held by the Office of Air Force History.

⁹ Stephens, *Going Solo*, pp. 71–72.

squadron, who must surely only be distracted from his warfighting duties by added support responsibilities.

The responsibilities handed to the Commanding Officer of 77 Squadron at Iwakuni proved far too large a burden for wartime operations when committed to the United Nations forces in Korea on 30 June 1950, only days after celebrating the completion of BCOF commitments and commencing plans to return home. The then BCOF Chief of Staff, Air Commodore A.M. Charlesworth, concerned about the workload of the Commanding Officer of 77 Squadron, assumed command of Iwakuni three months after the start of the Korean War after a large portion of 77 Squadron deployed forward into Korea. Subsequently, in late October 1950, No 91 Wing and No 391 Base Squadron formed to take on the Iwakuni support responsibilities.¹⁰

Apart from the difficulties of the air war where 77 Squadron upheld the outstanding reputation that it had built with US forces during the occupation of Japan, shortages of suitable field equipment and cold weather clothing, including flying clothing, made their task over Korea unnecessarily more difficult and risky, especially for aircrew in the case of an ejection. The shortages, surprising as the RAAF had been operating in the not unlike climate of Japan for over four years, are an indictment on the RAAF supply system of the day, even considering the no-notice war in Korea and wider funding constraints. Such was the equipment that an electrical fault caused a tent fire at Pohang in November 1950 and, combined with poorly designed summer-weight sleeping-bags, resulted in the death of two 77 Squadron officers. Suitable cold weather equipment was obtained in theatre through US sources and was ultimately provided by the RAAF, though some shortages persisted as late as October 1951.¹¹

No 391 Base Squadron, manned largely from 77 Squadron, faced an uphill task to address the badly needed equipment and clothing shortages, for which it was wrongly blamed by some. Their task was compounded from early 1951 by the introduction of the Meteor aircraft, a type initially introduced into service only in Korea with 77 Squadron as the sole RAAF operator. Concurrent with managing demands and the delivery of spares and armament for the new aircraft, 391 Base Squadron also undertook disposal action on the obsolete Mustangs and their inventory, which continued to occupy valuable storage space and the time of the equipment accounting staff for up to two years after they had ceased flying.¹²

¹⁰ Robert O'Neill, *Australia in the Korean War 1950–53 – Volume II: Combat Operations*, Australian War Memorial and Australian Government Publishing Service, Canberra, 1985, p. 314.

¹¹ No 391 Base Squadron Unit History Sheet, October 1951 – RAAF Form A.50, copy held by the Office of Air Force History; and Wing Commander R. Creswell, 'Commanding 77 Squadron – Korea', in John Mordike (ed.), *The Post-War Years: 1945–1954: The Proceedings of the 1996 RAAF History Conference*, Air Power Studies Centre, Fairbairn, 1997, pp. 89 and 105.

¹² No 391 Base Squadron Unit History Sheet. While some of the Mustangs were returned to Australia in September 1951, disposal was not finalised until the Minister for Air ceremoniously handed over the last seven aircraft to the

Several factors compounded with the introduction of the Meteor from a supply support perspective. Firstly, unlike the Mustang and many of the other items of equipment such as clothing and tents, the Meteor was a British aircraft. Spare parts and munitions, sourced from the UK, were not available locally from the reliable US Fifth Air Force sources that had solved many of the previous shortages. The lines of supply were long and complex, from Britain to a RAAF Stores Depot in Australia and then to 391 Base Squadron in Japan for storage and eventual delivery on demand to 77 Squadron in Korea. Urgently needed demands placed on the Stores Depot would invariably suffer delays while the item was again placed on demand from the RAF in Britain. Eventually, in December 1953 after much dissatisfaction with the responsiveness of the supply chain, 391 Base Squadron became the RAAF master depot for Meteor spares, allowing higher stockholdings and the direct ordering and delivery of spares from the UK. Some spares, such as external tanks and some scarce armament parts, were obtained locally through Base Squadron raised and administered contracts for manufacture in Japan. Local contracts had also been raised for modifications to clothing and other personal-issue equipment sourced from the US or Britain.



Forward area, Korea, c. 1955 – Field equipment was outdated and unsuited to the cold climate

(RAAF Museum)

Armament became perhaps the major challenge for the Base Squadron suppliers when the role of 77 Squadron changed under somewhat controversial circumstances in

January 1952, from air-to-air fighter to ground attack.¹³ Rockets were not previously on the Meteor's inventory and required a local modification to the aircraft. Now they were a priority item, and required in large quantities. The equipment staff at Iwakuni were consulted and agreed that they could meet the estimated rocket numbers for the new role, but they were reliant entirely on external sources and hard pressed to sustain 77 Squadron's requirement, which varied according to the fortunes of war, sometimes quite drastically. In May 1953, for example, the estimated usage changed from 1500 rockets per month to over 250 per day, a fivefold increase, though all demands were met.¹⁴

The failure to equip 77 Squadron initially with appropriate clothing and field equipment in Korea was ultimately a failure of the RAAF supply system of the day and symptomatic of a postwar Air Force run down. The introduction into service of a new and unique aircraft type in a theatre of war was always going to be a high-risk venture. While new aircraft were routinely and successfully introduced during World War II, and the Caribou and Iroquois helicopter were new when deployed to Vietnam in the late 1960s, the difference with the Meteor was that it shared no commonality in parts or armament with the US aircraft in Korea. The risk, quite apparent from a support perspective, was greatly increased by the changed role which, doubtless needed for the war effort, severely tested the supply chain and local, Base Squadron, support. Under the circumstances, the supply support that 391 Base Squadron provided to Meteor operations in Korea was a major achievement. Its contribution to 77 Squadron's tremendous success in the air deserves far greater recognition than has previously been acknowledged.

Much of 77 Squadron's direct support when deployed forward in Korea—messing, air base services and the like—came from the Fifth Air Force under an agreement with the US. The Base Squadron provided RAAF unique support and supplemented US support forward, in addition to their major role of running the point of entry and exit air base at Iwakuni. From April 1952, Iwakuni base responsibilities were gradually handed over to the US 6418th Air Base Group, though most base services continued to be provided jointly.

No 391 Base Squadron supported the Australian Army and personnel from other Commonwealth countries (Canada, New Zealand and Britain) in transit to and from the war with messing, accommodation and recreational facilities, handled the loading and unloading of several RAAF, RAF, civilian and occasionally United States Air Force (USAF) cargo and passenger flights daily, and maintained RAAF and Army vehicles.

¹³ Stephens, *Going Solo*, pp. 234–238.

¹⁴ No 391 Base Squadron Unit History Sheet, May 1953 – RAAF Form A.50, copy held by the Office of Air Force History.

They also supported No 30 Transport Unit, which became No 36 Squadron in March 1953, including maintenance of their C-47 Dakota aircraft by locally employed Japanese technicians. RAAF airmen and locally hired civilians jointly manned airfield fire services, barracks maintenance and catering, which served up to 1000 meals daily and maintained a small farm for fresh produce. Films, loaned from the US amenities division, and Australian newsreels were shown both in Korea and at Iwakuni, and the 'Voice of the RAAF', radio W.L.K.U., ran on a volunteer announcer basis, its transmissions reaching North Korea and most of Japan on a clear day.¹⁵

Support personnel moved regularly into Korea on attachment either to 77 Squadron or to one of the two Base Squadron Detachments near Seoul. Detachment A at Kimpo was for the receipt and dispatch of consignments of Meteor parts while, from late 1952, medical staff worked a two-month rotation to the RAAF Medical Evacuation Ward where they accepted and prepared patients for onward evacuation. The RAAF ward was in an old high school in the war-torn suburbs of Seoul, part of the Canadian-run hospital known as the British Commonwealth Zone Medical Unit (BCZMU).¹⁶

The RAAF conducted all British Commonwealth aeromedical evacuations from Korea by C-47 Dakota aircraft with 391 Base Squadron medical teams. There were no arrangements for the acceptance and preparation of patients for air travel in Korea, a lesson apparently not learned from World War II, until the BCZMU evacuation ward was established. The Iwakuni-based staff manned the Dakota flights and strategic civilian charter flights to Australia and occasionally RAF flights to Singapore or Hong Kong, or USAF flights. With only a limited staff—there were just six nurses in total at Iwakuni and Seoul for much of the war—they escorted some 12 762 patients from Korea to Japan and a further 728 from Japan to Australia during 1951–1953 logging, on average, close to 500 hours each during a 13-month tour.

No 391 Base Squadron remained in Japan after the ceasefire of July 1953, until disbanded in April 1955 when the residual support responsibilities at Iwakuni were transferred to 36 Squadron, which remained on a much reduced scale until July 1956. Meanwhile, No 378 Base Squadron was re-formed to support 78 Wing's two fighter squadrons in the Mediterranean. No 78 Wing deployed to Malta from July 1952 on air defence duties. The squadrons, including 378 Base Squadron, gained valuable experience in the two-year deployment on a number of air defence exercises while in the Middle East and some, showing a degree of mobility, in the UK and Germany with Air Forces of the North Atlantic Treaty Organisation. Their exercises regularly included ground support and defence aspects.

¹⁵ Ted Moore, RAAF cinema operator, cited in Maurie Pears and Fred Kirkland, *Korea Remembered: The RAN, ARA and RAAF in the Korean War of 1950–1953*, Doctrine Wing, Combined Arms Training and Development Centre, Georges Heights, 1998, ch. 43.

¹⁶ Pears and Kirkland, *Korea Remembered*, p. 368.



Loading aeromedical evacuation patient, Kimpo, Korea, c. 1953 – No 391 Base Squadron supported several national contingents in Japan and maintained two forward detachments in Korea

(RAAF Museum)

Base Squadron Momote was established from August 1948 to provide support at the former wartime airfield on Manus Island in the Admiralty Islands group, as an 'advanced operational base'. Momote was a transit base for aircraft en route to Korea and South-East Asia and a training base for Mobile Task Force forward deployments. No 2 Airfield Construction Squadron joined the Base Squadron in November 1952, for runway and base infrastructure improvements, until August 1955. Base Squadron Momote remained until the end of 1958, by which time a growing Australian presence in Malaya and the reduced presence in Japan changed the strategic need for a base to New Guinea's north.

Australia chose Momote over Port Moresby and Rabaul as a strategic airfield because its existing facilities, handed over by the US at no cost, were better and because of its key position on likely approaches to Australia. Strategic airfields, as distinct from the home bases, were developed as advanced bases or bare bases as they became known, with upgraded facilities and aircraft movement areas but not manned until a need arose.

Cocos Island was another, chosen as an alternative route to South-East Asia and the UK as unrest in the region grew. The impetus for Darwin's development came from Air Marshal J.P.J McCauley, as Chief of the Air Staff. Sustained pressure over a long period from Air Chief Marshal F.R.W. Scherger, as both Chief of the Air Staff and Chairman of the Chiefs of Staff Committee, resulted in the development of Tindal in the 1960s. Scherger's personal experience in the 1942 raids of Darwin where he was the senior RAAF officer, had taught him the importance of dispersal and the need for a second major air base in Australia's north. Learmonth on the Exmouth Gulf, important for its proximity to Indonesia and to fill the void of bases between Pearce in the south-west and Darwin in the north, was initially developed in the late 1950s to minimum standards and significantly upgraded and modernised in the early 1970s after the government decision to purchase the F-111. Butterworth, a former RAF base in the north of Malaya, was handed to the RAAF by the British Government at no cost, ongoing rent excepted, as part of Australia's contribution to the Commonwealth Strategic Reserve in the Far East. Upgrades to Butterworth began in August 1955 to prepare for the eventual arrival of the RAAF fighter and bomber squadrons from July 1958.

The Airfield Construction Squadrons were in high demand throughout the 1950s. No 5 Airfield Construction Squadron, disbanded in 1949 after completion of works in Japan, re-formed in 1951 for works on the Monte Bello Islands atomic testing range off northern Western Australia. No 2 Airfield Construction Squadron was reactivated in 1947 for works on the Long Range Weapons Project at Woomera, building two airfields and the range infrastructure including a small dam, and then completed runway and associated works on Cocos and Manus Islands and at Butterworth, and then more airfield works at Townsville and East Sale before final disbandment in 1961. No 5 Airfield Construction Squadron upgraded the Williamtown runway and undertook works around the Sydney area at Richmond, Kingswood, Regents Park and Brookvale before moving to Darwin for runway extension and new apron works. The squadron also constructed prefabricated buildings at Ubon in Thailand and in Vietnam in the 1960s, and then built new tarmacs at Amberley in preparation for the arrival of F-111s and Chinook heavy-lift helicopters.

The final tasks for 5 Airfield Construction Squadron were the bare bases at Tindal and then Learmonth, before disbandment in September 1974. After 32 years, the Airfield Construction Squadrons could no longer be justified but the need for airfield engineers, works supervisors, tradesmen and plant operators was enduring. Within just three months of disbandment, many of the former members of 5 Airfield Construction Squadron were reunited when posted to the Darwin Reconstruction Squadron, to recover RAAF Darwin after Cyclone Tracy ravaged the base on Christmas Eve in December 1974. A little over two decades later, a small number of RAAF tradesmen would assist Army engineers in the construction of the last of Australia's bare bases, appropriately named Scherger, on Cape York Peninsula.



Unloading 2 Airfield Construction Squadron equipment, ship to shore by RAAF barge, Cocos Island, c. 1951

(RAAF Museum)

Base command arrangements changed during 1952 when the longstanding Station Headquarters on the main bases were split into Base Squadrons for support and Base Headquarters for command, each denoted by the geographic base name rather than a number. The Base Headquarters commanded both the base and air operations conducted by units of the base. When deployed, the wing headquarters retained command of the base and all of its units, although there were few deployments, other than Iwakuni, to a base where such arrangements could be tested or proven. A Station Headquarters initially commanded forces at Iwakuni for two years until March 1948 when No 81 Wing assumed command for a brief period until the wind-down of forces later that year. In Malta, the RAF provided base support and command of the air base even though 378 Base Squadron had deployed and the senior RAAF officer, Group Captain B.A. Eaton was appointed to command, for a while, the RAF Station which hosted 78 Wing. Similar arrangements applied in Malaya where Dakota transports and Lincoln bombers of No 90 (Composite) Wing deployed in 1950 for operations against an anti-British communist insurgency, until Base Squadron Butterworth became operational in May 1958 and Headquarters RAAF Butterworth assumed command on 1 July. Base Squadron and Headquarters Butterworth remained until June 1988 when the RAAF presence was greatly reduced, command of the base handed over to the Royal Malaysian Air Force and RAAF Support Unit Butterworth

(SUBUT) formed. In Singapore, RAAF Support Unit Tengah supported deployments of fighter squadrons from Butterworth throughout the 1970s.

Command of Ubon, a Thai air base but a RAAF base in all except name for much of the Air Force's time there, was by a small headquarters called RAAF Ubon. No 79 Squadron and supporting staff deployed there in May 1962 under arrangements of the South-East Asia Treaty Organisation (SEATO) to counter concerns of a growing communist insurgency in Laos and for the air defence of Thailand. Effectively a station headquarters with national responsibilities, RAAF Ubon was based on 79 Squadron at first and then, from mid-1964, on the Base Squadron.¹⁷ Base command arrangements remained unchanged even after the USAF deployed 12 F-4 Phantom ground attack aircraft, which operated into Vietnam, and around 500 personnel to the base in April 1965, more than doubling the Australian numbers. Eventually, towards the end of the RAAF presence in August 1968 as the war in Vietnam escalated and US numbers increased to over 3500 personnel, Ubon became a USAF base.



RAAF Ubon domestic area, Thailand, 1962 – Ubon was supported from Butterworth until Base Squadron Ubon was raised

(RAAF Museum)

In tents until 5 Airfield Construction Squadron completed building works, staff attached from Butterworth supported Ubon until a Base Squadron of just over 100

¹⁷ RAAF Ubon Unit History, July 1964 – RAAF Form A.50, copy held by the Office of Air Force History. From July 1964 the Commanding Officer 79 Squadron position was downgraded from Wing Commander to Squadron Leader.

personnel was established and manned on 12-month rotations drawn from across the RAAF. Located just 50 kilometres from the Laotian border, the potential threat to Ubon from ground forces and air attack was always high, especially with a growing US presence and the escalating war in Vietnam. Intelligence estimates were of 1200 insurgents in the immediate area and attacks on facilities and aircraft on approaches to the airfield were not rare. A US radar unit was attacked in May 1965, a Thai helicopter shot down in May 1967 and a USAF C-130 hit by ground fire in 1968.¹⁸ Base Squadron Ubon fire and medical response teams kept proficient in other, non-battle, airfield emergencies too. In May–June of 1965 alone, emergency services responded to a USAF F-101 fighter, which veered off the runway with a collapsed undercarriage, and a Royal Thai Air Force T-33, which narrowly missed the USAF flight line when it crashed, killing both pilots.

The Ubon base security plan and passive defences were well developed and exercised regularly, even to the extent of flying out aircraft, but RAAF expertise in airfield defence was low. Ubon initially relied on just a small number of security guards and largely untrained base personnel to respond to any attack. A series of radar detections in July 1966, thought to be helicopters operating within a few kilometres of the base and later found to be false indications, raised security concerns. During September, a flight of airfield defence guards (ADGs), just over 30 strong, joined Base Squadron Ubon.

Growing commitments overseas in the mid-1960s, to Thailand, Malaysia and to Vietnam from mid-1964, led to the development of a number of new combat support capabilities. A deployable communications unit, Air Transportable Telecommunications Unit (ATTU) formed at Richmond in September 1965 with a staff of 11 and a primary task to provide a field communications centre. Emphasis in the early years for ATTU was placed on headquarters communications, for the tactical operations centres deployed forward with Army brigades, but it soon grew to include strategic communications, airfield navigation aids and communications for the air base. The ADG mustering was introduced in late 1965, the first 12-week course beginning at the Ground Defence Training Squadron of No 3 Aircraft Depot (Amberley) in January 1966. Around the same time, an explosive ordnance disposal flight, called the RAAF Ammunition Disposal Flight, formed at No 1 Central Ammunition Depot (Kingswood) with an eight-man team. Formed primarily for bomb clearance of air weapons ranges, it also had a combat support role to recover unexploded bombs but it remained separate from the combat support forces until 1999. Later in the decade, in early 1969, the Medical Operational Support Unit (MOSU) formed at Richmond as a training unit, for field medical support and

¹⁸ Stephens, *Going Solo*, pp. 279–280.

aeromedical evacuation but it also held the medical equipment for deployments. MOSU was officially opened on 17 February 1969, the day the first course began.¹⁹ Theoretically, it could deploy a tactical (field) hospital, though there is no evidence that it ever did.

The two wartime Airfield Defence Squadrons, disbanded in November 1945, were reformed briefly during 1951–52 when national servicemen trained as airfield guards but the RAAF's ground defence capability and skills, maintained through a small cadre of instructors, had waned considerably. The central issue for the RAAF was one of responsibilities. The Chiefs of Staff Committee in the late 1940s had decided that the Army was responsible for air base security outside of the airfield perimeter and the other Services, Navy and Air Force, were not authorised to raise ground defence forces. They had to rely on other staff, not ground defence specialists, to deal with any incursions inside their perimeter. The RAAF was reluctant to divert the effort of its other specialists, on which it relied entirely for serviceable air bases and aircraft, to what it considered an Army role. The Chiefs of Staff Committee again endorsed the Army responsibilities, which the Army had largely ignored, and those of the RAAF, which were also largely ignored, in 1960 against RAAF opposition. The senior leaders of the RAAF, all very experienced wartime officers, were well aware of the implications of a secure air base but did not believe it possible for their airmen to undertake both their primary responsibilities and fight a ground war. In the continuing absence of any interest by the Army, the RAAF introduced the Security Guard mustering in 1962 and soon after upgraded the skills and numbers through the Airfield Defence Guard. Ground Defence Flights were added to the Base Squadrons at Amberley, Richmond, Darwin, Williamtown and Edinburgh, though the latter was unmanned, and Squadron Leader J.I. Brough was attached to Vung Tau for 12 weeks from November 1965, to study airfield defence practices.²⁰

The division of responsibilities for the ground defence of an airfield based on the airfield perimeter, or 'the wire' as it is often called, was agreed again at the Chiefs of Staff Committee in 1969, but it would continue to cause ground defence officers, and forward-base commanders for that matter, some concern for many years. The difficulty was that a perimeter defined by 'the wire' is arbitrary, especially on a forward airfield without purpose-built security fencing, and can vary from just a few metres to several kilometres beyond the runway. The former, smaller area allows no room to detect any threat and defeat it before an attack is underway and it restricts the ground defence option to a static defence and a quick mobile response. A larger perimeter, on the other hand, allows space for active patrols and reconnaissance to

¹⁹ RAAF News, vol. 11, no. 2, March 1969, p. 4.

²⁰ Stephens, *Going Solo*, pp. 61–64; and Chris Coulthard-Clark, *The RAAF in Vietnam: Australian Air Involvement in the Vietnam War 1962–1975*, Allen & Unwin, St Leonards, 1995, pp. 217–218.

detect and stop any aggressors before they attack the base. In Thailand, and at Phan Rang in Vietnam where a Ground Defence Flight deployed with No 2 Squadron in 1967, ADGs successfully conducted patrols outside the air base perimeter. A revised RAAF concept for airfield ground defence written in the 1990s avoided any reference to the 'wire', and clearly delineated areas of responsibility for the RAAF and Army based on the terrain and the threat, the forces available and the activities conducted, rather than an arbitrary fence line.

The combat support provided to the RAAF's first contribution to the war in Vietnam was less than makeshift and reminiscent of the paltry support arrangements to forward areas in the early years of World War II. The RAAF Transport Flight Vietnam, later named No 35 Squadron, arrived at Vung Tau, 70 kilometres south-east of Saigon, in August 1964 with Caribous diverted en route during their delivery ferry flight from Canada. Without any RAAF administrative or logistic support, the aircrew and technical crew were to be supported locally by the US Army. Accommodation was basic and, for the other ranks, unhygienic. Caribou aircrew had to prepare and cook their own meals, while the other ranks lived in open-sided wood and wire-mesh huts just metres from a foul-smelling open sewer. Hangar space was sparse and communications, via the Australian Embassy in Saigon, were unreliable and slow. Postal traffic, using the more reliable US postal system, was unsatisfactory for official correspondence. Financial delegations were minimal and restricted local purchasing such that the Caribou detachment commander, Squadron Leader C.J. (Chris) Sugden, used his own money to purchase necessities in the first few months.²¹

Additional personnel joined the Caribou detachment in Vietnam the year after the Transport Flight arrived, but still no support personnel were included other than four ADGs for security duties at the off-base accommodation the flight had acquired.²²

The support services of Base Support Flight Vung Tau were long overdue when it formed at Fairbairn as an independent unit two years later and deployed to Vietnam with No 9 Squadron (Iroquois helicopters) and a detachment of 5 Airfield Construction Squadron in June 1966. No 5 Airfield Construction Squadron also commenced works at Phan Rang, some 250 kilometres north-east of Saigon, in January 1967, in preparation for the arrival of No 2 Squadron (Canberra bombers) from Butterworth in April with an organic Base Support Flight.

US forces commanded the air bases used by Australia in Vietnam, and provided common base services but the two RAAF Base Support Flights provided national and

²¹ Coulthard-Clark, *The RAAF in Vietnam*, pp. 58–62; and Group Captain R.J. Connor, 'RTFV-35 Squadron Vietnam: 8 August 1964 – 19 February 1972', in John Mordike (ed.), *The RAAF in the War in Vietnam: The Proceedings of the 1998 RAAF History Conference*, Air Power Studies Centre, Fairbairn, 1999, pp. 71 and 77–78.

²² Coulthard-Clark, *The RAAF in Vietnam*, p. 60.

unit level support, including security, catering and messing, personnel administration and pay, communications, medical services, police services, vehicle and ground equipment maintenance, barracks maintenance and passive defences, and logistic support for RAAF unique items. Air Movement Sections to handle transport aircraft and their cargo at the two bases were under the control of a third section at Tan Son Nhut (Saigon). Command of the three Air Movements Sections, initially under the Base Support Flight Vung Tau, changed to RAAF Headquarters Vietnam in July 1968. Five additional communications personnel drawn from Air Transportable Telecommunications Unit were also attached to the Air Transport Operations Centre established at the Australian Task Force Headquarters, Nui Dat, for Iroquois tasking.

While 2 Squadron and its support flight remained relatively stable in size until withdrawn in 1971, the numbers at Vung Tau grew from an initial strength of 280 personnel in 1966, to 455 by August 1968. Base Support Flight responsibilities and strength expanded accordingly, from 82 to 169 (including a small number of RAAF Headquarters staff). In acknowledgement of its expanded responsibilities and increased size, Base Support Flight Vung Tau was retitled to No 1 Operational Support Unit (1OSU) on 19 September 1968.



Prime Minister John Gorton visits 1 Operational Support Unit, Vung Tau, Vietnam, c. 1968 – 1OSU formed as a separate unit in Vietnam when the numbers at Vung Tau expanded

(No 1 Air Operations Support Squadron)

Vung Tau was subject to periodic mortar and rocket attack, sometimes resulting in casualties and damage to aircraft or facilities, though fortunately not to RAAF personnel or equipment. A rocket attack in April 1968 resulted in four dead and 24 wounded (no Australians), and damaged 11 US aircraft, destroyed another and damaged or destroyed vehicles and buildings. A similar attack killed six civilians and destroyed a number of houses in October, while in February 1969 the US suffered casualties and again in March when the fuel installation and two US helicopters were damaged. Base protection responsibility was shared among units and external patrols by 1 Operational Support Unit ADGs were limited due to the close proximity of roads and civilian infrastructure, and the congestion of units and structures.

The Ground Defence Flight mounted a quick reaction force to respond to incidents on occurrence, conducted vehicle escorts and manned sentry towers around the perimeter and at the 'beach' recreational facility. They also conducted patrols at Nui Dat, the forward base of the Australian Task Force some 30 kilometres north of Vung Tau, on a cooperative basis with the Army, and at the 'Horseshoe' fire support base in early 1968 for experience with the infantry and to maintain their patrolling skills. Nine ADGs on the latter patrols made contact with the enemy, though contact on the Nui Dat patrols was rare. During 1969, when four Iroquois were modified for the helicopter gunship role, an additional 17 ADGs were added to 1 Operational Support Unit as side door gunners on a six-month rotational attachment to 9 Squadron.²³ Base support staff, as they did at Phan Rang, formed 'augmentee' sections to supplement static perimeter defence.

Phan Rang suffered stand-off attacks and sporadic bombardment on a far greater scale than at Vung Tau, being hit by 784 mortar rounds and rockets during the period January 1968 to June 1971. Base security at Phan Rang was the primary responsibility of the USAF Security Police with elements of the Republic of Korea Army operating out to 12 kilometres from the perimeter while the Army of the Republic of Vietnam, initially the US Army, manned a separate perimeter close to the base. ADG patrols, commencing in November 1967, increased dramatically from February 1968 after attacks against the base early in the month, and continued until the withdrawal of 2 Squadron in June 1971.²⁴

The ADG patrols at Phan Rang had an immediate effect; within days there was a marked reduction in enemy harassment and no part of the perimeter screened by the patrols was attacked in strength, though small party and individual attacks continued, as did stand-off attacks, at times fierce. On the night of 25–26 January 1969 a coordinated assault with multiple penetration attempts, one of which reached

²³ Coulthard-Clark, *The RAAF in Vietnam*, pp. 219–224.

²⁴ *ibid.*, pp. 227–230.

75 metres inside the perimeter, accompanied by a barrage of some 60 mortars and at least five rockets, injured 16 American personnel, destroyed two US fighter aircraft and damaged another fifteen. Again, on 22 February, at least 80 mortar rounds bombarded Phan Rang, injuring six USAF personnel and damaging 17 aircraft and base facilities.²⁵ Seven more attacks occurred through to the end of March with less damage. Other than minor damage to a vehicle and several near misses to buildings and aircraft, RAAF equipment suffered little damage throughout the indirect fire attacks, which continued sporadically until late 1970.²⁶



ADG Section (Watch-Dog 23) of 2 Squadron, Vietnam, March 1970 – Phan Rang was subject to frequent ground attacks

(Jim Conway, ADGies net)

Patrols, usually involving a daytime sweep or a night ambush set on likely approaches to the base or likely firing positions, frequently exchanged fire in contact with the enemy and occasionally resulted in enemy dead or wounded, though attribution was difficult. Corporal Noel Power was awarded the Military Medal for his actions in February 1970 when his section engaged a retreating enemy reconnaissance and

²⁵ *ibid.*, pp. 230–235.

²⁶ Commanding Officer's Monthly Report, No 2 Squadron, May 1970 – May 1971, copy held by the Office of Air Force History. The last reported attack in the monthly reports, consisting of two rockets, was in November 1970.

sapper party, the first such medal to be awarded to a member of the RAAF since World War II. His leadership and courage under fire resulted in the injury and subsequent capture of a North Vietnamese artillery Major and possibly ended enemy plans for a two-company assault on the base. The only battle casualties of combat support staff in Vietnam were among the ADGs, which, including Iroquois gunship duties, totalled one killed and seven wounded in action.²⁷



The original 'gun-buggy', Vietnam, c. 1969

(Peter Beckwith, ADGies net)

A very different program, civil aid to the Vietnamese community, was run by the Australian Task Force's Civil Affairs Unit and, for the RAAF's part, by the chaplains of 1 Operational Support Unit and 2 Squadron. The chaplains undertook their civil aid duties with a great deal of vigour and obtained some exceptional results. They identified and undertook projects ranging from classroom lessons in local schools to medical clinics in local villages and hospitals, and the distribution of donated goods from units in Australia and Vietnam. Engineering tasks of varying scale, from water storage and reticulation to the construction of classrooms and accommodation for needy villagers or orphans, were also undertaken. Perhaps the major, if not the grandest, project undertaken at the chaplains' direction was the relocation of the 'An Phong' (winds of peace) orphanage in Vung Tau, involving the construction

²⁷ Coulthard-Clark, *The RAAF in Vietnam*, pp. 236–238 and 242.

of seven 'home unit' style buildings and associated works.²⁸ Although an official program, the civil aid projects were secondary tasks and are a great credit to both the chaplains and the volunteers of all units and ranks who donated their time and effort.

Apart from the units deployed to Vietnam, Base Squadrons Darwin, Richmond and Butterworth played important roles in the ongoing logistic support to the war, particularly the Air Movements Sections in handling the freight and passengers carried to and from by C-130 aircraft. Medical evacuations from Vietnam, also by C-130, were mostly through Butterworth where No 4 RAAF Hospital, which had formed in March 1965, provided the aeromedical evacuation (AME) teams and stabilised the patients overnight on their long journey home to Australia, usually to Richmond for reception by No 3 RAAF Hospital. At least 25 nurses from 4 RAAF Hospital served with the USAF 902nd Aeromedical Evacuation Squadron, based in the Philippines, on 60-day attachments from 1966 to 1969 to gain valuable AME experience which they carried over to RAAF operations.²⁹

A small support team returned to Vietnam in April 1975 supporting a C-130 relief effort and evacuation of Embassy staff as the Government of the former ally collapsed under the advancing North Vietnamese forces. No 1 Operational Support Unit and 35 Squadron, the last of the RAAF units withdrawn from the war, had departed Vietnam in late February 1972. The support staff in 1975, drawn from Base Squadron Butterworth and 4 RAAF Hospital, Butterworth and attached to Headquarters Richmond Detachment S in Vietnam, included ADGs, medical staff, a small air movements team and a communications technician. The air movements team of an officer and two SNCOs conducted load planning and supervised what local assistance they could arrange in loading equipment and labour, while the ADGs, unarmed as a condition of entry for the humanitarian flights, provided some protection for the aircraft and crews. Medical crews provided in-flight care, including to 273 orphans conveyed to Bangkok by C-130 for onward travel to Australia by civilian aircraft.³⁰

The Air Force concept for combat support remained largely unchanged in the immediate post-Vietnam era. No 1 Operational Support Unit was disbanded and, for expeditionary tasks, temporary Base Support Units were formed with personnel drawn from Base Squadrons and the wider Air Force, and from the scattered ADG Flights and Air Transportable Telecommunications Unit. Operational deployments offshore in the 1970s though, while significant, were few and relied on the United

²⁸ *ibid.*, pp. 305–308.

²⁹ David Wilson, 'C130 Operations, No 5 Airfield Construction Squadron, Airfield Defence, Logistics, Photographic Interpreters', in John Mordike (ed.), *The RAAF in the War in Vietnam: The Proceedings of the 1998 RAAF History Conference*, Air Power Studies Centre, Fairbairn, 1999, p. 91.

³⁰ Coulthard-Clark, *The RAAF in Vietnam*, pp. 322–331; and Group Captain Graeme Crombie (Retd), Air Movements Officer Butterworth, 1975, email to the author, 19 August 2007.

Nations (UN) for support, or on a small number of clerical, equipment and medical personnel integrated into the deployed squadron.³¹ For short-duration tasks, such as the immediate response of C-130s for flood, cyclone or other humanitarian relief efforts, which were fairly common but not labelled as joint operations, squadron personnel or staff drawn from local air movements sections were used to assist aircrew with unloading. A communications team from Air Transportable Telecommunications Unit deployed to Madang with 36 Squadron for several months during 1973 for famine relief operations in the Papua New Guinea (PNG) highlands while the civilian infrastructure was used for base support. Aeromedical evacuations, common in the 1970s before civil air ambulances, usually originated from Richmond and thus 3 RAAF Hospital. Not until Australia's joint exercise program gained momentum in the mid-1970s though, was the need for a dedicated deployable base support unit recognised.

The *Kangaroo* series of exercises, starting with Exercise *Kangaroo One* in 1974 and then held every other (or third) year, marked the beginning of a series of major joint and combined exercises involving the three Services plus forces from the US, UK and New Zealand.³² Air terminal deficiencies were the first to be recognised, or at least to be acknowledged in an organisational sense. The practice of C-130 crews loading and unloading their own aircraft, as they did frequently at remote airfields across Australia and in New Guinea, was highly unsatisfactory and jeopardised flight safety, but poor terminal procedures at Rockhampton during Exercise *Kangaroo Two* in 1976 provided the catalyst for the formation of mobile air load teams.

The scratch mobile air movements sections used for exercises were inexperienced and ill-prepared for field conditions and their staffing was ad hoc, often with too few numbers. According to Brian Hardy, a former wing commander and observer from the RAAF Directorate of Movements and Transportation at Rockhampton for *Kangaroo Two*, 'people in the team had done an air movements course sometime in the past ... but few, if any, had any recent practical experience and they were struggling due to their lack of skills and experience'. On the air loading equipment he added that 'it was well suited for the task but painted a bright yellow, a little too conspicuous for a forward airhead' and he described his tent as 'a classic' with a 'huge wooden crate containing a proper bed, white sheets, pillows, blankets and an Air Force counterpane'. Evidently, the empty crate made a nice wardrobe.³³

³¹ UN deployments in the 1970s were two Caribous of 38 Squadron to the United Nations Military Observer Group in India and Pakistan (UNMOGIP) based in Kashmir (1975–78) and four Iroquois of 5 Squadron to the United Nations Emergency Force (UNEF) based at Ismailia on the Suez, Egypt (1976–79).

³² Exercises in the *Kangaroo* series (preceding the *Crocodile* and *Tandem Thrust* series) were: K1 (1974, QLD), K2 (1976, QLD), K3 (1979, QLD), K81 (QLD), K83 (WA), K86 (QLD), K89 (WA, NT), K92 (WA, NT) and K95 (NT, QLD).

³³ Wing Commander Brian Hardy (Retd), Directorate of Movements and Transportation, 1978–79, email to the

The field equipment Brian Hardy describes is indicative of the state of Air Force support to forward airfields in the 1970s, even in the scratch Base Support Units that formed temporarily with inexperienced personnel on the early *Kangaroo* exercises. It is difficult to comprehend given the wealth of lessons to learn in the preceding decades. In part at least, the unsuitable deployable equipment can be explained by the lack of experience with helicopters and Caribous, the initial focus of which was on operations in Vietnam where they were supported from well-developed main bases. Despite work up exercises in the Shoalwater Bay Training Area, which were supported at Samuel Hill airfield by scratch Base Support Units and Air Transportable Telecommunications Unit, there is little evidence of a well-developed concept for deployed or expeditionary support.³⁴ Even the use and thus support of C-130s at a point of entry airfield with the Army was immature in the early 1970s, though the unsuitable deployable equipment evidenced does question the validity of joint operating concepts for the RAAF's relatively new tactical transport fleet. Even as late as the mid-1980s some of 1 Operational Support Unit's vehicles were still painted white, to be covered in a temporary olive green for deployments.



Leading Aircraftman Colin Oakes washes off temporary camouflage paint, supervised by MT Fitter Flight Sergeant Paddy Dee (right), both of No 1 Operational Support Unit, Toowoomba, c. 1986 – Some white vehicles were covered with temporary olive green paint for exercises in the 1980s

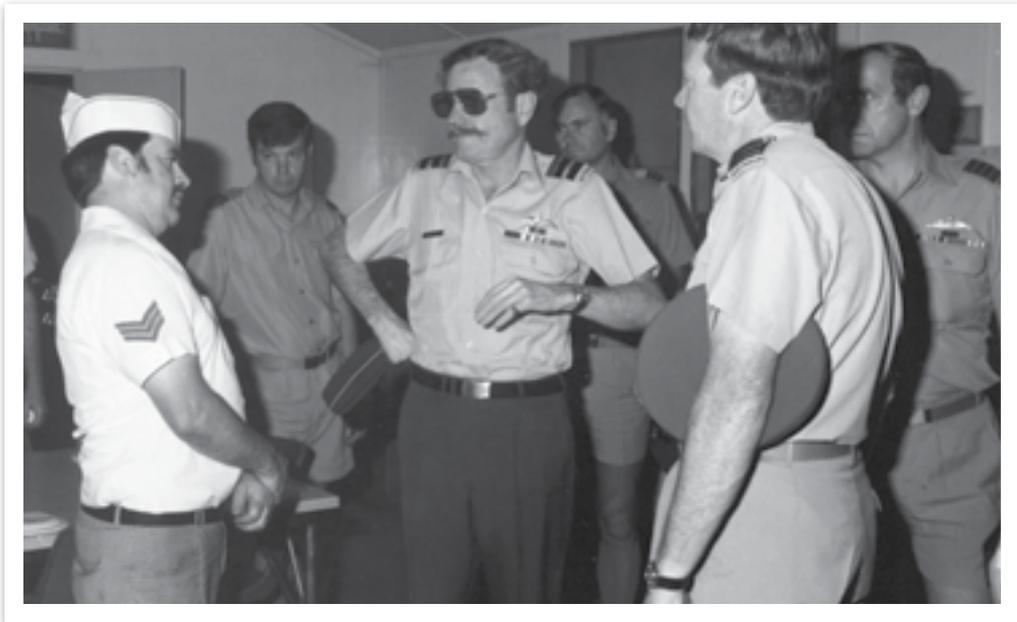
(No 1 Air Operations Support Squadron)

author dated 12 August 2007.

³⁴ Work up exercises for Iroquois and Caribou operations in Vietnam included Exercises *Grass Parrot* in 1968, *Nulla Nulla* in 1969 and *Grand Storm* in 1970, with an Army battalion group. Samuel Hill airfield was constructed by 5 Airfield Construction Squadron before Exercise *Grand Storm* in 1970.

The Strategic Air Terminal Unit, or Mobile Air Terminal Unit (MATU) as it was soon called, formed in May 1978 under the command of the Canberra-based Directorate of Movements and Transportation, for ground handling and terminal support to transport aircraft at forward airfields. A dedicated air load team at Richmond met the unit's routine tasks and maintained the deployable equipment while two other teams, each at Laverton and Edinburgh, provided the expansion capacity for major exercises.³⁵

An exercise equipment store operated at Richmond in the 1970s to address field equipment inadequacies, making temporary issues to units and personnel. Few units, other than the helicopter and Caribou squadrons, had any entitlement to field equipment, and individuals, other than the ADGs and those posted to Air Transportable Telecommunications Unit, had no entitlement to personal field clothing or equipment such as packs and webbing.



Air Vice-Marshal Bernie Reynolds (AOCOC) visits Catering Section with the CO of No 1 Operational Support Unit, Wing Commander Leo James (front right), Exercise *Western Reward*, Learmonth, 1984 – No 1 Operational Support Unit was re-formed to support the expanding joint exercise program

(No 1 Air Operations Support Squadron)

³⁵ Group Captain Graeme Crombie (Retd), OIC MATU 1979, email to the author, 10 August 2007. The air load teams were designated ALT 1 (RIC), ALT 2 (LAV) and ALT 3 (EDN).

No 1 Operational Support Unit was re-formed for *Kangaroo 81* from the exercise equipment store and re-established as a permanent unit at Richmond in February 1984 under the command of Wing Commander Leo James. With a charter to expand rapidly as the deployable base support unit, 1 Operational Support Unit initially relied on the broader Air Force for personnel to supplement its small cadre staff (around 20) until the shadow-posted concept was introduced. The unit moved (for a lack of warehouse space) to Toowoomba in December 1985 and then to purpose-built facilities at Townsville early in 1993, collocating with its new Group and Wing Headquarters.

Lessons from the joint exercise program and a growing need to operate as a formed unit rather than dispersed flights resulted in No 2 Airfield Defence Squadron being re-formed in March 1983 under the command of Squadron Leader J.B.H. Brown, also at Richmond. Like the remainder of the support force though, 2 Airfield Defence Squadron remained dislocated from its Rifle Flights at Williamtown, Amberley, Fairbairn and Richmond until 1989, when all flights and the Squadron Headquarters were collocated at Amberley.



No 2 Airfield Defence Squadron personnel, Exercise *Kangaroo 83*, Roebourne, WA, 1983 – The squadron was re-formed from independent defence flights of the Base Squadrons

(Alan Nobrega, ADGies net)

Command arrangements for each of the deployable support units—Air Transportable Telecommunications Unit, 1 Operational Support Unit, 2 Airfield Defence Squadron and Mobile Air Terminal Unit—differed, either to Air Force Headquarters, Operational Command or to their home Base Headquarters. While they shared a great deal of synergy in operations at forward or bare bases, they had few opportunities to train together outside of the major exercises and there was no centralised development of their capabilities or standardisation of the quite comprehensive procedures that each of the units had developed. Not until the introduction of Force Element Groups in the late 1980s, around the time that Operational Command became Air Command with operational responsibility directly to the Chief of the Defence Force, did the synergies begin to be realised. All of the deployable support units except for Mobile Air Terminal Unit, which transferred to Air Lift Group, came under the single command of the new Tactical Transport Group from June 1988, but it was by no means the ideal command relationship and it had little time to mature.



ANZAC Day 1986, Exercise *Pelicans Progress*, Windorah, QLD – Air Transportable Telecommunications Unit, 2 Airfield Defence Squadron and 1 Operational Support Unit operated independently until the Force Element Groups formed in 1988

(Author)

Tactical Transport Group's primary function was to provide the Tactical Air Support Force (TASF) for the Operational (later called Ready) Deployment Force based on the Army's 3rd Brigade in Townsville. The support units were an essential part of the TASF, to support the helicopters and Caribous of Tactical Transport Group that gave the Ready Deployment Force its mobility and the C-130s that sustained the force, but they also had another role, outside of the group's function, on the bare bases. Learmonth was routinely used for joint exercises, the *Kangaroo* series, *Western Rewards* and F-111 bombing camps, Curtin had opened in 1988 and plans for the third bare base, Scherger, were progressing with works due to commence in the early 1990s. The need for operational support, as it was simply called, was growing. When the helicopters transferred to the Army and the Caribous to Air Lift Group soon afterwards, Operational Support Group (OSG), under the command of Group Captain Doug Chipman, was formed from Tactical Transport Group in February 1991 with a sole focus of support at forward and bare bases. The Operational Support Wing (OSW) formed at the same time, for tactical command of the three units which themselves were then each commanded by a squadron leader.

On paper at least, Operational Support Group's capability in the early 1990s appears grand, aligned with directives drawn from the 1987 government strategic guidance of defending Australia. Two bare bases and two lesser 'point of entry' airfields was the desired effect but in practice that could never be achieved. Resources alone restricted Operational Support Group to perhaps one of each at best, given enough time to prepare. Equipment was adequate for the types of activities conducted, held by 1 Operational Support Unit and some purchased under Project *Camel Train* from 1987 to be pre-positioned in caches at the bare bases, but personnel for four concurrent base activations would not be properly addressed until after the organisational turmoil later in the 1990s. Not that the shortfalls were not recognised; indeed Group Captain Roxley McLennan made several representations to raise the preparedness of Operational Support Group during his time as the Commander during 1992–93, but expeditionary operations were not a high priority for the Air Force in the early 1990s.

The shadow-posted system, initially a pool of around 150 people for an expanded 1 Operational Support Unit to deploy, was increased in 1994 to four base units, in time called Contingency Air Base Wings (CABWs) and numbered 324 to 327. The shadow-postings were loose, not formally issued as postings, and relied heavily on the generosity of parent units that had to bear much of the training burden and received no relief manning when they released their people for an exercise. Effectively, the shadow-posted personnel filled two jobs concurrently. Airfield defence too, consisted of just a single permanent squadron with no capacity for expansion until the Ready Reserve Scheme was introduced in 1992 and Airfield Defence Wing was formed, but even then its capacity to defend much more than a single forward airfield for

any prolonged period without a long preparation and warning period, could be questioned.



Nuclear, biological and chemical defence training, Exercise *Green Exposure*, Toowoomba, 1989 – Shadow-posted personnel supplemented 1 Operational Support Unit for expeditionary support during the 1980s

(No 1 Air Operations Support Squadron)

Traditionally, since 1986 at least, 1 Operational Support Unit had held regular *Green Exposure* exercises for shadow-posted personnel to familiarise them with field equipment, procedures and routines. The concept was to train them periodically through the year and recall them when needed for a deployment. The quite simple but successful concept changed with the introduction of the Contingency Air Base Wings. Mobilisation, designed as a unit work up period for each activity, replaced *Green Exposure* in 1994 as the Contingency Air Base Wings, rather than an expanded 1 Operational Support Unit, deployed even though the core for deployments still came from 1 Operational Support Unit and Air Transportable Telecommunications Unit.

Making up about 20 per cent of the deployable support force, the permanently manned units achieved quite high standards for their day, not least because of the efforts of the early commanders of Operational Support Group, Doug Chipman and Roxley McLennan, and the inaugural Officers Commanding of their subordinate wings, Wing Commanders Andy Fairman and Bob Cooper. Though even before Operational Support Group was formed, the early construct had its advantages. Units had continuity despite their lack of depth in numbers, deployed regularly on every exercise (there were no other support units to deploy) and developed their procedures and concepts between deployments, which they then practised on their own unit exercises.

While joint training through exercises was more than adequate, combined training and international exposure was limited. No 2 Airfield Defence Squadron deployed to Butterworth during 1989 and again in the early 1990s, exercising with their Malaysian counterparts and occasionally interacted with the RAF Regiment. One of the few international exchanges undertaken by 1 Operational Support Unit was a valuable four-month tour for Flight Lieutenant Peter Bunt, the unit Equipment Officer, with the Tactical Support Wing of the RAF under Exercise *Long Look* during 1988. He participated in several major RAF and NATO exercises while his RAF counterpart deployed with 1 Operational Support Unit on *Swift Eagle 88* and other unit exercises. Occasional tutorials with the Ready Deployment Force or the Army's recently raised Logistic Support Force proved another invaluable learning source for the permanently manned units during the 1980s.

One particular exercise of note, before Operational Support Group formed, was *Diamond Dollar 87*, an Army divisional exercise held in harsh conditions at Lakeland Downs on Cape York Peninsula, with no stated duration. No 1 Operational Support Unit and Air Transportable Telecommunications Unit supported short-range transport aircraft including US Army Black Hawk helicopters and 35 Squadron Iroquois and Caribou. Logistic support was an agreed exercise objective, while 1 Operational Support Unit practised rudimentary command of two locations concurrently, at a point of entry airfield and a domestic site (Butchers Hill) for the Black Hawk crews some kilometres distant, with an Army infantry company as a quick reaction force in support.

In 1986, No 1 Operational Support Unit supported 114 Mobile Control and Reporting Unit on a tactical exercise in northern New South Wales, one of the few deployments with a control and reporting unit until modern times.³⁶ *Kangaroo 89*

³⁶ No 1 Operational Support Unit also supported a radar site at Port Keats for Exercise *Pitch Black 88*, No 114 Mobile Control and Reporting Unit at Rockhampton for *Tandem Thrust 97*, and in the Shoalwater Bay Training Area (Williamson) for *Swift Eagle 98*. During the 1990s, No 41 Wing developed a self-supporting concept.

was an exercise of milestones, Australia's largest peacetime exercise up until that time and the first activation of Curtin. Group Captain Mike Rawlinson commanded the 500-strong Support Unit Curtin, with a large number of personnel attached from Support Command but built around 1 Operational Support Unit, 2 Airfield Defence Squadron and Air Transportable Telecommunications Unit supporting 3 Squadron (F/A-18) and detachments of P-3C, F-111, C-130 and US Marine Corps A-6B Intruder aircraft.³⁷



RAAF Curtin was activated for the first time in Exercise *Kangaroo 89*
(No 1 Air Operations Support Squadron)

The *Swift Eagle* annual exercises, from 1988 for 1 Operational Support Unit and 2 Airfield Defence Squadron participation, provided quite worthwhile training for Services assisted and Services protected evacuations, allowing Operational Support Group to develop the foundation of an evacuee handling capability that would later be used on a number of operations. The Operational Support Group Evacuee Handling Centre (EHC) was first developed in Toowoomba in the early 1990s, though it would take several years to reach full potential. In the initial years it was manned almost exclusively by RAAF Security Police until, following Exercise *Swift Eagle 96* at Mount Garnet in the Atherton Tableland region and an increasing potential for evacuation

³⁷ RAAF News, vol. 31, no. 8, September 1989, pp. 10–11.

operations, Exercise *Pied Piper* was added to the Operational Support Wing activity schedule specifically for Evacuee Handling Centre training and development of evacuee processing.



Joint exercises provided invaluable training – Exercise *Diamond Dollar*, Lakeland Downs, 1987

(From left: Squadron Leader Graham O'Brien (author, XO 1 Operational Support Unit), Wing Commander Graeme Crombie (CO 1 Operational Support Unit), Wing Commander Graeme Chalmers (Divisional Air Liaison Officer) and Squadron Leader Gary Penney (2 Airfield Defence Squadron, back to camera))

(No 1 Air Operations Support Squadron)

Operational commitments in the early 1990s were characterised by individuals or groups of individuals deploying with UN forces rather than units deploying to activate air bases, despite several higher alerts and contingency planning for potential unit deployments within Australia's near region or, one occasion, to central Africa on humanitarian relief operations. Twenty communications staff, technicians and operators mostly from Air Transportable Telecommunications Unit, deployed to Cambodia on Operation *Gemini* in 1992–93 as part of the Force Communications Unit of the United Nations Transitional Authority in Cambodia (UNTAC). The Force Communications Unit, based on the Army's 2nd Signals Regiment, provided communications in 56 locations across Cambodia for the UN to monitor the ceasefire

and supervise elections that had followed a decade of civil war.³⁸ A RAAF member on the deployment, while on guard duty and acting in accordance with the rules of engagement, fatally shot a Cambodian policeman who had ignored several challenges when he entered the Australian compound in a threatening manner.

The Rwandan holocaust of 1994 resulted in the massacre of nearly one million people as ethnic killings of mainly the Tutsi tribes spread across the country. Fifty-one RAAF medical staff over two six-month rotations, doctors, nurses and medical assistants and a works supervisor acting as a linguist on one rotation, deployed to Rwanda during 1994 with an Army-led contingent on Operation *Tamar* to provide medical support to the United Nations Assistance Mission for Rwanda (UNAMIR). Based at the Kigali Central Hospital, AUSMED (as the contingent became known) witnessed many horrific atrocities and distinguished itself for the medical aid provided to the Rwandan people caught up in the ethnic killings.³⁹

From September 1996, eight RAAF medical staff joined an ADF health team on deployment to the Solomon Islands on Operation *Shepherd*. At the request of the Solomon Islands Government, they assisted with an immunisation program in remote villages on the islands of Malaita and Tulagi, and conducted clinics treating malaria, tuberculosis and other conditions extremely rare in Australia.⁴⁰ Airfield engineering officers of 1 Operational Support Unit also deployed to war-torn Bosnia as part of NATO and then the G5 Multinational Division Stabilisation Force, known by the ADF as Operation *Osier*, each for six months or more during the period 1997–2002. Their role was to coordinate civil aid projects ranging from refurbishment of schools and medical centres to agricultural redevelopment and factory construction.⁴¹

Australia's contribution to UN Operations in Somalia (UNOSOM I and II) included 10 air traffic controllers as part of a joint Movement Control Unit in 1992–93 and again in 1993–94, transitioning their duties to and from the six-month deployment of a battalion group (UNITAF) from late 1992.⁴² Although including a small Airfield Management Team, Operational Support Group was not involved with the deployment to Somalia in any substantial way. Wing Commander John Downey,

³⁸ Australian Peacekeeper & Peacemaker Veterans' Association, *The ADF's Involvement in Peacemaking and Peacekeeping Operations, 1947–Present*, www.peacekeepers.asn.au, accessed 10 August 2007.

³⁹ David Wilson, *The Brotherhood of Airmen: The Men and Women of the RAAF in Action 1914–Today*, Allen & Unwin, Crows Nest, 2005, pp. 199–201.

⁴⁰ RAAF News, vol. 38, no. 9, October 1996, p. 8; and Wing Commander Ross Wadsworth, email to the author, 10 October 2007.

⁴¹ Flight Lieutenant Glen Heyward deployed to Bosnia with NATO forces for 6 months in the latter part of 1997 and Flight Lieutenant Rohan Gaskill followed later in late 1997–98. Flight Lieutenant Damian Fasher deployed with the G5 force for seven months in 2002.

⁴² Wilson, *The Brotherhood of Airmen*, pp. 197–199; and Australian Peacekeeper & Peacemaker Veterans' Association, *The ADF's Involvement in Peacemaking and Peacekeeping Operations*, www.peacekeepers.asn.au, accessed 10 August 2007.

Commanding Officer of the Townsville Air Base Wing and trained by Operational Support Group on field deployments in his shadow-posted role, led a six-month rotation of the Airfield Management Team to Mogadishu during 1994. Known as ASC IV, the rotation also included Flying Officer Rohan Gaskill, a facilities officer (later called airfield engineers) from the newly formed Operational Facilities Flight of 1 Operational Support Unit.⁴³ The local air traffic control role conducted at Mogadishu airport and the air terminal role, which was conducted by the movements unit among their other tasks, were Operational Support Group core tasks, but their limited involvement is an indication of the immaturity of ADF joint operational planning and perhaps of the broader awareness of the group's capabilities in the early 1990s.



Squadron Leader Mark Gower (rear left), CO 1 Operational Support Unit, and some of the SPPKF Forward Operating Base team, Buka, 1994 – Operation *Lagoon* was the start of a long ADF presence in Bougainville

(No 1 Air Operations Support Squadron)

Deployments that did involve Operational Support Group in the planning and conduct were Operation *Lagoon* in October 1994 and Operation *Vista* in July 1997. Squadron Leader Mark Gower, the Commanding Officer of 1 Operational Support Unit, led a small detachment of communications, medical, security, engineering and logistics staff to Buka in northern Bougainville as part of the Australian-led South

⁴³ Wing Commander Rohan Gaskill, email to the author, 21 February 2008.

Pacific Peacekeeping Force (SPPKF). The 1 Operational Support Unit detachment established and operated a strategic airhead for two Caribou and four Black Hawk aircraft and transient C-130s in support of the SPPKF task to provide security for a peace conference between the Bougainville Revolutionary Army and the PNG Government at Arawa. A Fly Away Surgical Team (FAST) from No 3 RAAF Hospital also deployed to Buka, to compliment a surgical team afloat on HMAS *Supply*. The Bougainville Revolutionary Army did not attend the peace talks, the conference collapsed and the Operation *Lagoon* deployment lasted less than three weeks. But an agreement was signed for long-term peace and paved the way for further, monitoring group, deployments to Bougainville later in the decade.⁴⁴

Factional fighting broke out in Cambodia just four years after the UN supervised elections requiring the evacuation of Australian and other nationals. In a volatile and somewhat uncertain security environment, Group Captain Greg Weekes, Commander of Operational Support Group, led the Australian Evacuation Force, a joint force made up of six C-130 aircraft and crews of 86 Wing and around 150 personnel drawn mainly from units of the Operational Support Wing, Airfield Defence Wing and 3 RAAF Hospital, grouped nominally as 327 Contingency Air Base Wing, and the Army's 4th Field Regiment. Due to the intense political situation, only 18 of the total force deployed forward from Butterworth to Phnom Penh to receive the 454 mainly Australian, New Zealand and Canadian evacuees, and load the C-130 shuttles over a 12-hour period. While the destruction from the factional fighting was particularly evident at the Pochentong Airport terminal, and the evacuation force had to take precautions for their own and in-flight security, there were no offensive threats posed on the ground.⁴⁵ Several young Cambodian nationals did manage to board the first of the evacuation flights to Butterworth. In the chaotic conditions on the tarmac at Pochentong they mingled with the evacuees as passengers from other aircraft arrived and departed in close proximity to the C-130s. They were promptly returned to Cambodia and other unauthorised attempts to board subsequent flights were stopped.⁴⁶ Operation *Vista*, completed just over 72 hours after initial notification including the two-day flight time to Butterworth, marked the first operation in recent times where a RAAF officer was appointed to command a joint task force.

On the main bases in Australia arrangements had varied little from the early 1950s when base support and command were separated through the Base Squadrons and

⁴⁴ Air Commodore Mark Gower, email to the author, 21 September 2007; and Australian Peacekeeper & Peacemaker Veterans' Association, *The ADF's Involvement in Peacemaking and Peacekeeping Operations*, www.peacekeepers.asn.au, accessed 10 August 2007. The SPPKF deployed from 4 to 21 October 1994 and was based on the 3rd Brigade with additional forces from Fiji, Vanuatu, Tonga and New Zealand.

⁴⁵ Group Captain Greg Weekes, email to the author, 23 September 2007; and *Northern Services Courier*, Townsville, August 1997.

⁴⁶ *RAAF News*, vol. 39, no. 7, August 1997, p. 1.

the Base Headquarters. That changed from late 1987 when the Base Headquarters were re-formed as Force Element Group Headquarters under a major restructure of Air Command, arranging tactical commands by role rather than by location. Some of the new groups, Tactical Fighter and Air Lift for example, were spread across several bases and a major feature of the restructure was to allow the one-star officers in the field to focus on their operational roles—strike, fighter, maritime and airlift—rather than the day-to-day running of their home bases. Aligning with the new group and wing structure, Base Squadrons were retitled as Base Support Wings and their commanders were designated as the Base Commanders, reporting directly to the Air Commander Australia rather than to the resident senior officer as had been the traditional arrangement.



Operation Vista, Butterworth, 1997 – Afterwards at the ‘Boatie’ (Group Captain Greg Weekes at extreme left) – Evacuations from Phnom Penh were completed within just 72 hours of notification

(Greg Weekes)

Base command arrangements and the titles of the base support units would change again, several times over the next decade, but they would be relatively minor changes among the turmoil of the 1990s as the Air Force, driven by government cries for increased efficiency, adapted to outsourcing and turned its structural focus to supporting expeditionary operations.

CHAPTER 4

DEFENCE REFORMS

Demands for increased efficiency dominated the Australian workplace through the 1990s and led to structural reform across the national workforce as jobs were rationalised and outsourced. Air Force bases had always been manned and supported by uniformed staff, a small proportion of who were now shadow-posted to the Operational Support Group for deployed roles. Calls for commercial support of the bases, rather than uniformed, increased as the Government sought to rationalise personnel costs in the Defence budget and bolster funding for planned equipment purchases.

Policy statements and reviews of base support throughout the decade preceded name changes and further reviews to little effect, until major reform and force reductions were inevitable. The experience was painful for many, beginning with 'quality improvement' initiatives in the Air Force to drive change and ending with mandated manpower reductions and an agreed capability in uniform to support, concurrently, just three deployed air bases and one main operating base.

Initial calls for reform of the ADF came from the Wrigley Review, *The Defence Force and the Community*, released in June 1990, though the agenda had been set well beforehand in government strategic guidance. The 1987 White Paper, *The Defence of Australia 1987*, called DOA 87, presented by the Minister for Defence, Kim Beazley, to Parliament in March, spelt out a policy of defence self-reliance. DOA 87 also flagged the growing pressure on personnel funding from the planned equipment acquisition program, meaning that if the equipment purchases were to go ahead, Defence had to cut personnel costs. Beazley made it clear that duplication between the three Services was to be reduced and that 'tasks now performed by Service personnel that could be performed at less cost by civilians will be identified'.¹

The policy of defence self-reliance and the defence of Australia, as distinct from a more globally thinking policy and reliance on allies, determined a force structure equipped to defeat any threats in the sea-air gap of the approaches to Australia. ADF forces repositioned to the north in line with the guidance, the Army's 1st Brigade to Darwin, a two-fleet Navy to include basing on the west coast, and Tindal for the

¹ Department of Defence, *The Defence of Australia 1987*, Australian Government Publishing Service, Canberra, March 1987, pp. 93–94.

RAAF. The bare bases, spread strategically across the north, grew in importance for their part in defeating any attacks on Australia. By the mid-1990s reference to the ADF area of operations, an area north of a line drawn arbitrarily from Rockhampton to Learmonth, became commonplace in ADF contingency planning and other plans for development and training exercises. In time, the area of operations and bare base Curtin, in particular, became the representative environment of operational conditions to determine the minimum physical fitness standards for all RAAF personnel.

Duplication between the Services was reduced to some extent and commercial options explored through the Defence Logistics Redevelopment Project and the Defence Regional Support Review. RAAF Stores Depots were closed, to be replaced by a much rationalised national storage and distribution system, and a lead Service was appointed for particular logistic support or training aspects. Navy had responsibility for procuring bulk fuels for all three Services, Army for line haul (marking the demise of the RAAF's long-range truck fleet) and the Air Force for pilot training, among a host of other lead responsibilities to cut duplication.

Operational Support Group and base support more generally were largely unaffected by the initial reforms. Wrigley, in his pursuit for cost savings in the personnel budget, had recommended a much expanded reliance on Reserve forces and a greater dependence on the civilian infrastructure for support, through commercialisation of a wide range of traditional Defence roles. Base support and aircraft maintenance, in particular, listed highly among the areas Wrigley identified to be commercialised. He drew heavily on the overseas experiences of the UK and US, though his recommended number of Reservists, double that of regulars in some combat units, was more fantasy than achievable in Australia's circumstance.² Wrigley's arguments on the use of commercial support, though controversial and not without fallacy, were more persuasive.³

² Alan K. Wrigley, *The Defence Force and the Community: A Partnership in Australia's Defence: Report to the Minister for Defence*, Australian Government Publishing Service, Canberra, 1990, pp. 165 and 566–567. The permanent/Reserve aircrew mix recommended by Wrigley was: F-111 15(permanent)/33(Reserve), F/A-18 36/64, P-3C 13/27, C-130 30/38. In operational base support, he recommended around 1500 permanent, 1500 Reserves and 2500 civilians.

³ *ibid.*, ch. 8.



No 1 Operational Support Unit Fire Section with Oshkosh truck, Lakeland Downs, 1987 – The 1987 Defence White Paper and the Wrigley Review of 1990 made the first calls for outsourcing of base services

(No 1 Air Operations Support Squadron)

The Force Structure Review, an ADF review commissioned in early 1990, and the Commercial Support Program (CSP) commencing soon afterwards, continued the theme of DOA 87 and marked the first serious attempt to implement Wrigley's more contentious recommendations, albeit selective and with adaptations. The recommended heavy reliance on Reserves was largely ignored except for a Ready Reserve Scheme introduced primarily for the Army but with 450 positions allocated to the Air Force as airfield defence guards.⁴

Air Force initiated a Review of Air Base Support (RABS) in 1993, in response to the Force Structure Review's call for a reduction in base support and aircraft maintenance areas, by 4210 over the decade of the then 22 180-strong permanent RAAF.⁵

⁴ The Ready Reserve Scheme required new recruits to undertake an initial 12 months of full-time training prior to ongoing annual training commitments. Airfield Defence Wing and 1 and 3 Airfield Defence Squadrons were formed to handle the influx of Reserves.

⁵ Department of Defence, *Force Structure Review: Report to the Minister for Defence, May 1991*, Australian Government Publishing Service, Canberra, 1991, pp. 31 and 48.

The Commercial Support Program, initially run separately by each Service, gained some momentum with contracts awarded for base services at East Sale and Pearce, and domestic services at Williamstown by 1996. Other RAAF-initiated projects followed the air base review; the Model Base Project in 1994 to implement the RABS recommendations, Manpower Required in Uniform (MRU) and the Contingency Activation Project (CAP) to determine the numbers required in a contingency when wings would deploy to the north and to the base bases under the 'Defence of Australia' concept. The Wartime Restructure Project was another RAAF initiative in 1997, to determine the workforce structure in a smaller Air Force resulting from the recently announced Defence Reform Program (DRP).

The MRU and CAP projects focused on a contingency force and wartime (expeditionary) structures, in line with the intent of the Force Structure Review, whereas the preceding RABS and Model Base Projects reviewed the main, fixed bases to standardise structures and processes, and hopefully reduce the workforce. The Model Base Project team, working under the slogan 'Resistance is Useless' adopted a bottoms-up approach using total quality management methodology with the expectation that base staff would 'question the value of continuing to do things the way we've always done them' and embrace 'ongoing cultural change and continuous improvement'.⁶ Eventually, the desired outcome, of about 200 less positions across Air Command, had to be mandated by the Air Commander and the Chief of Air Force.

Another outcome of RABS and the Model Base Projects was to retitle the Base Support Wings as Air Base Wings, identified by number using the '300 series' rather than by location. Base Support Wing Amberley, for example, became No 301 Air Base Wing, the idea being that the units and their people, on paper at least, were not tied to a fixed base and were thus part of the deployable force.⁷ Command arrangements for the Air Base Wings changed too, back to the resident senior officer on each base in 1996. The Air Commander's span of control had become excessive since he was assigned the Base Support Wings in the late 1980s, along with the Force Element Group (FEG) commanders, Reserve squadrons and numerous other independent units. Although reported, somewhat indifferently, to the Minister for Defence in the 1996–1997 *Defence Annual Report* that the 'FEGs have integral combat support', the command relationship that the Air Base Wings had with the Group Commanders was one of convenience only and offered no change to the RAAF's deployed support

⁶ 'Model Base Project – still going but not gone ...yet!', in *RAAF News*, vol. 38, no. 11, December 1996, p. 6.

⁷ Air Force Organisation Directive 6/94 – Reorganisation of Air Command Base Support into Air Base Wings, 1 June 1994. Wing locations were: No 301 Air Base Wing – Amberley, No 302 Air Base Wing – Williamstown, No 303 Air Base Wing – Richmond, No 304 Air Base Wing – Edinburgh, No 321 Air Base Wing – Darwin, No 322 Air Base Wing – Tindal and No 323 Air Base Wing – Townsville. East Sale (No 305 Air Base Wing), Pearce (No 306 Air Base Wing) and Fairbairn (No 307 Air Base Wing) followed at a later date.

capability.⁸ Besides, any one Force Element Group would rarely (if ever) deploy alone, making the suggestion of such an arrangement nonsensical.



No 327 Contingency Air Base Wing Aeromedical Staging Facility (ASF), Exercise *Tandem Thrust*, Rockhampton, 1997 – Contingency Air Base Wings changed the support concept from reliance on a single unit

(No 1 Air Operations Support Squadron)

A quite significant change was made to the RAAF's combat support capability, seemingly as an afterthought to RABS and the Model Base Projects, when four new Air Base Wings numbered from 324 to 327 were added to the Operational Support Group organisation. Two were for the bare bases, tagged against Learmonth and Curtin, and two were smaller units for point of entry airfields in support of land operations. Their structures differed to the 'model' endorsed for the main base role, and they may well have been coincidental to RABS, which was not concerned with the expeditionary role, but their addition marked an important milestone in the development of the Air Force's combat support capability.

In practice, it was little more than a paper exercise because the units were still 'shadow-posted' from scattered locations across the RAAF and their personnel still had two

⁸ Department of Defence, *Defence Annual Report 1996–1997*, Australian Government Publishing Service, Canberra, 1997, p. 121.

jobs, one on a main base and the other, considered secondary by some, deployed. The command concept was loose and the operational concept lacked depth, without any consideration of sustainment, reserves or equipment. But nonetheless the Air Force had added four deployable base units to its order of battle and that was a significant step forward. Indeed, the structure of the new deployable units, developed and refined by Operational Support Group and Operational Support Wing Headquarters staff, would vary little in future years when they formed the basis of the Expeditionary Combat Support Squadrons raised for Combat Support Group in 1998.

The Contingency Activation Project tightened the shadow-posted system from 1996, by creating contingency or wartime positions in the Air Base Wings. Operational Support Group's Air Base Wings (324 to 327) became contingency units, or Contingency Air Base Wings as they were titled, with positions listed on the personnel database as work commenced to identify qualifications and skill sets against each position. They were still shadow positions, however, not figuring in the formal personnel establishment but, rather, drawing from it. Unlike later models, Contingency Air Base Wings were not Air Base Wings with a dual role, but rather they drew their personnel strength from across the Air Force and not any particular base or unit. At least now though, Operational Support Group and, just as importantly, the Air Force and individuals could readily identify their deployable units and begin to address issues that had long been overlooked for the majority of the support force, such as preparedness and individual training requirements, rather than hope that trained personnel would be available when needed.

The permanently manned units of Operational Support Group, considered part of the combat force and thus not featuring in the support force that Wrigley and the Force Structure Review intended to commercialise, grew larger. The Operational Support Group Headquarters was tiny with just the Commander and personal assistant on staff but it was collocated in the same offices with the Wings Headquarters—Operational Support Wing and Airfield Defence Wing (until 1996 when Airfield Defence Wing relocated to Amberley)—which greatly enhanced operations planning and decision making within the group.

Airfield Defence Wing formed in July 1992 to command and manage the influx of the new Ready Reserve flowing from the Wrigley Review. No 1 Airfield Defence Squadron was established at Tindal in June 1992 and No 3 Airfield Defence Squadron at Amberley, from a flight of 23 Squadron, in March 1995.⁹ The two permanent units of Operational Support Wing—1 Operational Support Unit and Air Transportable

⁹ Air Force Organisational Directive 15/94 – Formation of No 3 Airfield Defence Squadron, November 1994; and Air Force Organisational Directive 10/95 – Relocation of Headquarters Airfield Defence Wing to RAAF Base Amberley, 30 November 1995.

Telecommunications Unit—grew to a strength of around 120 each as an Operational Facilities Flight (OFF) formed within 1 Operational Support Unit in April 1994 to retain the works trades in uniform. The Operational Facilities Flight provided an airfield engineering capability with detachments of works supervisors, carpenters, plumbers, electricians and general hands (later to become plant operators) at Tindal, Townsville and Richmond, with a Headquarters Flight at Townsville.¹⁰ The Operational Facilities Flight leased or borrowed much of its equipment, particularly heavy plant, when it was needed for the numerous works they undertook to develop and maintain currency.¹¹ Mobile Air Terminal Unit (MATU) was transferred to Operational Support Wing from Air Lift Group in July 1997, while 323 Air Base Wing (Townsville) and Support Unit Butterworth transferred to Operational Support Group as part of the overall change of command for the Air Base Wings in 1996, though their roles were unchanged.



Strach hangar construction, Curtin, 1994 – The Operational Facilities Flight formed to retain works trades in uniform

(No 1 Air Operations Support Squadron)

¹⁰ Wing Commander Ian Browning, email to the author, 11 October 2007. While the Operational Facilities Flight was formally established on 1 April 1994, postings to the Flight and its three dispersed detachments had begun in December 1993.

¹¹ Some of the tasks undertaken by the Operational Facilities Flight included tarmac extensions or improvements at Darwin and Richmond, bridge and road construction at the Bluewater Training Area (Townsville), Strach hangar construction at Curtin, hardstanding at 1 Operational Support Unit and numerous other similar works.

Equipment was held centrally by 1 Operational Support Unit (Air Transportable Telecommunications Unit for communications equipment) and was adequate for the short-duration training exercises when sustainment and thus more substantial facilities and infrastructure were not a consideration. The tactical vehicle fleet, though small as it was established under the earlier concept of a single Airfield Defence Squadron and an expanded 1 Operational Support Unit, and not four Contingency Air Base Wings, was modernised under Joint Project *Perentie* in 1988 with new Mercedes Unimog medium trucks providing a badly needed self-lift capability and new Land Rovers to replace the ageing fleet of Toyotas following a year or so later. Operational Support Group's deployable airfield fire and rescue capability was upgraded in 1996 when the Titan fire vehicles replaced the ageing Oshkosh trucks. The larger portion of Operational Support Group's vehicle fleet, known as the Deployment Support Fleet, was on a semi-permanent loan to the main bases for their everyday use and recalled when needed for deployments. Although an effective use of resources that would otherwise have sat idle, the downside was that maintenance of the vehicles was a low priority for the bases and vehicle serviceability was often poor. There was a large overhead too, in managing the scattered fleet of vehicles and their frequent movement for deployments.



**Driver training with the new Unimog trucks, Wide Bay, QLD, 1988 –
Joint projects updated field equipment from the late 1980s**

(No 1 Air Operations Support Squadron)

Passive defence equipment was updated in the late 1980s, seeing the end of the difficult to source bamboo poles that had long been used as supports for camouflage nets, and the field uniform changed from plain green to the disruptive pattern in 1989. Weapons were updated in the early 1990s, the F88 Austeyr replacing the SLR L1A1 as the personal weapon, and night fighting equipment by way of a suite of goggles, weapon sites and perimeter sensors were delivered through Joint Project *Ninox* in 1997, though they were not used to their potential outside of Airfield Defence Wing for several years due to stringent training requirements and the limited number held by the other units.¹² Long-range high frequency radios for strategic communications on distant deployments were upgraded in the early 1990s following lessons learned by the ADF on Operation *Morris Dance* in 1987 and planning for other potential regional deployments, while the remainder of the radio suite was upgraded through Joint Project *Parakeet*. The prototype mobile air traffic control system (MATCS) and the *Parakeet* satellite communications bearer were both first trialled on *Kangaroo 89* at Curtin.

Air Transportable Telecommunications Unit established a small technical development cell in the mid-1990s, which devised a remote (unmanned) rebroadcast site for short-range radios, later adding a solar power panel. Deployable computer networks were still some years away when Squadron Leader Guy Watson, the Senior Engineering Officer at Air Transportable Telecommunications Unit, demonstrated the RAAF's first prototype deployable computer network in 1997 on Exercise *Tandem Thrust* at Rockhampton. Developed largely through the efforts of his unit technical staff, and still in the early days of Defence distributed networks, Guy Watson's demonstration of the rapidly changing communications and data management environment impressed many senior ADF officers in transit through the RAAF Rockhampton airport lounge.

Development of equipment needs, though, was an ad hoc affair and depended largely on joint projects initiated by Army and the priorities set by Support Command item managers or the initiative of individuals rather than by any Air Force operational requirement. There was no future development plan for Operational Support Group, as was the case in later years across Air Command under the Capability Management System, and there was no staff dedicated to the development function of deployment equipment at any level of the operational command chain. The only plan held by Operational Support Group was a 'wish list' of equipment, largely of vehicles and

¹² The *Ninox* equipment, other than for Airfield Defence Wing, was held centrally by 1 Operational Support Unit. This concept did not change in later years under CSG, due to the limited amount of equipment held. The lack of ready access combined with the stringent training regime meant that the other units (the Expeditionary Combat Support Squadrons formed in 1998) rarely used the equipment until 2005, by which time the need was dictated by operational commitments.

airfield engineering plant, tucked away in the Commander's office safe in case funding became available.

Another equipment aspect not so apparent but fundamental in the Operational Support Group structure was the accounting of stores. No 1 Operational Support Unit was a 'self-accounting' unit, meaning that it could deploy and account for its stores and base equipment independently and it could purchase minor items locally, receive stores directly from central warehouses and raise contracts for goods and base services when it deployed. It is an important and necessary capability on a forward airfield located a long distance from established logistic support. No 1 Operational Support Unit also maintained a deployable welfare account, the only such account in the RAAF established specifically for deployments and again vital in the absence of normal base recreational outlets and canteens. The Contingency Air Base Wings could not be 'self-accounting' units nor could they maintain welfare accounts to provide official canteen services because of their part-time and itinerant nature. These basic capability deficiencies in the Contingency Air Base Wings went unnoticed on the domestic training and joint exercise program when 1 Operational Support Unit staff always carried the functions. In later years when the Contingency Air Base Wings developed into permanent expeditionary units after the DRP, they were ignored and proved a significant omission on a number of operational deployments when 'social clubs' rather than welfare accounts were raised and accounting of stores became problematic. The large turnover of stores to and from deployments in both 1 Operational Support Unit and Air Transportable Telecommunications Unit also later contributed to some major errors in equipment accounts.

Capability is much more than equipment alone, however, and the part-time concept for contingency personnel remained a constant drawback. Their training was haphazard and their continuity, under the Contingency Air Base Wing concept, exasperated. While there was a greater number of personnel now available than had been the case under the previous pool concept, deployment opportunities were unchanged and thus the experience was more thinly spread. Even the shadow-posted unit commanders, Wing Commanders Ray Borysewicz and Ken Webb, and Squadron Leader Andrew Ratz in 1995–98, were lucky to complete just one joint exercise a year and never saw their units outside of those short deployments. Mobilisation became an often repeated lesson on basic procedures rather than a work up period because of the inexperience of Contingency Air Base Wing personnel.

The difficulty for the Contingency Air Base Wings was that they were not formed units in any sense, other than on paper, until they arrived at Townsville for mobilisation. With some exceptions, few shadow-posted personnel deployed on more than one exercise in a one or two-year period and many, due to the vagaries of the shadow-posted system, never returned. Few held driver licences for the tactical vehicles, making deployment and movement around an air base difficult, and even fewer were familiar with the field

equipment, radio and command post procedures, logistic procedures and other critical skills, let alone the abilities needed to control and deploy a disjointed unit in an orderly fashion to operate in an unfamiliar and potentially hostile environment. Other than Exercise *Annual Garrison* for Airfield Defence Wing Reservist training from around 1995, wing exercises were not conducted as the Contingency Air Base Wings were only available for the larger joint exercises. Too frequently, bare base exercises dispensed with mobilisation training because of the added cost of flying several hundred people to Townsville and then again to the west coast base.



No 1 Operational Support Unit field catering course on the versatile mobile field kitchen, Townsville area, c. 1994 – Training of shadow-posted personnel was a major task for Operational Support Group

(No 1 Air Operations Support Squadron)

Pitch Black 96 was such an exercise when the main body of Contingency Air Base Wing personnel arrived at Curtin with no prior briefings, some without proper personal field kitting and even deficient field uniforms, disoriented and with limited awareness of their role in running the base and of the ‘ground war’ that ensued around them. An important precedence was set for *Pitch Black 96* however, which became a

common feature in future exercises, when the Contingency Air Base Wing executives, commanded by Ken Webb, were put through a three-day desktop, command post exercise at Townsville on Curtin ground operations prior to their deployment, and then further days for planning. Still, while that familiarised the executives with their tasks, it did not familiarise them with their subordinates, or their subordinates with their own tasks.

Operational Support Group briefing teams were dispatched to mobilise units at their home bases when Townsville was discounted for concentration on future bare base exercises. Executive tutorials and command post exercises (CPXs) too became part of the annual training program, while basic instructions were published as a guide for unit executives. But the problem was more fundamental than procedures that could be addressed through standing instructions, briefings or even training. It lay in the concept of part-time units and the commitment to two jobs for much of the deployable workforce, a dilemma that had existed since the end of World War II.



Loading fodder for airdrop, Narromine, c. 1994 – The challenge was to maintain a balance between expeditionary and fixed base support needs

(No 1 Air Operations Support Squadron)

The dilemma is unique to the Air Force and was subject to intense scrutiny during the DRP, sometimes with belligerence to the intended efficiency of the existing Air Force concept for support. Unlike the other Services, which integrate their support into combat units or formations, Air Force delivers its support air base wide to all units

or formations, be it on a forward base or at home. The alternative, self-supporting air combat units, is duplicative for an air force, cost prohibitive and unnecessary on an air base. The downside, however, is that the home bases, where support personnel must train to maintain their skills, become dependent on them and thus the dilemma of two jobs for the deployable force. Stated another way, air bases offer natural efficiencies in support services, which the RAAF further exploited by using the same workforce for both deployable and home base support. The challenge for the Air Force workforce and operational planners was to maintain a balanced workforce capable of supporting both home and forward bases without disruption to either; a difficult task under constrained manpower ceilings.

The shadow-posted system supplemented the staff drawn from the main bases by a core staff permanently posted to 1 Operational Support Unit and Air Transportable Telecommunications Unit. The assumption was that when the air combat squadrons deployed from their home base, a commensurate drop in demand on support services would result, though that was a simplistic view used to justify a flawed organisational model.¹³ It worked well enough for short-duration exercises involving relatively small numbers of support staff drawn from several bases but it could not stand up to a higher tempo of longer duration deployments in multiple locations requiring larger numbers of people.

All of the reviews of the early 1990s—RABS and Model Base, MRU and even CAP—failed to address the fundamental issue and retained the shadow-posted system despite delivering quite formal and thoroughly devised structures in the Contingency Air Base Wings. To do otherwise would have required a significant increase in personnel numbers, an outrageous request at the best of times let alone in the strategic environment of the 1990s which required reductions in personnel numbers, not increases. Besides, even if increased numbers had been possible, how would the personnel in deployable units maintain their skills when they were not deployed? There was no simple answer and the system adopted worked satisfactorily for the period of low operational commitments in the 1980s and early 1990s. The Defence Efficiency Review (DER), however, released in March 1997, introduced a further complicating factor, even though its key principal of ‘structure for war and adapt for peace’ was the same principle that the Air Force, perhaps unknowingly and not all that well in any case, had applied for some time to its combat support structure.¹⁴

¹³ The assumption did not consider that pre-deployment and ongoing activities in support of operations often raised rather than lowered the rate of effort at the home base. Another factor overlooked was the critical mass of the deployed base to provide basic services, often requiring a far greater number of staff deployed forward than the reduction in the support requirement at home.

¹⁴ Department of Defence, *Future Directions for the Management of Australia's Defence: Report of the Defence Efficiency Review*, 10 March 1997, Directorate of Publishing and Visual Communications, Canberra, 1997, pp. 5 and E-2.

The DER and the follow-on DRP increased the momentum of change by accelerating the commercial support process. Announced when the DER was released in April 1997, the Government intended DRP to act as a catalyst for substantial change. Included in its half-dozen key initiatives was a consolidation of support and administrative functions to cut duplication and maximise efficiency, with predicted annual savings of up to \$1000 million, for reinvestment in combat capabilities.¹⁵ Implementation was almost immediate; by July, Defence had reorganised to a functionally based structure breaking out the support functions for ease of rationalisation. Defence service provider groups, or enabling groups as they were sometimes called, were formed; Defence Estate for property holdings including air bases, Corporate Information for computing and information systems, Defence Corporate Support for base support and Defence Personnel Executive for health services among other responsibilities. Within the new Defence organisation, some 5000 RAAF members would work day to day in non-Air Force programs.

The DRP was a major reshaping of Defence at all levels, fundamentally changing the organisation. Personnel cuts were mandated in several areas; 20 per cent reductions above the rank of group captain, Air Force Headquarters reduced to just 100 staff and Headquarters Air Command also reduced as functions were centralised in the reorganised Defence Headquarters and the new operational level headquarters under the recently appointed Commander Australian Theatre. The ADF was to be reduced by nearly 6000 personnel overall, to 50 000 and the Permanent Air Force reduced over a period of four years from 16 600 to 13 000.¹⁶

Air Marshal Les Fisher, Chief of Air Force (CAF), describing the shape of the future Air Force in the December 1997 edition of *Air Force News* called the DRP changes 'momentous' and, referring to the personnel reductions and the list of units to be market-tested for outsourcing, 'dramatic'.¹⁷ While many will remember the turbulence of a reducing Air Force over the years that followed the start of DRP as a bitter experience, retraining, natural attrition and voluntary redundancies eased much of the pain. Trade groupings were reshaped to fit the new Air Force; fewer aircraft technical staff as deeper level maintenance was outsourced, and fewer cooks, carpenters, clerks, suppliers, communicators and firefighters, no mess stewards and generally less all round of the base support specialisations. The thrust of the DRP remained steadfast;

¹⁵ Department of Defence, *Defence Annual Report 1996–1997*, p. 12.

¹⁶ Department of Defence, *Defence Annual Report 1997–1998*, AusInfo, Canberra, 1998, pp. 18 and 24; and 'Beyond DRP: The Next Step' in *Air Force News*, vol. 39, no. 11, Extra, December 1997. The Chief of the Defence Force averted the initial recommendations for an ADF of around 42 000 by arguing that such a number, not filling even half the Melbourne Cricket Ground, would not be acceptable to the Australian public.

¹⁷ 'Beyond DRP: The Next Step', in *Air Force News*, vol. 39, no. 11, Extra, December 1997. The four-page (unnumbered) spread presents information taken from a briefing by CAF to his commanders on 28 November 1997, with a covering letter signed by CAF.

to find efficiencies in the delivery of support and transfer savings to the combat force. All of the Air Base Wings, except for Tindal which was agreed for retention as a 'blue' base under the 'Defence of Australia' concept, would be market-tested and eventually outsourced under contract.

Combat support replaced operational support as the Air Force term to describe forward or deployed support to give added emphasis to the role and to identify it clearly as a combat related function. Although DRP always considered Operational Support Group and its function as part of the combat force and never once considered it for outsourcing, it was less than convinced about the shadow-posted units where the larger numbers lay. While Air Force, throughout the MRU and CAP studies, had based its numbers on the 'Defence of Australia' concept, new government strategic guidance released in the 'Strategic Review 97' document placed an increasing emphasis on deployment for the lesser task of 'forward cooperation' with minimal rotation thus requiring substantially fewer numbers than the MRU had determined. The difference, around 2000 (nearly all in base support), would be made up from the Reserve or recruited, trained and qualified in the longer warning period expected for any attacks on Australia.¹⁸



Building bridges, Bluewater training area (Townsville), 1997 – DRP fundamentally changed the Defence organisation

(No 1 Air Operations Support Squadron)

¹⁸ *ibid.*, 'MRU3 by Component & Function.'

Much of the work to develop the new combat support structures was undertaken in Headquarters Air Command by Air Commodore Ray Gibson (then Chief of Support), Group Captain Greg Weekes (then Commander Operational Support Group), Wing Commander Grant Buggy and Mrs Majella Hill (Head Resource Management). Air Marshal Fisher outlined the organisational concept in a brief to his senior commanders in November 1997, laying the framework for the formation of Combat Support Group (CSG). A deployable Combat Support Wing based at Townsville, capable of offshore deployment to support just two forward operating bases, and a non-deployable Combat Support Wing at Tindal would make up the new CSG, replacing Operational Support Group. The workforce would be consolidated by 'blocking and stacking' on a small number of operational bases, nominally those bases north of Williamtown, with a specialist component at Richmond consisting of Air Transportable Telecommunications Unit and (presumably) a small number of others to support the frequent rapid response tasks of Air Lift Group.¹⁹

The basic concept would endure but its implementation would prove to be a challenge, particularly the consolidation of personnel on a few bases to maintain their skills as the new Defence service provider groups assumed responsibility for home base services and support.



Laying AM2 matting, Darwin, with the landmark water tower in the background, 1994 – No 396 Combat Support Wing was formed two years after CSG to command the northern bases

(No 1 Air Operations Support Squadron)

¹⁹ *ibid.*, 'Combat Support Wing & Support Unit PAF Distribution.'

Personnel numbers and the eventual size of the Air Force were at the core of the DRP initiative. Even after the mandated 13 000 ceiling was announced, Air Force numbers were continually questioned. Air Marshal Errol McCormack, who was appointed Chief of Air Force in the same month that CSG formed, was told by the Chief of the Defence Force (CDF) that he thought ‘the RAAF needed only 4000 people in uniform because if you didn’t fly in an aeroplane in your normal work you didn’t need to be in uniform.’²⁰ Such was the understanding of the Air Force’s support requirement.

For planning purposes, the Air Force devised varying levels of Combat Support Squadrons with differing capabilities. The smallest, a ‘Level One’ squadron, could support limited airlift operations, whereas Levels Two and Three stepped-up the capability to support varying numbers of air combat squadrons operating at different rates of effort. The personnel calculations were precise and indisputable—including even the hours worked on ground defence duty—but the questions remained until the need was demonstrated on operations.²¹ The eventual agreed deployable capability was for one main operating base plus two lesser forward operating bases, or one Level Three and two Level One Combat Support Squadrons. Quite sensibly, three units of roughly the same size were structured from the overall numbers agreed.

CSG formed on 18 May 1998 with a stated role ‘to provide combat support services to all Air Force formations and an agency service for the Air Component of HQ Australian Theatre (HCAST).’²² In the unchartered and somewhat turbulent waters of the new DRP environment, the introduction into service of the new group was always going to be a challenge. Air Commodore Bruce Wood, the first Commander of CSG, shared his vision for the new group when he told *Air Force News* in June 1998 that ‘all members of the CSG will, in the future, be fully trained and fit to deploy forward into the AO. There will be a gradual change of culture throughout the support force to where deployments will become the norm.’ He went on to explain that the majority of personnel will work day to day under the supervision of the Defence service provider groups to gain their air base competencies and that ‘combat specific training such as ... the setting up of air bases ... will be achieved during operational exercises.’²³

Headquarters Combat Support Group, in particular, faced an enormous challenge. While manned with a very dedicated and hardworking staff, it was undersized and

²⁰ Air Marshal E.J. McCormack, AO, email to the author, 1 October 2007.

²¹ The Level One calculation, for a short-duration deployment of up to half a squadron of aircraft to a relatively secure location, was based on a 16-hour day, 4 hours of which were on ground defence duties. Levels Two and Three, for longer durations, were based on a 12-hour day with an 8/4 split on primary duty and ground defence duty.

²² Air Force Organisation Directive (AFOD) 1/98 – Formation of Combat Support Group, 29 May 1998.

²³ Air Commodore Bruce Wood, ‘RAAF support personnel to focus on combat operations’, interview by Deanna Ialacci, in *Air Force News*, vol. 40, no. 5, June 1998, p. 17.

mismatched to the role. Established at Glenbrook from the former Chief of Support Branch of Headquarters Air Command, its structure reflected more its former Air Command functions than it did a Force Element Group headquarters. Many of the staff retained their prior responsibilities under the 'agency service' role, while the new Operations and Plans Branch consisted initially of just one wing commander and had no chance of meeting the tasks its title suggested.²⁴ The challenge for the inaugural headquarters was in the detail of DRP implementation; base support was still to be outsourced, personnel numbers were by no means finalised and arrangements for the embedding of uniformed staff into the new Defence structures were yet to be agreed.

CSG had its opponents too, both civilian and Service at senior levels, who believed that only aircrew and aircraft maintainers needed to be in uniform. Some of them worked actively against the efforts of the new headquarters, the more disparaging of commentators accusing them of being 'dinosaurs trying to maintain the status quo'.²⁵ The priority tasks for Air Commodore Wood were to develop concepts to support the numbers required for an Air Force deployment capability and to arrange the embedding of staff into the new Defence and contractor structures, for skills retention and peacetime training. On the latter, as a further example of the challenges faced in the initial year of CSG, one serious proposal was that the Air Force should fund entirely all embedded staff and then pay extra during those periods when they were withdrawn for deployments.²⁶ Eventually, though not in the initial years, there was general acknowledgement that embedding provided significant savings to the Defence portfolio, both in terms of contract and training costs.

At the tactical level, four subordinate wings (including the RAAF Reserves) and the seven Base Commanders of Air Command reported directly to the Commander Combat Support Group. New unit titles reflected the major change in Air Force philosophy resulting from DRP. Air Marshal Fisher had addressed fitness standards earlier in 1995 when he endorsed compulsory annual fitness tests for all RAAF members and introduced ground combat training (always a requirement of

²⁴ Air Force Organisation Directive 1/98 – Formation of Combat Support Group. The four branches of Headquarters Combat Support Group were Air Command Personnel and Resource Management, Air Command Chaplaincy Services, Air Command Psychological Services, and Combat Support Operations/Plans. The first Director Combat Support Operations/Plans (later retitled Staff Officer Plans and Policy) was Wing Commander Ray Thomas. Other staff linked to the Headquarters at Glenbrook and providing invaluable assistance on the early development of the group included Group Captain 'Monty' Smith (Officer Commanding Combat Reserve Wing and former Base Commander Richmond), Wing Commander Josh Coleman (former Officer Commanding Operational Support Wing) and Wing Commander Steve Richards (Airfield Engineering Officer and future Base Commander Richmond).

²⁵ Air Commodore Bruce Wood, email to the author 5 October 2007.

²⁶ *ibid.* Embedding saved the portfolio in contract costs by providing manpower or (in some cases) services that would not have to be paid for in contracts. It saved operational training costs by utilising the working bases for training, thereby reducing significantly the need to activate deployed bases for training.

Operational Support Group) universally around the same time. Now, with a need to designate support forces as part of the combat force and to focus Air Force people on their new role, all support wing and unit titles were prefixed with 'Combat'.

Two Combat Support Wings, one deployable formed from the former Operational Support Group and another for support at Tindal, each commanded Combat Support Squadrons. The newly formed Combat Reserve Wing commanded all of the RAAF Active Reserve squadrons while the Base Commanders and the residual workforce not in a Combat Support Squadron were retitled Combat Support Force (CSF) with a geographic base designator. The main role of the Combat Support Force was command of the base and the coordination of all support needs provided by the new Defence groups. Air Transportable Telecommunications Unit became No 1 Combat Communications Squadron while 1 Operational Support Unit became No 1 Combat Logistics Squadron.²⁷

Mobile Air Terminal Unit and all of the previously non-deployable air load teams were formed into No 1 Air Terminal Squadron in January 1999, while Airfield Defence Wing and its three squadrons remained largely unchanged.²⁸ The idea for a single Air Terminal Squadron, and most of the staff work required for its approval, was devised separately to the CSG deliberations by Squadron Leader Dave Pasfield, then a staff officer at Headquarters Air Command.

The '300 series' numbering system of the former Air Base Wings was retained for the fixed units but changed slightly for the deployable Combat Support Squadrons. In a throwback to the links the short-lived deployable Base Squadrons of the post-World War II RAAF had with the Air Combat Wings, the deployable Combat Support Squadrons were allotted numbers to mirror the numbers of the Air Combat Wing resident on each squadron's home base. The Williamtown-based Combat Support Squadron, sharing a home base with No 81 Wing, was thus titled No 381 Combat Support Squadron, the Amberley-based unit was No 382 Combat Support Squadron and Richmond's was No 386 Combat Support Squadron. While some affiliation with the Air Combat Wings was expected, home base geography became the extent of the modern relationship.

No 395 Combat Support Wing, and 396 Combat Support Wing when it formed two years later, aligned numerically with the composite wings used by Air Command for exercises during the 1990s; Nos 95 and 96 Wings. While the Air Command concept

²⁷ Although the new unit titles were in common use from the formation of CSG in May 1998, they were not authorised until February and July 1999. A complete list of CSG units is provided at Appendix 1.

²⁸ Air Force Organisation Directive 14/98 – Disbandment of Mobile Air Terminal Unit and the Formation of No 1 Air Terminal Squadron, 3 December 1998. No 1 Air Terminal Squadron commanded Air Movements Sections at Amberley, Williamtown, Darwin, Pearce, Richmond, Tindal and Townsville. Sections at Butterworth, Edinburgh and East Sale remained under their respective Combat Support Squadrons until 2005.

of composite wings, used primarily for a combined strike and fighter force for exercises, was short-lived in favour of joint and combined task groups, the numbers were retained for the CSG wings. The Tindal-based wing, 322 Combat Support Wing and its subordinate 322 Combat Support Squadron, adopted the number of the former Tindal-based Air Base Wing.



Mobile air traffic control tower under camouflage, Scherger, 1998 – CSG adopted the ‘300 series’ numbering system used by the RAAF post–World War II

(No 1 Air Operations Support Squadron)

Adjustments to the new organisation were inevitable considering the scope of change brought by DRP in a relatively short period. The distribution of responsibilities between the wings, for example, was initially quite uneven. No 395 Combat Support Wing, the expeditionary wing with six deployable units, also commanded the northern bases of Townsville, Darwin, Butterworth and the bare bases, while 322 Combat Support Wing commanded just the one unit and base. Tindal was a special case not subject to commercialisation (with some exceptions, such as facilities maintenance) but its responsibilities and organisation, like the other fixed bases, would be subject to ongoing change.

The first change of significance was the formation of No 396 Combat Support Wing to command the northern and bare bases, except Tindal, in November 2000, thus relieving 395 Wing to focus solely on deployments.²⁹ Command of the fixed bases

²⁹ Air Force Organisation Directive 8/2000 – Formation of No 396 Combat Support Wing, 20 October 2000.

was another that needed greater emphasis than the rather misleading term 'Combat Support Force' allowed. Usage of Combat Support Force was discontinued, replaced formally by Combat Support Unit for legal and unit command purposes, but the Base Commander title was predominant, rather than the unit title.³⁰ The relationship between the base commanders and the commanding officers of the resident deployable Combat Support Squadrons was another perplexing issue but that could wait.

Air Marshal McCormack added the 'expeditionary' designation as a clear indication of the unit roles and as a guard against further outsourcing. The 395 Expeditionary Combat Support Wing deployable squadrons were thus titled Expeditionary Combat Support Squadrons from August 1999.³¹ No 3 Combat Support Hospital, also assigned to 395 Wing, formed on the same date to provide an air transportable hospital capability. Medical had been overlooked initially, as DRP initiatives centralised Defence health services under a joint agency but DRP was concerned only about rear area support and not the health needs on a forward air base. No 3 RAAF Hospital was allocated dual roles and two titles, to provide the joint health agency support at Richmond as 3 Hospital and to provide air transportable hospital support forward as 3 Combat Support Hospital.³² Similar arrangements were applied to the smaller Base Medical Flights on the other bases, formed as flights under the Expeditionary Combat Support Squadrons for deployments and providing local health services at their home bases.

Not surprisingly, given the mass of the change that was underway, some capabilities were overlooked in the race for efficiency gains or, in some cases, rediscovered with the scrutiny of a combat support focus and an increasing number of operational deployments. On the clerical side for example, electronic funds transfer had replaced the few remaining cash offices and clerical staff had nowhere to maintain their cash office skills. While the pay system had long been electronic, cash is the only suitable means of pay on many deployments and is likely to remain a core skill for clerks into the future. Postal skills are another that had been lost to clerks, although that occurred well before DRP. Firefighters maintained their airfield fire and rescue skills on the three main bases but, perhaps more than any other specialisation, because of their relatively few total numbers and a lack of available backfill, had to be managed

No 396 Combat Support Wing formed on 20 November 2000 and comprised a Headquarters (Darwin), No 321 Combat Support Squadron (Darwin), No 323 Combat Support Squadron (Townsville), No 324 Combat Support Squadron (Butterworth) and the bare base staffs at Learmonth, Curtin and Scherger.

³⁰ Air Force Organisation Directive 7/01 – Revised Command and Management Structures and Arrangements for Air Force Personnel, 7 December 2001.

³¹ Air Force Organisation Directive (AFOD) 3/99 – Formation of No 395 Expeditionary Combat Support Wing, 9 July 1999.

³² The 3 RAAF Hospital title was removed in December 2001 when Health Services Wing was formed.

carefully to balance their deployed and peacetime tasks. The RAAF Police role had been redefined and their name changed to Security Police in 1996 when base security became their prime responsibility. The DRP proposed that base security be outsourced, not realising initially that legislative requirements and the special powers given to Service Police meant that security could not simply be contracted away. Eventually, access control only was outsourced but it was several years before the Air Force regained the lost Security Police numbers.

Communications and information systems staff, both technicians and operators but more so the latter, were another grouping for whom it proved difficult to maintain skills. Operators employed in the base communication centres run by another of the Defence groups—Defence Information Systems Group (DISG)—were widely spread across all bases and were not initially part of the consolidation of personnel on to three main bases. The equipment on the bases differed to that held by 1 Combat Communications Squadron for deployments and RAAF staff could only work on the administrative computer network, not the operational network that had been civilianised from introduction. The technicians completed specialist to equipment courses and were able to maintain skills through experience with 1 Combat Communications Squadron, where most were posted in any case, but the operators proved more problematic. Like the firefighters, they had to be managed carefully to maintain both the ‘at home’ and deployed capabilities. One proposal, which gained momentum in early 2001, was to form a second communications squadron, nominally 2 Combat Communications Squadron, to group all of the communications operators together for ease of management. The Chief of Air Force Advisory Committee (CAFAC) initially endorsed the proposal but at a subsequent meeting, rejected it. Careful management of the personnel would continue until, eventually, the communications operators, like the rest of the CSG workforce, were concentrated on the three main bases.³³

³³ Air Force Organisation Directive 6/01 – Reorganisation of Air Base Information Services Flights, 6 December 2001. No 2 Combat Communications Squadron was to be located within the Information Systems Division (ISD) with a role to coordinate CSG staff dispersed across the Division. Rejection of the proposal came after a review of air base command arrangements in 2001. The review is discussed at Chapter 6.



Personnel of 2 Airfield Defence Squadron patrolling through town, Quilpie, QLD, 1998 – Military working dogs joined ADG patrols under the military working dog rejuvenation project in the mid-1990s

(RAAF Museum)

The 2 Combat Communications Squadron proposal was not unique. A similar proposal, though with far less momentum, was for a military working dog team squadron. Dogs had been used for security by the RAAF since World War II when they were initially employed in rear areas for perimeter and depot security, often tethered on long runs and attended by a horse-mounted guard, or untethered inside warehouses and compounds.³⁴ In the postwar years, dogs were employed on roving patrols on flight lines and other key areas, though there had been little development in basic techniques for some time. With the changed focus for Security Police from 1996, a military working dog rejuvenation project commenced under the guidance of Warrant Officer Bob Jennings to utilise the dogs' detection and tracking abilities, while their employment was expanded to beyond the air base perimeter with Airfield Defence Wing patrols. Despite the outstanding success of the project, proven on numerous exercises and operational deployment, and scientifically by the Directorate of Trials during 2001, the mainstream job of the dogs and their handlers was still on the flight line and a separate dog handler squadron would have unnecessarily complicated their command.

³⁴ National Archives of Australia: Royal Australian Air Force, A705, RAAF Headquarters – Directorate of Security – Employment of Watch Dogs at RAAF Establishments, 96/1/96 PART 1, 1943–1945, <http://naa12.naa.gov.au/scripts/ItemDetail.asp?M=0&B=3419709>, accessed 18 June 2007.

Arrangements on the main bases were already quite complex with personnel from various squadrons assigned under a degree of operational control to Base Commanders or commanders of the Expeditionary Combat Support Squadrons. Air traffic controllers had been assigned under operational control to the Base Commanders since 1997 and, in turn, were assigned the local fire sections.³⁵ Air load teams were similarly assigned by 1 Air Terminal Squadron while the Expeditionary Combat Support Squadrons were assigned to the Base Commanders but functionally they responded to the direction of the various Defence service provider groups who also supervised many of their staff on a day-to-day basis. The Base Commanders, in yet another change in 2000, reverted to the command of the resident Force Element Group commander rather than CSG, further complicating local coordination. Despite the convoluted appearance of command arrangements on the bases, which so far as the key principal of DRP was concerned gave more emphasis to adapting for peace rather than structuring for war, they generally worked very well due in no small part to the high quality of Air Force people who simply got on with their jobs.

One aspect of command that could simply not be made to work by people on the bases arose from the formal record of positions, or unit establishment. Indeed, two parallel establishments had been struck, known as 'Peacetime Establishment' and 'Wartime Establishment', or PE and WE, to address the peacetime training requirements. Positions placed with the Defence service provider groups for skills maintenance and training were designated PE. Each PE position was linked to WE in one of the formed combat support squadrons of 395 Expeditionary Combat Support Wing, which was the chain of command even though not all positions were collocated with their parent units. The majority of clerks, for example, worked in Area Administrative Centres often quite distant from any RAAF Base, while others worked at Edinburgh, Pearce and on the northern bases. A third group within the establishment, SMS or Specialist Military Skills, marked non-deployable posts that could only be filled by servicemen, such as police, senior supervisors or instructors.³⁶ SMS had a different chain of command to the PE-WE positions, reporting to the Base Commander rather than to the Expeditionary Combat Support Squadron and 395 Expeditionary Combat Support Wing, even though all three (PE-WE and SMS) worked in the same sections, side by side. Complicating the authoritative and legal

³⁵ Air Force Organisation Directive 13/96 – Integrated Command and Control for RAAF Air Traffic Control and Air Defence Ground Environment', 18 December 1996. Command of the air traffic controllers passed from the Air Base Wings to 41 Wing in 1977, and later to 44 Wing.

³⁶ The post-DRP workforce was the approved Manpower Required in Uniform (MRU). Those positions in the deployable units and the majority on the northern bases made up the Initial Deployment Force (IDF), while the remaining MRU positions (SMS) were required for their specialist military skills (training, supervision, RAAF Headquarters, etc.), to balance the workforce and provide a relief for the IDF.

Air Force chain of command was daily supervision of the majority of the workforce by the Defence service providers. The result was a mixed and confused workplace.



On guard, Exercise *Swift Eagle 96*, Mount Garnet, QLD – Distinction between war and peacetime positions caused confusion in the workplace

(No 1 Air Operations Support Squadron)

There was quite an overlap in the posting system too, between the old units and the new while the official record on the computer-based personnel management system caught up with the changes. The changeover from the old Air Force system (called AFPEMS) to the new and slow to evolve Defence system (called PMKeyS) did not help. The first postings to the new units appeared at the end of 1999 but the complete record of all units would take several years. Delays aside, PE-WE was an excellent method of accounting for the numbers required in the post-DRP Air Force, even though it led to a confused workplace. Because it inferred different chains of command, it baffled unit and flight commanders and individuals, and it frustrated the Defence service provider groups who, understandably, wanted more control over the people working for them day to day. In the early deliberations on DRP, before the construct of CSG had been devised, Air Force had seriously considered posting the total base workforce to the Defence service provider groups and borrowing them when needed for deployments, a suggestion strongly resisted by the Commander of Operational Support Group at the time, Group Captain Greg Weekes.³⁷

³⁷ Group Captain Weekes, email to the author, 23 September 2007.

An indication of the changed understanding within the Air Force of its workforce needs post-DRP came in late 2000 when the Defence service provider groups sought CDF approval to appoint regional Commanding Officers, to command all base support personnel. An initial proposal some 12 months earlier had 'in principle' approval of the Service Chiefs but was never implemented. Now, with a better understanding of its needs, the Air Force rejected the renewed proposal outright, insisting that it could not relinquish command of the combat support force, but it did alert senior commanders to the issues brewing on the bases.

The 2 Combat Communications Squadron and military working dog team squadron proposals raised the question of command by specialist grouping rather than wartime functional command. During the peacetime turbulence of DRP, grouping by specialisation certainly offered some distinct advantages, not least of which was an unambiguous chain of command, albeit not necessarily in a wartime structure. No 1 Combat Communications Squadron was the longest standing specialist unit, justified because of the technical equipment and skills needed and the expense of duplication for multiple units. The Airfield Defence Wing and its squadrons were similarly justified on specialisation. Though their independence was frequently queried, Airfield Defence Wing had the only specialist units structured for war because they operated as units around an air base while still able to integrate smaller numbers into other units when the need arose. No 1 Air Terminal Squadron, another grouping by specialisation, showed its value whenever the tempo of airlift operations rose, which was frequent and invariably at no notice requiring an immediate response and very close management of air load teams. Airfield engineering, using joint project methodology to determine the roles and tasks of civil engineers and tradesmen in the post-DRP Air Force, was another recommended for specialist command and rejected. Health Services Wing, formed on 21 December 2001, was justified on the need for the particularly specialised nature of health services to be managed closely and the effects on morale of the confusing arrangements under the joint health agency brought about by DRP.³⁸

In all, the specialist units were a peacetime adaptation. For their wartime tasks, with some exceptions, they were posted or attached to the Expeditionary Combat Support Squadron to ensure unity of command on the air base. Except for the Airfield Defence Squadrons, none had a wartime 'unit' role, even though they regularly conducted wartime tasks in small numbers in isolation of an Expeditionary Combat Support

³⁸ Air Force Organisation Directive 8/01 – Formation of Health Services Wing and Adjustment of Air Force Health Establishment Across the Australian Defence Organisation, 18 December 2001. Health Services Wing comprised a headquarters (located at Glenbrook, later moving to Amberley), No 1 Air Transportable Health Squadron (Amberley), No 2 Air Transportable Health Squadron (Williamstown), No 3 Combat Support Hospital (Richmond) and the Operational Health Support and Training Flight (Richmond).

Squadron, as did every CSG specialisation to differing extents. The downside of specialist units, even when part of an Expeditionary Combat Support Squadron, was that they sometimes had difficulty in assimilating with their deployed unit and breaking the strong command links to their home headquarters, though that was a small price to pay when compared to the confusion becoming evident on home bases where unity of command had been overlooked. In reviewing the command arrangements on the main bases soon after his appointment as Chief of Air Force in June 2001, Air Marshal Angus Houston made it quite clear that the Air Force would continue to adhere to the basic organisational tenet of 'structure for war' and directed a review of the main base organisation to address unity of command.³⁹



Health Services Wing medical staff deploy to Sumatra following the Asian tsunami, 2004 – No 3 Combat Support Hospital was part of 395 Expeditionary Combat Support Wing until Health Services Wing formed in December 2001

(Health Services Wing)

Throughout the restructure and the implementation of DRP, training remained the priority for the CSG wings. Preparedness directives still had to be met and, with no drop in joint exercise activity and a steady commitment to operations, readiness of the new units had to be raised and maintained. Complicating unit training was the low level of experience in the new units; most of the executives were novices to

³⁹ CAF 2001/28903 Pt. 1, July 2001. Copy held by the Office of Air Force History. The review and subsequent changes are addressed further in Chapter 6.

expeditionary combat support and very few had even deployed on a joint exercise at the air base level. They held no unit equipment, which was still stored at Townsville for lack of space on the southern bases and a lack of time available to maintain equipment as their staff, undermanned for the first few years, were employed day to day by the Defence service provider groups. The units had no staff dedicated to the expeditionary role either, such as a headquarters staff for planning, as they were also employed day to day on the main bases. Some tactical vehicles were moved to the southern bases to help with driver training but otherwise, excepting individual readiness, the Expeditionary Combat Support Squadrons were entirely dependent on their parent wing to meet their training needs. For 395 Wing, the larger numbers meant a proportional increase to the training program, expanding it several times over but with no corresponding increase to the overall numbers in the headquarters.

The Combat Support Executive Officers Course was developed and conducted by 395 Expeditionary Combat Support Wing as mandatory training for all officers of the wing before they could attend a joint exercise. *Northern Atlas*, Operational Support Group's former bare base familiarisation tour, was revamped as a tutorial to focus on the activation and operation of a bare base, while *Northern Awakening* and *Northern Station* were introduced as unit exercises for a bare base and point of entry airfield respectively. While all of the deployable capabilities were taught in detail, greater emphasis was placed on planning and air base procedures than before; commanding the air base and its layout, situational awareness and the flow of information, airfield defence in a joint environment and the response to airfield emergencies, movement and similar basic joint doctrine. Other Force Element Groups and their wings were also invited to attend and were well represented at Scherger for the *Northern Atlas* 98 tutorial and again in 1999, on *Northern Awakening* which they used to renew their annual ground combat qualifications.

The *Northern* series of exercises, introduced from 1998, raised the standard of CSG training considerably. They were scripted in detail, unlike any previous combat support exercises, and, for the first time in any meaningful sense for air base training at least, included an exercise control function to stimulate learning in the areas most needed. Few aspects were left unexercised; physical threats and emergencies from aircraft crashes to attacks on the base, post-attack recovery, legal issues and the law of armed conflict, unexploded ordnance, medical emergencies, fires, logistics and personnel issues, communications failures and airfield engineering tasks among others were all included. Umpires, although without any formal umpire training in the formative years but still specialists in their field, gave immediate feedback as scenarios played through.



Filling sandbags, Exercise *Northern Awakening*, Scherger, 1999 – CSG’s training needs were met through the *Northern* series of exercises

(No 1 Air Operations Support Squadron)

Although there was a growing awareness of joint procedures and operations across the ADF by the 1990s, there was no joint doctrine published for air bases. How Army and Air Force units would be sited on a forward air base for example, how command of that base would be exercised, local support arrangements and how both Army and Air Force units would protect it jointly. Joint warfare training was essential for some CSG appointments—joint logistics, joint communications planning and joint movement courses, for example—but, generally, selected joint doctrine and the unwritten Air Force doctrine and procedures for air bases had to be taught by 395 Expeditionary Combat Support Wing, with assistance from Airfield Defence Wing, on the Combat Support Executive Officers Courses, tutorials and on regular wing exercises.

Developing the doctrine for air bases and, of more immediate concern, the updating of Standing Instructions to publish air base procedures was a high priority for CSG. The former Operational Support Group wings and units had developed quite comprehensive Standard Operating Procedures through the 1980s and early 1990s but they stood largely in isolation of each other and were outdated by 1998. Concepts had changed and ADF doctrine had developed in most areas of joint warfare and administration. Some attempts were made to capture the procedures taught on the early CSG exercises and publish them as Wing Standing Instructions but with a small

headquarters responsible for all of the planning and conduct of the unit exercises and the ongoing joint exercise program, there was little time spare to write instructions.⁴⁰ In lieu, 395 Expeditionary Combat Support Wing published an interim pocketbook ready reference to aid combat support executives with the relevant doctrine and procedures.



Airfield Defence Wing practised joint air base protection on Exercise *Winter Sun*, Quilpie, 1998

(RAAF Museum)

⁴⁰ Prior to 1999, Headquarters No 395 Expeditionary Combat Support Wing was severely overloaded. It consisted of no more than 10 people, including the Orderly Room and administrative staff. Some load shedding occurred during 1999 with Airfield Defence Wing taking on responsibility for the *Northern Atlas* tutorial exercise, which was then combined with the Airfield Defence Wing *Retimo* series (for junior officer development) but eventually passed to Headquarters Combat Support Group.

Another change during the late 1990s was increased attention by the Army to vital asset protection under the 'Defence of Australia' concept and the 'Restructure of the Army' program. Army accepted the Air Force concept for the ground defence of air bases as a joint concept by 1997 (albeit unpublished as such) and air bases, power projection bases in Army's catchphrase for their restructure program, were included more often as a vital asset for protection in joint exercises. Airfield Defence Wing participated in Exercise *Winter Sun* with an Army Ready Reserve battalion (6 RAR) undergoing mobility trials at Quilpie in western Queensland in July 1998, practising air base protection and developing interoperability, while Tindal was jointly 'protected' on a number of exercises, including regularly on *Pitch Black* and on Exercise *Phoenix* in 1998.

Bare base activations were fewer in the late 1990s though, due in part to the opening of the Delamere Air Weapons Range which offered far better air weapons training opportunities, and were limited to *Pitch Black 96* and the opening of Scherger in 1998. No 395 Expeditionary Combat Support Wing did participate in the *Vital* series of divisional command post exercises in 1998 when the protection of Curtin and Learmonth was practised at a headquarters planning level. Many of the deployments though, were to point of entry airfields in support of the Caribou squadrons or practising evacuation operations, such as at Lakeland Downs for *Swift Eagle 94*, Weipa for *Kangaroo 95* before Scherger had opened, Mount Garnet for *Swift Eagle 96*, Normanton for *Swift Eagle 97* and numerous *Tandem Thrust* or similar exercises in the Rockhampton and Shoalwater Bay areas. All provided excellent training opportunities even if the concept applied to command and control at the forward airfields varied depending on the whims of the local Army commander, though that steadily improved as relationships with the Army's 3rd Brigade in Townsville developed.

The Commercial Support and the Defence Reform Programs forced the Air Force to look away from its fixed bases for its primary combat support capability. The home bases were now to be supported by commercial contract, as Beazley and Wrigley had suggested a decade earlier; a solution that the Air Force could never have found on its own. The Operational Support Group with its shadow-posted units and their predecessor, the smaller shadow-posted pool, could never have sustained any sizeable deployment of Australian air power quite simply because there was no backfill for them on the equally important home bases. CSG promised much more, with its permanent units and primary role of expeditionary combat support. There was still much to do before CSG could claim to offer the Air Force an improved capability over its predecessor, but it was underway with a solid foundation.

Some said it would take five years for CSG to develop, before the workforce was fully adjusted and settled. Others more pessimistically suggested a generation, to build a depth of knowledge and skills across each of the new units. Even though the number of operations was steadily increasing, with minor commitments to the Middle East

and humanitarian and peacekeeping efforts closer to home in early 1998, none was aware that the Air Force and the ADF could not wait even two years.

CSG would have a major commitment to operations in East Timor within 15 months and other operations would follow, in what would become a seemingly continual stream of commitments. CSG was formed but in the nick of time.

CHAPTER 5

DOWN TO BUSINESS

The intensity of the joint exercise program and Australia's commitment to operations increased steadily in the late 1990s, commencing not long before Combat Support Group (CSG) was formed. The group's direct involvement in operations was initially limited, to no more than a dozen or so individuals attached at any one time to squadrons of another Force Element Group or to joint units raised to purpose for deployments to Bougainville and Kuwait, and humanitarian relief operations in the northern border regions of PNG and Indonesia. CSG's focus remained on training and developing the new organisation until the potential for evacuations across the region increased and then operations in East Timor overrode all other priorities.

Deployments to Bougainville began in November 1997, as part of the New Zealand-led Truce Monitoring Group at first, under ADF Operation *Bel Isi*.¹ The unarmed and Australian-led Peace Monitoring Group (PMG) commenced as Operation *Bel Isi II* in April 1998, immediately after the Bougainville Revolutionary Army (BRA) and the PNG Government signed the Lincoln Agreement for a ceasefire. With four troop-contributing nations—Australia, New Zealand, Fiji and Vanuatu—and a tri-Service ADF involvement, CSG numbers and make-up varied with each rotation, sometimes 12 or more and at other times as few as three. Total PMG numbers, including civilian peace monitors, were above 300 in 1998 but reduced to around 75 in late 2001 after further agreements between the BRA and PNG, including peace talks held at RAAF Townsville in February 2001 supported by ADF Operation *Abseil*.

Air load teams of No 1 Air Terminal Squadron, initially Mobile Air Terminal Unit (MATU), supported the PMG throughout, reducing after the initial deployment to one or two-man teams deployed forward and supplemented by 'fly-in' teams when the need arose, usually for regular resupply and rotation changeover C-130s. Tradesmen were a high priority in the initial years, some plumbers completing more than one tour. Medical personnel were also included in most rotations, to work in the PMG Combined Health Facility and as aeromedical evacuation (AME) teams for the PMG's Iroquois helicopters. Apart from providing health care to the PMG, medical staff treated the local population with cases as diverse as child birth to the treatment of old war wounds suffered in the guerrilla-style fight for independence that had raged on Bougainville since 1988. Communications technicians, motor transport fitters,

¹ Also referred to as Operation *Belisi* (one word) in some documents.

environmental health staff and firefighters were among the others who deployed on an individual basis, some in supervisory roles, on four to seven-month rotations over the more than five years of Operation *Bel Isi II*, until the PMG ceased operations on 30 June 2003.

The largest single group from CSG to deploy to Bougainville was a construction team of plant operators, tradesmen and works supervisors from the 1 Combat Logistics Squadron Airfield Engineering Flight, sent to repair the Kieta runway which was unusable from long-term neglect and damage caused by the BRA to prevent its use by the PNG Defence Force (PNGDF). During March to May 2002, the Kieta Airfield Recovery Team (KART) of 21 tradesmen and engineers (38 in total with rotations) led by Squadron Leader Martin Brewster, repaired approximately 42 'localised' damaged areas and cracks on the runway, reshaped the drainage system, cleared vegetation broaching the runway, resealed the surface and painted new line markers. Land Headquarters, the lead headquarters for *Bel Isi II*, awarded the project to 1 Combat Logistics Squadron, which in turn engaged civilian consultant engineers for design documentation and soil sampling. All engineering plant and equipment needed for the project was transported from Townsville to Bougainville by naval landing craft.²

The US provided base support for No 33 Squadron in Kuwait when it deployed two KB-707 tankers on Operation *Pollard* from February to June 1998. A small number of CSG specialists were included, some communications technicians and operators from 1 Combat Communications Squadron for national command links, a medical assistant and three NBC (nuclear, biological and chemical) instructional staff from Airfield Defence Wing. No operations eventuated on the deployment, which was preliminary in anticipation of Coalition military action against Iraq for breaches of UN Security Council Resolutions. In the earlier Gulf War of 1990–1991 after Iraq invaded Kuwait, Australia's contribution was a maritime task force. In coming years as tensions grew internationally over weapons of mass destruction, the RAAF and CSG's commitment would be significant.

² Squadron Leader Martin Brewster, email to the author, 1 November 2007. Note that plant operator was not formed as an Air Force mustering until late 2003. Previously, including for the KART deployment to Bougainville, the task was conducted by general hands licensed on plant equipment.



Corporal Tony Smith of MATU loads relief stores during Operation *Ples Draï*, PNG, 1998 – When formed, CSG was immediately involved in relief operations

(RAAF Museum)

CSG's participation in humanitarian relief operations, starting in October 1997 and increasing over the December/January reduced activity period, was also not as large as it would be in later years but larger than it had been in the preceding decade, and it was still significant enough to dominate the operations schedule as the group was being formed. Operation *Ples Draï* was a combined effort between the ADF and the PNGDF to distribute relief stores for drought victims in the western highlands and provinces of PNG. A full Mobile Air Terminal Unit team of seven, initially MATU1 commanded by Flight Lieutenant Kirrily Dearing and rotating with the Amberley-based team, deployed to Port Moresby and later to Madang to prepare and load relief stores for C-130 and Caribou flights. Operation *Ausindo Jaya*, another drought relief operation from May 1998 but more complex in the less familiar highlands of the neighbouring Indonesian province of Irian Jaya, saw a larger CSG involvement with medical staff of 3 RAAF Hospital for AME and two airfield engineering officers from 1 Combat Logistics Squadron to survey remote airfields, based at Wamena. Sergeant Dave Neylan and Corporal Peter ('Kenno') Kennedy, the two members of Mobile Air Terminal Unit deployed on *Ausindo Jaya*, were each awarded a Commander Australian Theatre Commendation for their efforts at Sentani and Wamena, where they

supported C-130, Caribou and Black Hawk aircraft, along with air load coordination for the Joint Task Force.³



Flying Officer Gabriel Carey, Operation *Ausindo Jaya*, 1998 – Airfields had to be surveyed for drought relief operations in Irian Jaya

(RAAF Museum)

In July 1998, as Operation *Ausindo Jaya* wound down, a tsunami devastated the Aitape region in north-western PNG across a 33-kilometre front. Operation *Shaddock*, the ADF tsunami relief effort, involved AME teams operating from an Army field hospital established at Vanimo, just outside of the disaster area, and conducting evacuations to nearby regional hospitals. A small communications team from 1 Combat Communications Squadron provided local air communications while Mobile Air Terminal Unit, working closely with a Royal New Zealand Air Force (RNZAF) air load team at Port Moresby and Vanimo, again supported C-130 movement of food, water and counter-disaster supplies and the evacuation of personnel.⁴

³ Warrant Officer Dave Neylan, email to the author, 9 April 2008. Apart from relief stores, the major loads handled were drummed fuel until a forward refuel point was established for the Caribous and Black Hawks at Wamena.

⁴ Unit titles for No 1 Operational Support Unit and Air Transportable Telecommunications Unit did not change to 1 Combat Logistics Squadron and 1 Combat Communications Squadron until 1 July 1999. The latter titles are used in this chapter for continuity purposes.

Closer to home, floods at Katherine and nearby RAAF Tindal in late January 1998 required an immediate response from base staff, in aid of the local community of which they were part. The response was 'whole-of-base' and eventually involved Army and Navy personnel from Darwin with the outgoing Tindal Base Commander, Group Captain John Ward, appointed as the local Defence Commander to coordinate ADF activity. Katherine was isolated from both the north and south, and supplies were flown in to Tindal by C-130 and then ferried the three kilometres by privately owned boats to the town.

Base personnel worked alongside the local community to help evacuate households in low-lying areas and to sandbag business premises in the main street where the floodwaters rose around two metres above the footpath. They also assisted in the evacuation centres, helped to maintain power and other utilities and, when the floodwater receded, helped with the massive clean-up of key buildings including the hospital and the fridges and freezers of Katherine's main supermarket, described by some Tindal personnel as one of the worst jobs. Patients from the local hospital and two nursing homes were evacuated to Tindal, the 322 Combat Support Squadron medical facility expanding well beyond its normal 10-bed capacity, holding 90 patients at one stage.⁵

Record-breaking rains also caused havoc in the Townsville area just a week or so before the Tindal floods. Airfield engineers of 1 Combat Logistics Squadron joined Army engineers at the small fishing settlement of Black River, 20 kilometres north of Townsville, and rebuilt the access road to restore some normality for the community that, among other damage suffered, had lost a number of their houses washed out to sea.

The forces of nature and operational commitments disrupted several major joint exercises including *Tandem Thrust 97*, *Swift Eagle 98* and ultimately *Crocodile 99*, with participation on the former limited to an expanded 1 Combat Logistics Squadron under the command of Squadron Leader Alan Ross and under the unit title of 327 Contingency Air Base Wing. The first significant CSG-run exercise was *Northern Awakening*, for the official opening of the new base, Scherger, near Weipa on Cape York Peninsula on 5 August 1998.

In a major public relations exercise for CSG, Prime Minister John Howard opened RAAF Scherger with national press coverage and attendance by senior government ministers, Department officials and nearly every senior RAAF commander of the day. A traditional dance by indigenous women marked the special relationship with the owners from whom the Scherger land at Peppan is leased, and a rather extravagant, under the circumstances, lunch cooked on a mobile field kitchen demonstrated CSG's

⁵ *Air Force News*, vol. 40, no. 2, March 1998, p. 8.

support capability. Each aircraft type on the RAAF inventory flew into Scherger for the opening, to form part of the static display and base open day attended by a considerable crowd, about 500, for the small remote community. Combat support equipment on display included inflatable Trelleborg tents undergoing user trials by medical staff, the mobile air traffic control system, Titan fire vehicles, airfield defence vehicles and weapons, and explosive ordnance disposal suits and equipment.

Public relations and a positive image aside, the enduring value of *Northern Awakening 98* was in the two-week exercise preceding the opening. It set a new high standard for CSG and its forward base training. Like the other *Northern* series of exercises that followed in later years, *Northern Awakening* was a hard exercise for the participants, aimed to cover the diverse scenarios anticipated on a deployed air base in a low to medium threat environment and to build upon the expertise already resident in the new Force Element Group. Realism was difficult—there were no flying squadrons to support—but their absence also allowed a greater focus on the all-important (for CSG) air base training objectives. Wing Commander Gary Penney, as the Officer Commanding Airfield Defence Wing and commanding the small exercise control element at Scherger, provided a challenging training environment through a variety of simulated scenarios, establishing the way ahead for wing exercises. Previously, exercise control was an ad hoc arrangement for CSG or otherwise overlooked in larger joint exercises, but all future group exercises would include a separate exercise control function to enhance air base training.



Prime Minister John Howard welcomed by the traditional owners at the opening of RAAF Scherger, August 1998 – The event provided a major public affairs opportunity for CSG

(Author)

Procedural lessons were the most significant of those learned at Scherger, or more so the trial, development and capture of procedures and air base doctrine. Common terms were agreed and the procedures adopted as standard practice thereafter, such as for planning and the Base Command Post. The 395 Expeditionary Combat Support Wing Combat Support Aide Memoire was published for use by all combat support expeditionary units, written by the author who, as the Executive Officer of 395 Expeditionary Combat Support Wing, was the Scherger Base Commander for *Northern Awakening 98*, with Wing Commanders Peter Shinnick and Dave Green under training. The rapid expansion of units and an influx of inexperienced unit executives made procedures and training CSG's highest tactical priorities. Inter-unit cooperation was also developed, particularly between the group's deployable wings, No 395 and Airfield Defence Wing, but also with others. The Explosive Ordnance Disposal (EOD) Flight for example, the former Ammunition Disposal Flight that had transferred to Headquarters Air Command in 1998 from the Ammunition Depot at Kingswood and would soon transfer to CSG, participated fully in an air base exercise as an integral part of the base support unit, the first such integration of the explosive ordnance disposal function in recent history.⁶

Other *Northern* series exercises followed the inaugural Scherger exercise, principally for executive training and to raise the new squadrons to a standard where they could participate in the joint exercise program. Nos 382 and 386 Expeditionary Combat Support Squadrons conducted their first unit exercises on *Northern Station 99* at Macrossan near Townsville, while 381 Expeditionary Combat Support Squadron deployed to Scherger for another *Northern Awakening* in April–May 1999. There was no formal CSG concept for operations as yet, other than to train the new units and prepare them for upcoming exercises. For short-notice operations the concept was to pull together the best available and suitable unit from across the group.

The immediate objective in 1999 was to prepare for *Crocodile 99*, a major combined exercise with US and other forces. The planned CSG involvement was considerable, with Scherger to be activated and an Army Reserve Infantry Battalion of the 11th Brigade along with 2 Airfield Defence Squadron assigned to 381 Expeditionary Combat Support Squadron for base defence against a planned attack by a Special Forces Company from the 4th Battalion, The Royal Australian Regiment (4 RAR). Other involvement for 382 and 386 Expeditionary Combat Support Squadrons was

⁶ Explosive Ordnance Disposal Flight transferred to Headquarters Air Command from 1 Central Ammunition Depot in December 1998 when the depot was disbanded. Subsequently, in 1999, it transferred to 395 Expeditionary Combat Support Wing as a flight of 1 Combat Logistics Squadron, with teams in the Expeditionary Combat Support Squadrons manned from late 2000. Units involved in *Northern Awakening 98* were 2 Airfield Defence Squadron and a 395 Expeditionary Combat Support Wing Detachment comprised of personnel from 1 Combat Logistics Squadron, 1 Combat Communications Squadron, 1 Air Terminal Squadron, 3 Hospital and other CSG units.

to be at Rockhampton and in the Shoalwater Bay Training Area in support of tactical transport aircraft, along with increased commitments at the home bases, particularly in the north, now under the guise of the Defence service provider groups.

Exercise *Crocodile 99* would have been a significant test for CSG, of the new expeditionary organisation and the changed arrangements on the bases. Early endorsement of several deployed air base training objectives on the largest combined exercise held by Australia to date was already a major achievement. The ADF Warfare Centre, responsible for all major joint exercise planning, assigned responsibility for planning the Scherger phase to 395 Expeditionary Combat Support Wing, an unusual and very demanding task for an already overworked Wing Headquarters having also to plan for the unit operations aspects of the exercise and other concurrent operations and exercises outside of the Scherger phase of *Crocodile*. Despite severe manning shortages (CSG staffing was just above 50 per cent of its established strength in mid-1999) and doubts over the availability of Scherger's bulk fuel storage, which had yet to be accepted from the construction contractor, *Crocodile 99* planning proceeded smoothly until abruptly interrupted in September by operational commitments to East Timor.

CSG already had some involvement in Indonesia, since the turmoil associated with the fall of the Suharto Government in May 1998. Riots and unrest caused over a thousand deaths in Jakarta and other major Indonesian cities resulting in the evacuation of a large number of Australians. Though eventually conducted by civil airline, and the Navy out of Surabaya using procedures borrowed from 395 Expeditionary Combat Support Wing, the ADF was warned out to assist and pre-positioned an evacuation force at Darwin in May under Operation *Brancard*. From mid-1998 and in 1999 during potential crisis points of the unrest, the author deployed for several months on separate occasions to Jakarta attached, with a joint team drawn almost entirely from the Army, as Commander of the Defence Supplementation Staff to the Australian Embassy, to plan and prepare for potential evacuation operations.

No 395 Expeditionary Combat Support Wing maintained one of the two ADF Evacuee Handling Centres (EHCs), not moved to Darwin for *Brancard* but on standby nonetheless. The CSG EHC, which was considered more as a natural extension of the air terminal role and was thus much lighter than Army's EHC, had been thoroughly developed on several joint exercises throughout the 1990s, more often on Exercise *Swift Eagle* in turn about with the Army's 4th Field Regiment, and had been brought to a higher alert state on several occasions for potential evacuation operations in the region, more so in 1998.

The Indonesian Government granted calls in May 1999 for the UN to conduct a ballot in East Timor, on independence after 25 years of armed resistance to annexation. Back in 1975, when Indonesia annexed the former Portuguese colony amid internal

fighting following the Portuguese withdrawal, Base Squadron Darwin had been heavily involved in supporting Caribou, C-130 and C-47 Dakota humanitarian and evacuation flights to East Timor in support of the International Red Cross. Hundreds of refugees in transit to southern cities were temporarily housed at RAAF Darwin in buildings not yet fully recovered from Cyclone Tracy.⁷ In 1999, Indonesia would provide security while the UN conducted voter registration and the ballot in late August, for the East Timorese to choose between special autonomy as part of Indonesia or independence. No 322 Combat Support Squadron at Darwin and 1 Air Terminal Squadron air load teams supported C-130 flights on Operation *Concord* from May 1999, deploying and sustaining the UN force of international police and officials, known as UNAMET, to East Timor. In late August, Flight Lieutenant Gareck Wilson, the Airfield Defence Wing Operations Officer, deployed as a Military Liaison Officer under Operation *Faber* in support of the UNAMET mission.

The UN Secretary General announced in early September following the ballot that 78.5 per cent of East Timor's voters had chosen independence. Violence, which flared occasionally throughout August, immediately became widespread and intense. Pro-Indonesian militias rampaged across East Timor, burning buildings and homes, in some cases destroying entire villages, shooting an unknown number of persons and displacing thousands more. Estimates of internally displaced persons (IDPs) were of 15 000 in Dili, 2000 in Baucau and up to a further 80 000 fleeing across the border to West Timor.

No 395 Expeditionary Combat Support Wing contingency planning for East Timor began in mid-August with the Army's 3rd Brigade in Townsville, in preparation for a Services protected evacuation of UN personnel and others under Operation *Spitfire*. The plan was for 3rd Brigade, which formed the Land Component, to secure the airfield and Dili, and provide the Evacuee Handling Centre, while 395 Expeditionary Combat Support Wing maintained the airhead at Dili airport (Komoro) for C-130 evacuation flights and provided a second EHC at Baucau if necessary.⁸ Work up training for both tasks was conducted at Townsville under a Wing detachment made up primarily of air load teams, airfield defence guards (ADGs), air traffic controllers and other essential support, such as communications, logistic and medical personnel. Close cooperation was developed with the Army units involved and considerable

⁷ Refugees slept overnight at RAAF Darwin in whatever space could be made available, including in the Airmen's Mess dining area and the Officers Mess Billiard Room where beds were made up on and under the tables.

⁸ Komoro is the Indonesian spelling, which changed to Comoro around October 1999. Comoro is used elsewhere in this text. Units involved in the work up at Townsville for Operation *Spitfire* were 1 Air Terminal Squadron, 1 Combat Communications Squadron, 1 Combat Logistics Squadron, 2 Airfield Defence Squadron, 3 Combat Support Hospital and 44 Wing. The detachment was commanded by the author (then Executive Officer 395 Expeditionary Combat Support Wing) with Squadron Leader John Leo (Commanding Officer 2 Airfield Defence Squadron) commanding the Baucau Evacuee Handling Centre element.

practical expertise gained in joint planning during the month long pre-deployment phase. With Indonesian agreement to the evacuation however, a Services assisted rather than a protected evacuation was conducted on a fly-in, fly-out basis in early September. No 86 Wing, operating out of Tindal and Darwin and supported by CSG medical staff, evacuated some 2500 UN and consular staff and individual East Timorese between 6 and 14 September and conducted humanitarian food drops on 17–18 September.

The 3rd Brigade plan for *Spitfire*, which involved a gradual spread of the security footprint outward from Comoro and Dili, was largely unchanged for the much broader and enduring task 'to restore peace and security in East Timor', agreed by Indonesia and authorised by UN Security Council Resolution 1264 (1999) on 15 September 1999.⁹ The CSG task, to maintain the Comoro airhead, would be conducted by 381 Expeditionary Combat Support Squadron which had concentrated at Townsville for Exercise *Crocodile 99*, and 2 Airfield Defence Squadron. Baucau, when it was needed as an additional airhead, would be maintained by 382 Expeditionary Combat Support Squadron. While the plan was largely unchanged, the tasks were significantly different. *Spitfire* was to be an evacuation of very short duration—days, weeks at most. The new task, with only a few days notice, would be for months and would have quite different implications and support requirements.

Operation *Warden* commenced with the arrival of the first of the Australian-led International Force East Timor (INTERFET) at Comoro on the morning of 20 September 1999. Four air traffic controllers attached to 381 Expeditionary Combat Support Squadron were among the first arrivals with the 2nd Battalion, The Royal Australian Regiment (2 RAR), early in the 3rd Brigade order of march, followed soon after by the Squadron Commanding Officer, Wing Commander Peter Shinnick and the small advance party of an air load team and operations staff, while medical staff stood by at Darwin in case of a need for AME. No 2 Airfield Defence Squadron and the remainder of 381 Expeditionary Combat Support Squadron followed; the latter building up gradually in the first few weeks on a 'call forward' basis.

In a rapid build-up of forces, INTERFET grew to a coalition of nearly 10 000 servicemen from 22 countries at its peak in December 1999, including over 6000 ADF personnel. No 382 Expeditionary Combat Support Squadron was added to the forces assigned in mid-October, and a small CSG command element was attached to the Combined Air Component of Headquarters INTERFET from the initial deployment.

⁹ United Nations Security Council Resolution 1264 (1999), adopted by the Security Council on 15 September 1999, www.un.org/Docs/scres/1999/sc99.htm, accessed 4 September 2007. The resolution authorised three tasks: 'to restore peace and security in East Timor, to protect and support UNAMET in carrying out its tasks and, within force capabilities, to facilitate humanitarian assistance operations'.



Comoro airfield, Dili, c. October 1999 – Before the helipads with dust rising (right) from 381 Expeditionary Combat Support Squadron works

(Peter Kershaw)

The INTERFET deployment marked a significant milestone in the development of CSG.¹⁰ It was the first deployment in modern times, and probably since the Airfield Construction Squadrons of World War II, that Air Force combat support forces had deployed on warlike operations in their own right, at least in the meaningful size of formed units. The primary role was to maintain the airfield points of entry or ‘air points of disembarkation’ as they were now called under UN accepted terminology, control the airspace around them and handle transient aircraft of all nations. There were no deployed squadrons to support in situ until a Caribou detachment, initially of two aircraft, was added at the end of October. Although the deployment was not without some difficulties, INTERFET was an outstanding success and the CSG units, 381 and 382 Expeditionary Combat Support Squadrons and 2 Airfield Defence Squadron, stand equally with all of the deployed units as major contributors to that success. The Comoro airfield in particular, was the lifeblood of INTERFET for the initial weeks and remained crucial throughout the operation and for years after in support of subsequent UN missions.

¹⁰ **APDC Editor’s Note:** The subject of the INTERFET intervention in East Timor in 1999, and the role played by CSG, was one of the major topics addressed at the 2008 RAAF History Conference held in Canberra on 1 April 2008. The paper on INTERFET presented at that conference, and published in the book of proceedings, was based substantially on and contained extracts taken from an earlier draft of this chapter.



Early accommodation at Comoro, Dili, September 1999

(Images of East Timor – Air Component INTERFET)¹¹

Apart from security, which became less of a concern in the Comoro area as operations progressed although incursions onto the airfield did occur, buildings were still burning and sporadic gunfire was fairly common in the first few days and uncertainty remained throughout, logistic support was perhaps the greatest challenge for 381 Expeditionary Combat Support Squadron. Initial arrangements, with support provided by the 3rd Brigade's Land Component Support Group (LCSG), were frustrated by the Expeditionary Combat Support Squadron logistic staff's lack of familiarity and experience with Army procedures and a higher than realistic expectation of the priority that should be accorded to their own supply demands. They placed a mass of demands on the relatively small LCSG, which assigned priority to combat items; ammunition, rations, water and fuel. Some of the Air Force demands were not obvious combat items, or at least not to the LCSG staff who did not understand the importance of some key airfield equipment and the unique fuel or oils required, such as for tarmac vehicles, forklifts or ground power carts. Some other demands were superfluous at the time and should always have been assigned the routine priority that the LCSG allotted them. Many were inevitably not going to be met within the agreed time frames under the very trying circumstances of the first few weeks in Dili. Duplication or resubmission of the demands resulted, and further frustrated the supply system and, in turn, the Expeditionary Combat Support Squadron. In some cases, squadron staff tried to bypass the established system in East Timor by demanding directly on their parent units or bases in Australia, which only

¹¹ 'Images of East Timor' is a CD image collection put together by the Air Component staff of Headquarters INTERFET.

confused an already stressed movement system when attempts were made to dispatch unauthorised items forward.

Later, 21 days after the initial deployment when logistic responsibilities and all outstanding demands transferred to the much larger Force Logistic Support Group (FLSG) based on the Army's 10 Force Support Battalion, the failure of CSG's deployable demand system and an unfamiliar interim system used by the FLSG strained the relationship with the Expeditionary Combat Support Squadron. Despite the eventual placement of a small RAAF logistic staff in the FLSG, the enforcement of 'unit entitlements', a system long abandoned by the Air Force under cutbacks through the 1990s, and the Army's lack of familiarity with the Air Force's 'Aircraft Operationally Grounded (AOG)' priority demand system for urgent supplies, further frustrated and slowed the Expeditionary Combat Support Squadron demands.¹²

Planning was another factor which affected logistic support. No 395 Expeditionary Combat Support Wing planning was conducted in cooperation with the Land Component (3rd Brigade) in Townsville, but there was no CSG awareness of or input to the Force level logistic support plan, which was developed at the operational level, then Headquarters Australian Theatre, and released some time after the initial units arrived at Comoro. Similarly, there was no CSG presence at the Deployable Joint Force Headquarters until after it arrived at Dili as Headquarters INTERFET, other than for a brief period in the final days before deployment, and coordinated planning with the Air Component was limited to electronic and telephone contact.¹³

Though the basic plan remained unaltered when the operation changed, the much longer Operation *Warden* deployment required significantly more logistic support. From the 381 Expeditionary Combat Support Squadron perspective, only the Commanding Officer changed for the immediate deployment from the previous plan, while 2 Airfield Defence Squadron formed as a unit rather than split between two units. Despite some suggestions to the contrary, the CSG units deploying to Comoro were no lighter and held no less stores for the initial self-sustainment period than did Army units deploying at the same time.¹⁴ Certainly, Army units arriving later held

¹² The CSG deployable demand system referred to is the SDSS (Standard Defence Supply System), held by 1 Combat Logistics Squadron and trialled with limited success on exercise, but it did not work in East Timor. The interim system used by 10 Force Support Battalion, which formed the initial FLSG, was the Lotus Notes Interim Distribution System (LNIDS). Enforcement of 'unit entitlement' required written justification by way of a 'staff demand' for spares support to much of CSG's equipment, not an impossible process but one that frustrated the Expeditionary Combat Support Squadron staff.

¹³ Group Captain Stew Cameron was attached to the Deployable Joint Force Headquarters at Enoggera, a few days before deployment. The author, as Executive Officer 395 Expeditionary Combat Support Wing, participated fully in the 3rd Brigade planning process from mid-August, daily until deployment, and maintained near daily reporting and e-contact with the Combined Air Component Commander until deployment.

¹⁴ David Wilson, *Warden to Tanager: RAAF Operations in East Timor*, Banner Books, Maryborough, 2003, p. 73. The reference states that 'RAAF units arrived ... with logistics for a 14-day deployment in comparison with Army

more equipment than the initial CSG units, most likely due to their awareness of the logistic support plan, released late, and by their deployment mode, by sea rather than by air which allowed them to carry more bulky equipment.

The build-up of CSG forces at Dili in the weeks following the initial deployment was controlled by the staff of the Air Component within Headquarters INTERFET. Additional personnel and equipment, such as the engineer for airfield survey, the armed vehicles for 2 Airfield Defence Squadron, the steady build-up of 381 Expeditionary Combat Support Squadron and the eventual move of 382 Expeditionary Combat Support Squadron to Baucau had to be argued and agreed to separately by the combined operations, logistic and movement staffs of the headquarters. Approvals, none were refused, were planned to move the following day and relayed to a small CSG staff positioned in Darwin, where Flying Officer Paul Saker had to lobby again for final aircraft space, despite the prior approval and direction of INTERFET.¹⁵



Leading Aircraftmen David Clewes (front) and Matt Larkin constructing latrines at Comoro, September 1999 – Facilities were initially basic but progressed

(Peter Kershaw)

units ... 30-day logistic supply' and thus concludes that the initial supply problem was self-imposed. Deployment stocks varied with item, from 7 to 30-day holdings and were applied equally to Air Force and Army.

¹⁵ All of the requests were staffed by the author in the Air Component of Headquarters INTERFET. Some, catering for example, were to INTERFET time lines. The need to lobby again at Darwin, despite prior approval and direction, is questionable and suggests that the movement control organisation was applying 'last minute' honesty checks to ensure best utilisation of the limited 'by air' space available.

Logistic aspects of the East Timor deployment were subject to comprehensive studies and many lessons learned were noted and implemented, including by CSG. Many of the logistic shortfalls arose because of the short notice of the deployment, the rapid build-up of forces and the ill-prepared state of the ADF's logistic forces for such a major commitment. Logistics had rarely featured as a training objective on joint exercises and personnel at all levels, including in CSG units, had unrealistic expectations of the standard of support that could be provided.

An enduring lesson for the Air Force was the inexperience in joint operations of the support units deployed, due almost entirely to the very early stage of development of CSG. Most of the key personnel in 381 and 382 Expeditionary Combat Support Squadrons were on their first deployment in a base support capacity, save a short-duration CSG-only exercise where all logistic aspects were arranged for them. Few, if any, had deployed on a joint exercise as an air base executive and few had any experience with Army units or joint procedures for logistic support in the field. Few of the executive staff had learnt through experience, but they quickly would, that initiative and personal contact is frequently the only method to achieve success when deployed. Expectations and previous training aside, under the circumstances the level of support provided by the joint logistic units and by the Expeditionary Combat Support Squadrons was exceptional.



Warrant Officer Laurie Best, 2 Airfield Defence Squadron, in the original Base Command Post, Comoro airfield, Dili, September 1999

(Images of East Timor – Air Component INTERFET)

Command is another aspect of the INTERFET deployment that deserves some discussion. Air base command at Comoro was split after a few weeks and flowed along separate lines for security and airfield operations through different 'tactical' and 'operational' command arrangements. Although the Commanding Officer 381 Expeditionary Combat Support Squadron was nominally the Base Commander, the Commanding Officer 2 Airfield Defence Squadron reported directly to the New Zealand-led Dili Command, the local INTERFET intermediary command established for security of the Dili area. The Commanding Officer 381 Expeditionary Combat Support Squadron, on the other hand, reported to the Air Component Commander within Headquarters INTERFET for operation of the airfield.

There were some sound reasons for the split, not least of which was the broadening of the 2 Airfield Defence Squadron initial area of operations, AO Coventry, to an area way outside the bounds of the Comoro airfield. Another reason was the primary force mission of security; 2 Airfield Defence Squadron effectively being employed as an infantry company from an INTERFET perspective, although their primary focus was always airfield security. Command links for security through 381 Expeditionary Combat Support Squadron would have mattered little to Dili Command but responsibilities beyond the airfield would have been a major distraction to Peter Shinnick as the air base commander. Nonetheless, coordination across the air base involving several commanders at different levels would have been difficult had security at Comoro degraded. Perhaps the improved security at Comoro was another reason supporting the dual command arrangement, although the split in command at the airfield was never intended.¹⁶ Inexperience of 381 Expeditionary Combat Support Squadron was another important factor which ultimately influenced the command arrangements at Comoro, as it did the growing self-supporting capability of 2 Airfield Defence Squadron which gained its own logistic staff, frustrated with the less than expected support received.

Command support, by the way of a specialist staff for the Combined Air Component Commander in Headquarters INTERFET was somewhat of an afterthought and 395 Expeditionary Combat Support Wing Headquarters was added by direction from Air Command at the last minute. Initially, Group Captain Stew Cameron, the RAAF Amberley Base Commander at the time, was to act as the sole combat support advisor to Air Commodore Roxley McLennan, the Combined Air Component Commander. While 395 Expeditionary Combat Support Wing was officially on the INTERFET

¹⁶ The split in command occurred with the transfer of responsibility for Comoro security from 2nd Battalion, The Royal Australian Regiment to 2 Airfield Defence Squadron in late September. To prepare for the added responsibilities, the Combined Air Component Commander sought and obtained additional Command Post staff for 381 Expeditionary Combat Support Squadron to help manage the increased airfield security responsibilities, and extra airfield defence guards and military working dog teams for 2 Airfield Defence Squadron.

order of battle it was quite correctly absorbed as part of the headquarters staff of the Air Component where it performed a vital function, particularly in the early days when the shape and footprint of the force were still being determined. While only a few members of the 395 Wing Headquarters staff actually deployed, the broader issue at stake, perhaps unknowingly at the time, was the role of the Wing Headquarters in operations. Many considered it simply to be a planning role with no involvement in operations. The East Timor deployment clearly demonstrated though that the higher command of combat support units, like any other unit, requires the detailed specialist knowledge available in the Wing Headquarters as much on operational deployments as it does at home in peacetime. For CSG and its expeditionary wings, which will always have forces remaining at home and often follow-on forces or concurrent deployments, the need is in both places; a lesson implemented later through an expansion of 395 Expeditionary Combat Support Wing Headquarters.

Operating under Chapter VII of the UN Charter, meaning the use of armed force was authorised to restore peace, security of East Timor was the primary purpose of INTERFET. No 2 Airfield Defence Squadron initially shared responsibility for the security of Comoro with the 2nd Battalion, The Royal Australian Regiment (2 RAR) and conducted tarmac security, static perimeter defence, some patrolling and handling of displaced persons transiting the airport. From early October, when 2 RAR moved away from Dili, the Air Component Commander and 2 Airfield Defence Squadron accepted full responsibility for airfield security. The squadron's area of responsibility, AO Coventry, expanded in line with the spreading of forces across East Timor and ADG patrolling activity increased. An additional Rifle Flight made up of Reservists deployed from 1 and 3 Airfield Defence Squadrons to bring the squadron to full strength. Eight military working dog teams were also added as AO Coventry expanded well beyond the airfield. Standing patrols in the form of shopfronts established among the villages were successfully employed by 2 Airfield Defence Squadron to promote a security presence and develop relationships with the villagers. In December, the squadron also assumed responsibility for security of the Dili heliport, the original site of Headquarters INTERFET and still the base for Army's 5th Aviation Regiment and the Special Forces response force. Security incidents varied, often involving ex-militia or suspected ex-militia members among the displaced persons as they returned to their homes in Dili. Common flashpoints occurred wherever the crowds gathered to greet the displaced persons, at the airport or at drop-off points elsewhere in AO Coventry. Disarming and a proactive approach with a firm but friendly presence and strong leadership by the Commanding Officer, Squadron Leader John Leo, contributed to some outstanding results for 2 Airfield Defence Squadron, for which the unit was awarded a Meritorious Unit Citation.



Reporting from a perimeter weapon pit, Leading Aircraftman Dominic Gallagher, ADG of 2 Airfield Defence Squadron, Comoro, Dili, September 1999

(Images of East Timor – Air Component INTERFET)

Security responsibilities were also shared with the TNI-AU (Indonesian Air Force),¹⁷ though diplomacy and significant differences in capabilities restricted the Indonesians to static checkpoints at Comoro and occasional airfield inspections with the 381 Expeditionary Combat Support Squadron air traffic control officers. Indonesia had ‘invited’ the UN-backed intervention and agreed to cooperate with INTERFET but, under the circumstances in East Timor, relationships could easily have strained and deteriorated quickly at a local level. Two unauthorised discharges of weapons by TNI-AU personnel at Comoro in early October—one a short burst of gunfire across the airfield—could well have undone relationships, particularly at such an early stage when trust was still developing. The Air Component of INTERFET, through both 2 Airfield Defence Squadron and 381 Expeditionary Combat Support Squadron, established a sound working relationship with the Indonesians at Comoro, minimising the potential long-term damage between the two Air Forces. The relationship, emphasised strongly by Air Commodore McLennan, seemed to be much better maintained at a local level by the Air Component than the other components.

¹⁷ TNI-AU is the abbreviated form of Tentara Nasional Indonesia – Angkatan Udara, meaning Indonesian Air Force.

Unauthorised discharges also occurred on the Australian side, usually during weapon cleaning, but the rate was no higher in the CSG units than any of the other units in East Timor. Indeed, they were considerably lower than some units which routinely adopted a higher weapon readiness. Disciplinary action was usually swift in the early phase and sometimes without a legal basis; the punishment of an immediate return to Australia for further weapon training awarded on more than one occasion without a hearing, based on rumours heard about an INTERFET-directed 'standing' punishment. Rumours had to be treated with caution.

Airfield movements were the core tasks for CSG in East Timor, both ground handling by the air load teams and air traffic control. Initially, Australian and New Zealand C-130s of the International Coalition Air Wing (ICAW) made up the bulk of movements, up to 19 per day and 16 on average by ICAW C-130s in the first month, plus a growing number of differing types of aircraft from varying countries as operations progressed. Australian Army and a variety of other international, rotary wing and fixed-wing, outsized and wide-bodied aircraft among them, made Comoro a very busy airfield with daily aircraft movements frequently passing 300 during October 1999. Apart from aircraft availability and flight times from the ICAW base at Darwin, tarmac space was the limiting factor. Tarmac and associated taxiway maintenance by the 381 Expeditionary Combat Support Squadron airfield engineers early in the deployment improved parking and the entry/exit procedures, as did a helicopter landing zone they built, but it was still congested by a multiplicity of aircraft types.

Undoubtedly, some of the hardest working members of INTERFET were among the air load teams. Apart from the almost continual movement of aircraft requiring unloading, some outsized cargo aircraft by hand or with equipment designed for the relatively much smaller C-130s, they were frequently harassed by units about cargo or by the combined movements organisation about the onward distribution of cargo after it had been unloaded, a task outside of their role and one for which they are neither equipped nor manned. Severe shortages of aircraft pallets, which were misused in a variety of other purposes by nearly every INTERFET unit, and of other air load equipment did not help to ease their task.

The airfield engineers, as well as ensuring airfield pavements and lighting were safe for aircraft operations and constructing passive defences such as weapon pits and checkpoints, improved basic living standards as a priority. Hutchies, used from the beginning, and the field showers constructed during the first few weeks gave way to tents and improved utilities, water and power in the airport buildings, which had been badly trashed by the militia. They also lent a hand to fix the toilets in the State Library, occupied by Headquarters INTERFET and also badly trashed like every other building in Dili.

By December 1999 the Comoro airfield began to look like a normal civilian airport again—a desire stated strongly by Air Commodore McLennan—with security fencing and lighting around the tarmac constructed by the airfield engineers. They also helped construct a landing zone for UN helicopters, slowly improved airport buildings, restored local power, painted the runway centre-line and installed portable runway approach lighting, known as PAPI, in January.¹⁸ It was the first operational deployment of PAPI, previously only installed for trials at Richmond, and was initially powered by a generator but later remotely operated from the air traffic control tower. By January, site clearance for a new 250-man camp and air-conditioned accommodation buildings, portable hut style, to replace the tents was well underway. The camp was perhaps the most significant construction task undertaken by CSG in East Timor and certainly the largest, all stages supervised by 381 Expeditionary Combat Support Squadron airfield engineers, though Australian Army engineers undertook the site preparation while Kenyan Army engineers and some local East Timorese tradesmen helped with the fit-out.¹⁹



Corporal Roger Shordan installs mains power with help from Kenyan engineers and local civilians, Comoro, 2000 – Accommodation progressed to buildings

(Peter Kershaw)

¹⁸ The Precision Approach Path Indicator (PAPI) is a lighting system positioned beside a runway that provides a visual indication of an aircraft's position on the glide path for that runway.

¹⁹ Squadron Leader Peter Kershaw, email to the author, 25 October 2007.

Airfield survey was another important task undertaken by the airfield engineers, required for the remote airfields away from Dili before use by C-130 and Caribou aircraft, and usually conducted as the first step in a move forward before any INTERFET presence was established. Flying Officer Gabriel ('Gabe') Carey conducted airfield surveys from late September across East Timor and the enclave of Oecussi. His first survey to Suai on 29 September turned back without landing after being fired on by a group of militia gathered on the airfield. On a subsequent survey, Gabe and his fellow passengers and crew onboard their Black Hawk were most fortunate when an unauthorised discharge of a grenade by one of the security team caused some minor damage to their helicopter but the grenade rolled harmlessly across the floor.²⁰

The RAAF was not so fortunate in two other incidents. The first occurred on the tarmac at Comoro while unloading a C-130 at night, without tarmac lighting, on 4 October 1999. Leading Aircraftman A.P. ('Woody') Woodman, an airfield defence guard of 2 Airfield Defence Squadron suffered severe injuries to his legs, hip, face and internally when hit and dragged some 70 metres by a forklift, trapped under the pallet being unloaded. The forklift operator, not fitted with any night vision equipment, was unaware of the accident until the ammunition in Woodman's pouches had 'cooked off'.²¹ Woody was evacuated the following day and underwent a long period of treatment and hospitalisation, never able to return to his unit.

The second incident, also on the tarmac, occurred at Baucau (Cakung airport) just 10 days later when Group Captain Stew Cameron was thrown some 15 metres by jet blast from a departing Lockheed L-1011 Tristar that had applied power to manoeuvre while taxiing on departure. Tossed hard against a parked UN vehicle, Stew Cameron suffered a smashed right elbow, broken ribs and vertebrae, and was evacuated to Darwin via Comoro. After several weeks of treatment and rehabilitation, he returned to Dili in December as the Deputy Air Component Commander.

Rebuilding towards a normal civil airport also influenced Air Commodore McLennan's decision not to deploy RAAF fire vehicles to Comoro. They would have been more reliable than the two Rosenbauer vehicles, leased from the Indonesians at a cost of Rp500 000 per day (about \$70 in Australian currency), and much easier to maintain but they would have contributed little to the longer term rebuilding of East Timor. Spare parts for the Rosenbauers were pursued from the regional dealership in Jakarta, but eventually spares had to be 'borrowed' from like-types at Baucau. The lease costs also included Comoro's navigation aids which were maintained by the 381 Expeditionary Combat Support Squadron communications technicians, not

²⁰ Gabriel Carey, email to the author, 8 January 2008.

²¹ Wilson, *Warden to Tanager*, p. 45.

trained on the civilian aids, with some long-distance help from Airservices Australia technicians. A later offer by the Indonesians to sell the equipment to INTERFET was rejected on the grounds that the Indonesians would soon depart and the equipment would remain.²²



The Dili tarmac was always congested with a variety of aircraft types, Dili, c. August 2000 (From left: UN C-130, Antonov An-12. UN helicopter (far background), commercial airliner and Caribou)

(Neil Collie)

No 382 Expeditionary Combat Support Squadron, commanded by Wing Commander Paul Hislop, deployed to Baucau (Cakung) from 11 October 1999, having begun to position in Darwin from Townsville the previous day.²³ Some pressure had been applied to the deployed Air Component for an earlier deployment, as it had been for a more rapid build-up of forces at Comoro generally, by rear headquarters not part of INTERFET. The challenge in East Timor though was to manage carefully the build-up of forces and not deploy units until they were needed, minimising the logistic support bill until the support force was properly established. No doubt television images of other units arriving in East Timor had many CSG personnel still in Australia perplexed.

²² Details of the lease agreement are taken from the author's field notebook. The lease was negotiated by the author and the INTERFET Finance Officer. Indonesian forces left East Timor in early November 1999.

²³ Wilson, *Warden to Tanager*, p. 56.

Cakung offered a longer runway and larger tarmac and was thus far better suited to larger aircraft movements than Comoro. The 382 Expeditionary Combat Support Squadron task was principally to handle UN and other non-government flights returning displaced persons and inserting national contingents as they joined INTERFET. Baucau was initially secured by a company of the 2nd Battalion, The Royal Australian Regiment (2 RAR) in an airmobile operation on 22 September and was subsequently allocated, for security, to the Philippines infantry and then to a Thai infantry brigade a few days after 382 Expeditionary Combat Support Squadron arrived.

The issues at Baucau were similar to Dili, perhaps to a lesser scale as security was generally more benign and the steady-state activity rate was far less, although security concerns were never absent and workloads peaked at fairly high levels with the frequent arrival of wide-bodied aircraft. There was no Airfield Defence Squadron assigned and the command arrangement with the Thai infantry commander was more mutually cooperative rather than formally established, encouraged by the very close relationship Paul Hislop and his senior staff established with the Thais. The airport buildings, as in Dili, were badly trashed and required considerable effort to bring them to a habitable standard. Hygiene and building improvements were the second tier priorities to aircraft handling and support to the Caribou detachment of No 38 Squadron, which arrived from Dili on 29 October, increasing their aircraft numbers from two to three and later four.



Baucau offered greater tarmac space and a longer runway, November 1999

(Images of East Timor – Air Component INTERFET)

Perhaps the greatest challenge for 382 Expeditionary Combat Support Squadron until they left Baucau at the end of December, apart from the frequent unknowns of aircraft timings and types, was the large number of displaced persons returning home, the sizeable welcoming crowds to greet them and the uncertain security environment that created. The potential presence of former militia or their sympathisers among the crowds could easily and quite quickly have erupted into an unpleasant situation.

The support required at the home bases in Australia for the INTERFET deployment, particularly at the northern bases of Darwin, Tindal and Townsville, was enormous. Tindal was the initial mounting base for the *Spitfire* activity and Townsville for the 3rd Brigade and the CSG units deploying to East Timor. After the initial deployments, Townsville supported a Force Preparation Unit established and run by Land Headquarters to prepare all foreign contingents before deployment; Kenyan, Filipino, Korean, Thai and Jordanian among them. Later, the Force Preparation Unit moved to Darwin and force prepared all contingents, ADF follow-on forces included.

The normal stress on mounting base operations, usually restricted to the 1 Air Terminal Squadron detachments in the air terminal, spread to the entire base with messing, accommodation, medical and security, in particular, overloaded. Timing was not opportune as many of the services most in need, including catering, had only recently been outsourced to contractor-provided services under the DRP and switched from RAAF control to the new Defence groups. The contracts were found wanting, understandably for they had only recently been established on peacetime requirements and the contractors in the remote localities had little capacity for rapid expansion to meet unforecast mounting base needs. Additional CSG staff supplemented the kitchens in Townsville and Darwin, the main transit point for East Timor and the INTERFET sustainment base. A tent city accommodated visitors at Townsville, while Darwin's 'Tin City'—hatted transient accommodation established for exercises—quickly filled. Foreign air load teams, New Zealanders and others, supplemented the Darwin air terminal staff where aircraft pallet building proved a bottleneck for movements forward and was eased only with the assistance of Army terminal operators.

The Air Force's insistence during the preceding DRP negotiations on maintaining command of its bases proved warranted. Any other command arrangement at Darwin or Townsville at such an early stage of the changed support arrangements on the bases would very likely have been disastrous for ongoing support to operations in East Timor.

Planning for the eventual handover of Comoro to the UN started in late 1999, though few countries were able to offer a capability similar to CSG. Most had their airfield support tied to their fixed bases and few had any experience in handling the range of aircraft types and variety of tasks encountered at Comoro. Portugal was keen and,

after a fact-finding mission, two Portuguese companies were awarded UN contracts to maintain the airfield but it would take them well over a year to be ready. Meanwhile, 381 Expeditionary Combat Support Squadron was labelled the Comoro Air Support Group (CASG) in mid-January 2000, to prepare for the eventual withdrawal of INTERFET and transition to the UN, which occurred on 23 February 2000.



Change of the flag ceremony, Comoro, January 2000 – No 381 Expeditionary Combat Support Squadron was retitled as the CASG for transfer to the UN

(Images of East Timor – Air Component INTERFET)

Following a personnel changeover in December/January, 381 Expeditionary Combat Support Squadron downsized and remained as the CASG until June when 383 Expeditionary Combat Support Squadron deployed, followed by 386 Expeditionary Combat Support Squadron in December 2000, all on ADF Operation *Tanager* under the United Nations Transitional Administration in East Timor (UNTAET) after the departure of INTERFET. With only occasional movements through Baucau for UN force rotations, Cakung was supported from Comoro when needed, after 382 Expeditionary Combat Support Squadron returned home at the end of December 1999. The last members of 386 Expeditionary Combat Support Squadron left Dili on 23 March 2001, the RAAF presence at Comoro being marked by a plaque at the airport terminal unveiled one week earlier by Air Commodore Chris Beatty, who had assumed command of CSG when

Air Commodore Bruce Wood deployed to East Timor in December 1999 as the INTERFET Combined Air Component Commander.



Commander INTERFET, Major General Peter Cosgrove, addresses component staff at Obrigado Barracks, Dili, February 2000

(Air Commodore Bruce Wood (Combined Air Component Commander) to right)

(Author)

Numerous other combat support personnel served in East Timor outside of the formed CSG units. Apart from the Air Component Commander's staff in Headquarters INTERFET, Squadron Leader Guy Watson worked in the Force Communications Cell and Squadron Leader Greg Whalen with the Force engineers to integrate RAAF requirements into the overall Force development plan. Both worked on major INTERFET projects, not just Air Force projects, including the development of the local area network, extra communications capacity and a variety of construction projects, such as reinstating the Dili power supply, waste disposal, accommodation, helicopter parking and Bailey bridges in the Maliana region.²⁴ Wing Commanders Michael O'Donoghue and Andrew Ormsby, later Kym Palmer and Squadron Leader Ross Wadsworth, coordinated aeromedical evacuations, successfully collocating the two functions of immediate evacuation operations and regulating across the entire evacuation chain to provide a greater situational awareness within Headquarters INTERFET.²⁵ In somewhat of a complimentary gesture to Air Force catering expertise, Squadron Leader Rob Reidlinger became the senior catering

²⁴ Greg Whalen, email to the author, 29 November 2007.

²⁵ Wing Commander Ross Wadsworth, email to the author, 18 November 2007.

officer for INTERFET, working at the Force Logistic Support Group (FLSG) when fresh rations were introduced 21 days after the initial deployment. Warrant Officer Lewis Winders and a small team also worked in the FLSG from late 1999 to facilitate Air Force supply demands.

Additional firefighters with three Titan fire vehicles deployed from Australia to supplement 383 Expeditionary Combat Support Squadron at Baucau during August 2000 for several wide-bodied aircraft movements during UN force rotations. Two Security Police investigators served with the Army's Military Police on crime scene investigations, assisting to exhume bodies for further investigation and with interviews of suspected militia members. Military working dog teams served with Australian infantry battalions deployed to the western border regions near Maliana and Balibo during 2001 and 2002, employing the dog tracking skills developed with Airfield Defence Wing around air bases over the preceding decade. A number of other CSG specialist staff, ranging from cooks to electronics technicians, clerks, works supervisors and tradesmen, deployed to the Australian National Command Element (ASNCE) and other joint units.



Unidentified fitter of the CASG with maintenance vehicle in UN markings, Baucau, c. September 2000 – Baucau was activated from Dili after 382 Expeditionary Combat Support Squadron withdrew

(Neil Collie)

Medical staff from No 3 Combat Support Hospital, supplemented by other health units and the RAAF Reserve, worked in the multinational UN Hospital at Dili. No 3 Combat Support Hospital conducted a reconnaissance of the hospital in February 2000 and began their first deployments around the time of INTERFET's departure. Wing Commander Margaret Hine, Commanding Officer of 6 RAAF Hospital, was appointed to command the UN Hospital from August 2001 as her own unit prepared to disband under new outsourcing arrangements for Defence health services in Victoria. AME remained an enduring task for CSG in East Timor, even after the withdrawal of the majority of ADF forces.

AME was the normal means of evacuation due to the rugged terrain and poor accessibility by road, and close proximity across East Timor by air. Initially, under INTERFET and UNTAET, teams from the Expeditionary Combat Support Squadron Aeromedical Staging Facility conducted AME both to Australia in C-130 and within East Timor on Caribou and UN rotary wing and Army Black Hawk aircraft. The primary role of the AME teams, located variously over time from Comoro, the UN Hospital in Dili, the heliport and later back to Comoro, was to support the UN forces but a high percentage of their work was evacuation of East Timorese civilians.²⁶



CSG personnel served in a variety of roles with UNTAET, Dili, December 2000

(Neil Collie)

²⁶ Group Captain Tracy L. Smart, 'Humanitarian aeromedical evacuation support to Timor-Leste: a country in transition', in *ADF Health*, vol. 6, no. 1, April 2005, pp. 19–24. Numbers of East Timorese evacuated as a percentage of overall evacuations are quoted for various periods, all above 50 per cent and for some periods, above 70 per cent.

When East Timor gained self-government as the new country of Timor-Leste in May 2002, humanitarian assistance was removed from the UN mandate under UNMISSET, now with a role of support rather than being the governing authority.²⁷ Two AME teams remained, however, as part of the reduced ADF presence under Operation *Citadel* because of ethical concerns about the underdeveloped state of the new country's health infrastructure, which had all but collapsed during the strife in late 1999. From May 2004, the RAAF presence reduced to around 10 personnel under Operation *Spire*, mostly from the two AME teams working on UN-contracted helicopters and an AME operations officer in the Headquarters Peacekeeping Force (PKF).

On 2 June 2004, Squadron Leader Dave Leaf, medical officer, and Flight Lieutenant Sharon Cooper, nurse, were en route for the AME of a pregnant woman with birth complications when their UN-contracted Bell 212 helicopter crashed near the remote village of Same, in the south of Timor-Leste. Sharon Cooper suffered three fractures to her jaw and a compression fracture in her back and was evacuated to Dili by the second AME team, led by Squadron Leader Sharon Sykes. She was later evacuated home to Australia along with one of the helicopter aircrew who suffered a broken pelvis in the accident, and was able to return to work in five weeks. The pregnant woman was also evacuated to Dili by Syke's team but, unfortunately, her baby could not be saved.²⁸

Community aid to East Timor was the role of the UN and other non-government organisations, though the RAAF's contribution is worthy of mention. Initially, individuals and units did what little they could to help the East Timorese, usually by way of small handouts from combat ration packs (though the practice was officially discouraged) and occasional medical clinics (though the capacity was limited). Appeals run on RAAF Bases and by some units in Australia resulted in donations of large quantities of clothing, books and stationery to local schools in Dili and to an orphanage run by the Salesian Sisters near Comoro, which Chaplain Ross Naylor of 381 Expeditionary Combat Support Squadron had identified for special care. In a combined effort with Rotary and the Variety Club of Queensland, supplemented by cash donations collected at Amberley, Glenbrook, Tindal, Williams and Williamstown, Air Commodore Bruce Wood presented the grateful Sisters with a new minibus in February 2000. As the number of East Timorese returning to Dili grew, each squadron in turn expanded its efforts to help through cooked meals for homeless children, donations and charitable handouts and various special projects funded by profits out of unit social clubs, such as the construction of a small community hall in nearby Raikotu village by 386 Expeditionary Combat Support Squadron in February 2001.

²⁷ UNMISSET – United Nations Mission of Support in East Timor.

²⁸ *Air Force News*, vol. 46, no. 11, 1 July 2004, p. 3; and *Air Force*, vol. 48, no. 16, 16 November 2006, p. 6.



Meals for the needy, Dili, 2000 – Each of the CSG units in turn provided aid to the local community

(Neil Collie)

Another aspect of indirect support to the community was the employment of local civilians, some in menial tasks but others employed by the Comoro Air Support Group in more skilled jobs such as baggage handlers, aircraft refuellers, aircraft marshallers and firefighters. Although not formally trained or accredited, it was useful employment that provided badly needed income for a few, and developed some basic skills that would help in the rebuilding of East Timor.

The ADF withdrew completely from East Timor in June 2005, excepting a small presence under the umbrella of the Defence Cooperation Program. Although conditions in East Timor were declared 'non-warlike' from mid-August 2003, worsening law and order would see the ADF and CSG return to Timor-Leste in large numbers during May 2006. The success of INTERFET and the subsequent UN operations, to which CSG made a substantial contribution, was widely acclaimed in Australia and around the world. With little more than 12 months since the need for CSG was seriously questioned at the highest levels within Defence, an external perspective perhaps best sums up one important lesson for the RAAF and the ADF from the East Timor operation.

Dr Alan Ryan, in a Study Paper on the INTERFET operation written for the Australian Army's Land Warfare Studies Centre, emphasised the importance of viewing INTERFET as a joint operation. He noted that 'the challenging task of

commencing airfield operations from a standing start was only made possible because the Royal Australian Air Force had a readily deployable Combat Support Group' and concluded that 'the tenuous nature of the force's initial foothold in East Timor and the need to establish an airhead for continuous air operations reinforced the need for the Air Force to maintain the capabilities inherent in the Combat Support Group.'²⁹

²⁹ Alan Ryan, 'Primary Responsibilities and Primary Risks: Australian Defence Force Participation in the International Force East Timor', in *Land Warfare Studies Centre Study Paper No. 304*, Land Warfare Studies Centre, Duntroon, November 2000, p. 78, www.defence.gov.au/army/lwsc/Study_Papers.asp, accessed 4 September 2007.

CHAPTER 6

REMEDIAL ACTION

Combat Support Group (CSG) was not ready for East Timor. It was not meant to be ready. Manning levels, after all, were still just slightly above 50 per cent and the new Force Element Group's preparedness requirements, as reflected in the *Defence Annual Report* published immediately before the Operation *Warden* deployments, were 'running at a reduced level in recognition of its developing nature'.¹ Downsizing of numbers overall and the shape of the new CSG organisation gained most of the attention flowing from the Defence Reform Program (DRP) but East Timor highlighted the direction for further development and it provided a sense of urgency and an immediate impetus for increased funding. Most importantly, the operations in East Timor confirmed the need for CSG and its place on the Air Force order of battle.

The INTERFET deployment exposed many gaps in the CSG capability, some already known but others not so. Equipment shortfalls and unsuitability were perhaps the dominant lessons, or at least the easier ones to identify and address, but there were lessons on all fronts from personnel and administration to the structure, training, procedures and process. The most fundamental lesson, not captured as such but learned in any case, was a shift from the previous exercise mentality to an operations focus and a clear understanding of the potentially long periods of deployment that inferred.

The current organisation, with just three Expeditionary Combat Support Squadrons and one Airfield Defence Squadron, was not adequate to sustain the initial commitment of two airfields in East Timor beyond the first rotation and that meant either additional units were needed or the concept for operations had to be revised. Much of the equipment held too, suited for short-duration exercises or for the first few hectic weeks of an operational deployment, proved unsuitable for the lengthy deployment to East Timor. CSG held no accommodation beyond tents and few comforts beyond basic field showers, ablutions, laundry and the like; far from adequate for months in the field. Strategic communications lacked bandwidth and relied, at least to some extent, on commercial contracts in East Timor while the airfield navigation aids, quite suitable for use by aircraft en route, had never been planned or installed to meet the strict criteria required by aircraft in the terminal approach phase of flight.

¹ Department of Defence, *Defence Annual Report 1998–1999*, AusInfo, Canberra, p. 214.

The exercise mentality had also pervaded personnel in their individual readiness to deploy. A few of CSG's people had refused, on conscience, to deploy to the war in East Timor and were later subject to administrative action leading to their discharge from the Service. They had not fully considered their role as combatants until asked to deploy, and the Air Force had no mechanism in place to identify anyone who might object to a warlike deployment. In contrast, others clambered to deploy and, seemingly, would go to almost any length, some spitefully, to be part of Australia's first major deployment in their career span. Some personnel had not passed their annual health, fitness or weapon handling tests and many had not considered their personal financial, legal or similar domestic arrangements. Individuals generally were ill-prepared for a long-term deployment, as were their families for their absence. Individual readiness requirements, which had been slowly developing since the early 1990s, were quickly progressed and formalised. By mid-2000, everyone in the Air Force was required to meet strict criteria to qualify annually for the Operational Readiness Badge, an indication, and in some sense a declaration, of an individual's readiness to deploy.



**Prime mover on the Peninsular Development Road, Cape York, 2005 –
CSG gained extra funding for equipment after East Timor**

(No 1 Air Operations Support Squadron)

The East Timor operations justified the Air Force's combat support capability and it made any residual arguments on numbers much easier. The then Chief of Air Force, Air Marshal Errol McCormack, recently told me that 'it was not until then [East Timor] that we started to win arguments on the need for an initial deployment capability'.² Overall Air Force numbers expanded by 555 after the Government approved funding for additional personnel to meet the ongoing commitment to East Timor.³ No 383 Expeditionary Combat Support Squadron was raised as a new unit and 155 additional airfield defence guard (ADG) positions, equivalent to an airfield defence squadron, were added to Airfield Defence Wing across each of the two Reserve squadrons, Nos 1 and 3 Airfield Defence Squadrons becoming mixed permanent and Reserve units. Funding for the extra positions was temporary, however, for the duration of the East Timor commitment only and, at least for CSG, would prove largely a paper exercise.

The long lead time for recruiting and training, the reduced presence in East Timor after February 2000 and an overall manning shortfall meant that only a portion of the extra ADGs reached Airfield Defence Wing. Delays in outsourcing some of the functions identified by the DRP in turn delayed the transfer of personnel to CSG units and thus contributed to continued undermanning, while pressure within the Air Force to man emerging capabilities, such as the Airborne Early Warning and Control and the Multi Role Tanker Transport aircraft, made any allocations of extra manpower extremely competitive. While 383 Expeditionary Combat Support Squadron was formally established in June 2000 and completed a rotation to East Timor, it was manned temporarily from other units. By the time it was properly manned in January 2002, it had already been marked for disbandment in a move to simplify command arrangements on the main bases.

Despite the extra positions, discussions on further reductions continued, primarily as an offset to help fund the outsourcing program and the contracts being let for base services. The Defence service providers preferred an 'all-contracted' workforce, whereas the Air Force's case against further reductions was based in large part on overall savings to the Defence portfolio generated by the 'double use' of combat support personnel, in peacetime on the bases and for their primary role in deployed operations. Strengthened by the East Timor experience, it was a difficult case to argue against and further reductions were not carried through.⁴

² Air Marshal E.J. McCormack, AO, email to the author, 1 October 2007. Reference to 'initial deployment', in the terminology of the day, means as part of the Permanent Air Force rather than at much lower readiness levels in the Reserve or to be recruited and trained in the warning period for conflict.

³ Department of Defence, *Defence Annual Report 1999–2000*, AusInfo, Canberra, p. 18. Additional approved numbers for the ADF included 2000 for two infantry battalion groups for the Army and 555 for the Air Force, most for CSG.

⁴ Group Captain Chris Crowley, email to the author, 19 December 2007; and Wing Commander John Coughlan, email to the author, 4 April 2008. The majority of the additional 555 positions are distributed across CSG, a

The initial CSG concept for operations developed by Air Commodore Chris Beatty, appointed as the Commander in 2000, and his senior staff was a modular concept using the existing theoretical levels of capability to demonstrate how the lesser of the capabilities, a Level One deployment (similar in size to the units deployed to East Timor), could be deployed offshore indefinitely. His concept considered each Expeditionary Combat Support Squadron as two separate flights, each capable of deploying independently or together, effectively doubling the number of units for smaller deployments. A larger deployment, a Level Two or Three as needed at a bare base under a 'Defence of Australia' scenario, could be maintained indefinitely by rotating units, but only for a limited time in a one-off deployment in the case of multiple bases.⁵ In implementation, the concept included a rotational on-line roster to meet preparedness requirements and identified a need to incorporate a Reserve flight in each Expeditionary Combat Support Squadron. Indeed, Chris Beatty's intention was to raise and deploy a Reserve Expeditionary Combat Support Squadron to East Timor, though the need was negated by CSG's reduced presence there from late February 2000. Airfield Defence Wing was a limiting factor in any prolonged deployment where a security threat was posed, but with the anticipated additional manning across the two Reserve squadrons it could expand rapidly for surge operations. The concept assumed that at any one time for sustained operations, one Airfield Defence Squadron and an Expeditionary Combat Support Squadron would be deployed, another preparing to deploy and a third resting following deployment.

Chris Beatty's concept also aimed to provide a semblance of cohesion by addressing the wide dislocation of his units. While the original intention for CSG was to concentrate support staff at the three main bases of Williamtown, Amberley and Richmond, some specialisations, especially the communications operators and clerks, remained widely dispersed and others were slow to move because of the delays in outsourcing. The original double-heading concept of posting two people to each position in the Defence service provider groups to allow greater flexibility in their release for CSG duties had been largely ignored and was rejuvenated by Chris Beatty. The difficulty with the latter concept though, was that the service providers had no establishment tables. They simply used whatever personnel the Air Force provided and showed little interest in the CSG command arrangements as they considered that

number are within the Air Force Training Group to supplement the added training bill, while a small number are distributed elsewhere throughout the Air Force.

⁵ Air Commodore Chris Beatty, email to the author, 4 October 2007. There were two Level Two units (Nos 381 and 386 Expeditionary Combat Support Squadrons) and two Level One units (Nos 382 and 383 Expeditionary Combat Support Squadrons) at the time. The Level Two units were effectively considered as two units for rotation purposes, for support to limited offshore deployments. For larger deployments, one Level Two unit was required for each base, which meant that 382 and 383 Expeditionary Combat Support Squadrons (the Level One units) would combine for the third base.

the staff embedded in their contracts or providing services on their behalf belonged to them.

Changes to command in the early years of CSG, reflecting ongoing changes to the organisation, were frequent and the command arrangements sometimes contentious, particularly on the Bases with personnel working day to day in the Defence service provider groups. The move of Headquarters Combat Support Group in January 2000, from Glenbrook to Amberley, severed the staff links that had existed with Headquarters Air Command and cut the 'agency service' function from the group's roles, allowing the new Commander and his relocated headquarters staff to focus internally on command and development of their Force Element Group.⁶

A downside of the dislocation from Air Command was lost access to some Glenbrook-based specialist staff during a time when the Headquarters was severely restricted in capacity with just Chris Beatty and Wing Commander Ray Thomas as his Staff Officer Plans and Policy, dedicated to CSG specialist aspects. The move also caused some confusion for previously shared responsibilities, such as the personnel selection and staffing of East Timor rotations. Air Command, Air Force Headquarters and Headquarters Combat Support Group all claimed some responsibility for the task, which occasionally strained relationships. As Chris Beatty explained, everyone wanted to be involved in the East Timor rotations until things went wrong, as they frequently did, when CSG was held responsible.⁷

The manning of CSG deployments always invited interference, even after East Timor, largely because of the large number of specialisations involved. During Operations *Warden* and *Tanager*, the understaffing of the group's units meant that manning was required from across the Air Force and all levels of command had to be involved by necessity. When CSG's units were fully manned, however, from around mid-2002, selection of staff would logically have been a group responsibility, as it was for every other Force Element Group, but it was still several years before overlapping responsibilities were clarified. Even then, while manning of exercises attracted little interest outside of CSG, operations were too often directed on the number of people to be provided, sometimes even by rank, rather than the required outcome or effect to be achieved within stated limitations.

No 396 Combat Support Wing formed on 20 November 2000 to command the northern bases of Darwin and Townsville, plus 324 Combat Support Squadron at Butterworth and routine maintenance of the three bare bases. While the northern

⁶ Air Force Organisation Directive 9/99 – Relocation and Reorganisation of Headquarters Combat Support Group, 15 October 1999. CSG had provided financial, personnel, logistic and other planning and staff support to Headquarters Air Command from formation in 1998. The functions were those previously provided by the Chief of Support, from which Headquarters Combat Support Group was initially formed.

⁷ Beatty email, 4 October 2007.

bases, like every other RAAF Base except Tindal, were subject to outsourcing and the Defence service provider groups had responsibility for base and domestic services, the large uniformed presence in the north agreed under 'Defence of Australia' scenarios was clearly justified by the East Timor experience. The relatively small local populations in the north simply could not support a rapid expansion of base services under the contract system. The mounting base and logistic support base roles of the northern bases, one that was acknowledged as critical to any regional deployment following the East Timor operations, also gave 396 Combat Support Wing an immediate purpose.

Command of the southern bases changed again too, the fourth such change in just five years, back to the resident Force Element Group commander rather than to the Commander Combat Support Group. Greater emphasis was given to the Base Commander title in lieu of the confusing Combat Support Force unit titles which were dropped in favour of Combat Support Units. Though the too frequent changes of command for the Base Commanders are indicative of the uncertainty surrounding their role and that of Commander Combat Support Group on the fixed bases, there were few workable options available in 2000.⁸

With just a small headquarters, CSG's operational and administrative tempo was high; other commitments on top of the East Timor deployments were growing, base support was still being shaped and a significant development task lay ahead. Later, in 2002 with a much larger headquarters, including a recently established Chief of Staff position, and the need for ongoing negotiations with the Defence service providers at a national level, the Base Commanders again reverted to Commander Combat Support Group. But in 2000, CSG had no spare capacity to devote to the fixed bases.

A proposal by the Defence service provider groups in 2000 caused the Air Force to look more closely at the internal command arrangements on the bases. Joint organisations for delivery of services on the bases had been raised earlier and gained initial endorsement by the three Service Chiefs. The new proposal, however, submitted by way of a draft Defence Instruction for the Chief of the Defence Force's signature, was more ambitious and sought to take command of all personnel employed on base duties, essentially all of CSG's Expeditionary Combat Support Squadron personnel, under joint military commanders.

⁸ The Base Commanders initially reported to Commander Combat Support Group, when the Group formed in 1998. Previously, they had reported directly to the Air Commander Australia and then to the 'resident' Force Element Group Commander from 1996.



Leading Aircraftmen Bevan Gillam (right) and Mark Fellows (centre) build a hardened command post, High Range, Townsville, 2004 – Command for the home bases changed four times in five years

(No 1 Air Operations Support Squadron)

The Chief of Air Force (CAF) rejected the proposal for fear of losing control of a major part of his operational force. Existing arrangements, with all personnel posted to a formed RAAF unit, expeditionary or otherwise, had served the Air Force well for operations but in the workplace on the bases, when CAF looked closely, he found a muddle.

The distinction between deployable and non-deployable positions was considered absolute in the workplace, even for people working in the same section. In some flights and sections there were two or three different chains of command, the deployable personnel under one or more of the Expeditionary Combat Support Squadrons and the non-deployable under the Base Commander. The confused arrangements in the workplace were further exacerbated by the Base Commanders' relationship with the resident Force Element Group Commander, a different chain to their CSG peers. Different standards and routines were applied within the same section, especially for fitness and weapons training, field work and availability for deployments. Further complicating command in the workplace were the Defence service providers who supervised most sections, or at least were responsible for their output, and thus,

by default, controlled the workforce and had some claim to command them, albeit unofficial and with no legal authority.

Air Marshal Angus Houston, as the newly appointed CAF, witnessed the chaotic arrangements when he visited Williamtown in mid-2001 with the Head of Defence Corporate Services following a Defence-wide review of the new arrangements by Air Vice-Marshal Frank Cox (Retd) and Mr Tom Sherman. Not surprisingly, CAF found that morale had suffered, particularly for the people in non-deployable positions. He immediately directed that unity of command be achieved on a geographic basis, on the principle of 'one base, one commander'. The difficulty, as it had long been with combat support since well before CSG formed, was to differentiate between the home base and expeditionary roles.



Ground support equipment fitters, (from left) Corporal Kim Wells and Sergeants Shane Garcia and Terry Cooney, atop new air conditioners, Singleton, 2004 – All support positions were considered deployable from 2002, resolving confusion in the workplace

(Health Services Wing)

The change to geographic command had numerous effects on the organisation. Firstly, the collocation of peacetime and wartime positions, or the concentration of personnel at their expeditionary unit base, was accelerated. The more immediate effect was to cease the rather nonsensical distinction between deployable and non-deployable positions on the bases, or IDF (Initial Deployment Force) and SMS (Specialist Military Skills) as they were labelled. Every member of CSG on the three Expeditionary Combat Support Squadron home bases would henceforth be

considered as part of the deployment force and, apart from a small support staff for the Base Commander, be posted to the expeditionary units. All support staff on the other bases not posted to an expeditionary unit, including the northern bases, would be considered as part of a larger pool available for deployments.

Another, more prevailing effect was to widen the focus of CSG with responsibility now including the major fixed bases and not just expeditionary operations. The East Timor deployments had demonstrated the importance of the home bases during operations and the critical nature of CSG's support to the bases. Even though the Defence service providers were charged with providing base services, they did so mostly with CSG personnel who could not easily be replaced when they were deployed. Airfield firefighters, for example, medical staff and other airfield specialists are simply not available in the community for backfill when CSG personnel deploy.

While CSG had always drawn personnel from a number of bases for deployments, by necessity due to shortages, now ongoing support to the bases was integral to the operations planning process. The Base Commanders, whose positions had dropped in rank to wing commander with the overall reductions in Air Force numbers, also developed contingency plans, to manage any decrease in services caused by a deployment, such as restricting airfield operating hours and combining or closing kitchens.

The change of responsibility for CSG, marked by the return of the Base Commanders, made sense this time, especially if the Air Force was to maintain its claim for command of the bases. Not just for unity of command but also for the standardisation of base procedures, an important consideration for the Air Force with its inherent mobility and constant transit of aircraft between bases, and one that had been overlooked in previous deliberations on base command. The change also coincided with the formation of Air Combat Group in January 2002, which heralded a new way of thinking for the Force Element Group Commanders as they no longer had a clear geographic relationship with any one particular base.⁹

The new arrangements under CSG also allowed a unified approach to developing formal agreements, known as Customer Service Agreements (CSA), with the Defence service providers, the first of which was signed during 2002. The Customer Service Agreements would eventually detail the services to be provided for each base, performance indicators and, of equal importance, the command relationships and

⁹ The Air Combat Group, combining the former Tactical Fighter and Strike Reconnaissance Groups, had squadrons located at Williamtown, Amberley, Tindal and Pearce. Later changes to Surveillance and Response Group, Aerospace Operational Support Group and dispersal of Air Lift Group would see the other Force Element Groups similarly spread across several bases.

administrative issues, such as the division of time between training for operations and base duties for CSG personnel when they were not deployed.¹⁰

Geographic command saw an end to the strict divisions in the workforce, borne largely of a personnel system required to justify and account for every Air Force position. Delineation remained at the unit commander level with Base Commanders and the Expeditionary Combat Support Squadron commanding officers reporting through different chains within CSG. In the longer term, 383 Expeditionary Combat Support Squadron was disbanded to allow for a single expeditionary squadron at Amberley, the personnel being transferred to the collocated 382 Squadron and, less so, to the other expeditionary units.

Another major change to the CSG organisation in 2001 was the transfer of the hospital, 3 Combat Support Hospital, from 395 Expeditionary Combat Support Wing to Health Services Wing. Formed in December, the reasoning behind Health Services Wing was not related to lessons learned on recent operations in East Timor but rather to overcome the fragmented command and management arrangements that had applied to the health capability following the DRP.¹¹ The major health capability was the Air Transportable Hospital (ATH) based on 3 Combat Support Hospital at Richmond, while the two Health Services Flights at Amberley and Williamtown were formed as squadrons, Nos 1 and 2 Air Transportable Health Squadrons respectively. The Health Service Flights on the northern bases were restructured as Air Transportable Health Flights but initially remained under their extant command arrangements, rather than transferring to Health Services Wing.¹² Later, in 2005 after an extended period of high operational activity for Health personnel, the latter flights were also transferred to Health Services Wing.

The Air Transportable Hospital, still under development in 2001, was a major beneficiary of equipment purchased under the East Timor Remediation Project. The scope of the project was very broad and the initial time line tight. With no development plan for the CSG capability, the deficiency list had to be raised from scratch, a business case written and carried forward for approval by the Chief of Air Force Advisory Committee (CAFAC), and then orders had to be placed through the Defence Materiel Organisation. As Chris Beatty explained 'we had to spend \$80 mil

¹⁰ Air Force Organisation Directive 7/01 – Revised Command and Management Structures and Arrangements for Air Force Personnel, 7 December 2001.

¹¹ Management of the Air Force expeditionary health capability had largely been ignored under the Defence Health Services Branch, which had centralised control of joint health following the DRP.

¹² Air Force Organisation Directive 8/01 – Formation of Health Services Wing and Adjustment of Air Force Health Establishment Across the Australian Defence Organisation, 18 December 2001.

by (the end of financial year) 2001, so identifying deficiencies and placing orders under an extremely tight schedule became a major priority'.¹³



The Air Transportable Hospital was a major beneficiary of the remediation projects, Singleton, 2004

(Health Services Wing)

The deficiency list was extensive, ranging from vehicles, weapons, field equipment, airfield engineering plant, some base facilities improvements, and much more. Wing Commander Bob Coopes was given charge of the project and worked tirelessly for several years in building CSG's equipment holdings. In the absence of any plan to take the group forward, he and a small project team, mostly Reservists, identified the deficiencies from the bottom up, starting at the unit level.

Containerisation and portability, for ease of transportation, became a priority for the new equipment. One aspect from East Timor that everyone in CSG remembered well was the equipment deployed by the Army Engineers (21st Construction Squadron), which included shipping containers fitted out as office space and sullage tanks for laundry and ablutions. The RNZAF was similarly well equipped with a septic system and concrete floors in their tents and showers, although the RNZAF had no limitations on their deployment as they withheld some of their aircraft from INTERFET use until their units were fully self-deployed.

¹³ Beatty email, 4 October 2007.



The East Timor remediation projects delivered an extensive range of airfield engineering plant and vehicles, c. 2004

(No 1 Air Operations Support Squadron)

A variety of septic and sullage systems were high on Bob Coopes' list, including a sullage truck, which was soon deployed for wider ADF use. Containerised ablutions, showers and laundry were purchased for the Air Transportable Hospital, along with power and water reticulation systems and other ancillary equipment. Engineering plant and vehicles, from rollers and tippers to backhoes and large bulldozers, concreting plants (one truck-mounted), vehicles fitted out specific to trade (or 'fun' trucks as they were called) and other equipment made the airfield engineers'

holdings very impressive, particularly when compared to the rather paltry equipment holdings before East Timor. Prime movers and trailers were purchased to transport the plant and other trailers for more general cargo. While CSG was not meant to be self-deployable, it had previously held just one prime mover (a hand-down from the former Stores Depots' truck fleets and known affectionately by 1 Combat Logistics Squadron as 'Mad Max') and a number of Mercedes Unimog medium-sized trucks, the new self-lift capability was certainly not unwarranted. The trucks simplified movement to exercise areas and bare base exercises where transportation costs had traditionally been prohibitive and frequently reduced the scope of CSG training opportunities, and they would be indispensable for 'Defence of Australia' scenarios, still the ADF's force structure determinant.

The Deployable Aircraft Maintenance and Logistics Shelter (DAMALSH), not quite large enough to hangar normal sized aircraft as the name might imply but versatile nonetheless, and the Military Shelter System (MSS) purchased under the remediation project, offered a significant step-up from the standard ADF marquee and tent holdings.¹⁴ Both are multipurpose shelters able to be erected within days depending on the floor and site, and are used variously as a warehouse, operations rooms, accommodation, fitness centre or similar functions. Both would be deployed, in time, to Baghdad, Afghanistan and elsewhere, though initial safety concerns slowed their service release by around two years after one of the shelters collapsed on a trial construction at Richmond, requiring the supplier to rectify a number of faults under occupational health and safety regulations. Base-X tents, air-conditioned for special purposes such as medical wards or operations rooms and slightly larger than the standard (11 x 11) tents, were initially purchased as an urgent need under a rapid acquisition project for the Middle East deployments in 2003, with more purchased in later years to replace the Trelleborg inflatable tents used by the health squadrons.¹⁵

The range of vehicles purchased under the remediation project was extensive, from light trucks and wagon troop carriers to refurbishment of the ambulance buses used extensively during the war in Vietnam era to transfer patients to and from aeromedical evacuation (AME) flights. The refurbished ambulance bus would later prove its worth at RAAF Darwin during the AME operations following the Bali bombings in 2002 and 2005. Additional stores, to equip each of the Expeditionary Combat Support Squadrons for their initial deployment needs and to update the caches

¹⁴ The DAMALSH and MSS names were devised by the remediation project team.

¹⁵ The version of the Base-X tents known as ATRS (Australian Temperature Regulated Shelter), purchased under rapid acquisition, were held centrally by the Joint Logistics Command, with only a few held by 1 Combat Logistics Squadron. They (and other centrally held equipment, such as night vision equipment) were rarely used until included in the 395 Expeditionary Combat Support Wing training program from 2004. They proved very popular and, after more were purchased for a deployable intelligence centre for Air Command in 2005, soon became common items in CSG.

held on each of the bare bases, were also purchased. Three deployable information systems significantly upgraded the existing small deployable network and provided the added bonus of a much improved telephone system using voice over the internet protocols. The information systems project was later moved on from CSG when it was appropriately combined with the much larger joint project for all ADF deployable computer networks.

Portable accommodation buildings bought originally for expeditionary purposes, an air movements and medical sections, and associated cabling, wiring and plumbing were erected at Learmonth by 1 Combat Logistics Squadron during 2003–04, while funding was allocated for minor improvements at some of the main bases and the other bare bases.¹⁶ The buildings erected at Learmonth, called ITSA (insulated tropical shed accommodation), were purchased to be stored until needed and were ideal for Learmonth which, despite recent upgrades, still lacked accommodation. The concept of holding buildings such as the ITSA in store awaiting a deployment was replaced by a ‘purchase or lease when needed’ concept. The remaining ITSA were in high demand and were eventually deployed to the Solomon Islands as accommodation for Operation *Anode* personnel, not to be returned to Australia.



**Bare base caches were upgraded and needed protection from the weather,
Exercise *Remote Trek*, 1998**

(No 1 Air Operations Support Squadron)

¹⁶ Facilities improvements on the main bases included armoury works, building works for unit headquarters, hardstanding and parking areas for the new vehicles, cabling for information technology (IT) and the like.

Small arms ranges on a number of RAAF bases were also upgraded under a Defence project with Air Force funding and a range was scoped for Scherger, though works never proceeded. Modern small arms range simulators, known as the Weapons Training Simulation System (WTSS, pronounced 'wets') were installed at Amberley and Williamtown with plans for another at Edinburgh. While the ranges and the WTSS were joint projects managed by Defence rather than Air Force, the RAAF funded them and the CSG remediation team supplied 'hands-on' management to minimise delays in their completion.¹⁷

The remediation project and the projects that followed on provided the Air Force with a desperately needed upgrade to its combat support equipment for the operation of forward air bases. In retrospect, the extra equipment should have been ordered when CSG was formed in 1998, if not earlier. The East Timor experience aside, at least some of the deficiencies were recognised earlier and were occasionally discussed at various tutorials and exercises over the years but there was no formal development process to capture them, no development staff to progress them and funding for CSG equipment was limited, other than that provided through joint Defence projects. The remediation funding was additional, provided by the Government specifically to address shortages arising from East Timor. The follow-on projects, which in cost terms were not dissimilar to the remediation project, were funded by the Air Force, perhaps indirectly out of funds made available to the Services from savings generated by the DRP.¹⁸

In just a few years (much of the equipment was in service by 2002) CSG's equipment holdings had been completely modernised. The remediation project and those that followed were undoubtedly the most significant investments the RAAF had made during peacetime in its forward airfield support equipment. The projects were not without their difficulties but most were quite easily overcome. Initially, personal equipment, such as packs and lightweight sleeping-bags bought under the project, were issued to CSG personnel only, causing some discontent among the other Force Element Groups whose personnel had just as much need. A similar situation had existed before the East Timor deployments when personal items purchased by 1 Combat Logistics Squadron had a very limited distribution to just a few CSG personnel. Eventually, the funding and scaling of personal issue items were controlled centrally by Air Force Headquarters and all Air Force personnel received the same equipment.

¹⁷ Many of the Air Force small arms ranges were aged and had their licences withdrawn during 2001–02. The flow-on effect was lowered individual readiness levels across Air Command because alternative ranges for weapons training were more difficult to access.

¹⁸ It is difficult to say that the Air Force funding of CSG came from DRP-generated savings but certainly the objective of the DRP, to transfer funds to operational areas, was met and funds for CSG equipment were more readily available.



Unidentified tradesmen aloft on military shelter, Kandahar, Afghanistan, 2007 – Concerns over occupational health and safety regulations delayed the delivery of the military shelters

(No 1 Air Operations Support Squadron)

Another difficulty lay with the vehicles, which were commercial, off-the-shelf items and were thus maintained and supported commercially. This lack of in-house support, which meant that the CSG fitters were neither trained, qualified nor allowed under warranty constraints to maintain them and that spare parts were not available through the Defence supply system, limited their deployment area to essentially within Australia, or at least to within close proximity of appropriate commercial support. In reality though, short of major conflict offshore, CSG already held adequate military vehicles for its immediate operational deployment needs. Other than the specialist vehicles, which were desperately needed, the new vehicles were used mainly for training and exercises while the existing tactical vehicles were deployed. An acceptable degree of risk was also expected should any of the specialised vehicles, such as the engineering plant, need to deploy overseas.

Military specification (as distinct from commercial) vehicles were simply not an option for CSG because the overall numbers ordered did not warrant any

manufacturer opening a special production run. Besides, a joint project was already planned to update the tactical vehicles, though it would take at least a decade before any would be delivered to CSG's units. Allowance for through-life-support, such as funding of ongoing maintenance, spares, upgrades and the like, was another aspect of the initial equipment purchases that fell short, though it was picked up quickly by the formal development and capability management process that had begun to mature by 2002.

The capability management system adopted by the RAAF was itself a legacy of the major Defence reforms and the accrual-based outcomes framework required for government reporting from 1998. The ADF's combat capability, for management purposes, was broken down into 19 broad areas or outputs, such as the capability for tactical fighter operations, airlift operations and the capability for operational support of air operations, known within Air Force as 'Flexible Combat Support'.¹⁹ The previous management system, before CSG and the Defence reforms and, of course, before East Timor, had largely overlooked combat support or at least had relegated it to a secondary tier of management. The other Force Element Groups had been managed through a Weapon System Master Plan for some years, principally a plan for management of the groups' weapon platforms (aircraft), whereas CSG's predecessor had no master development plan. Even the bases, apart from one or two possible exceptions, had no master plan for base infrastructure development, let alone a master plan for developing the expeditionary capability which was managed in an uncoordinated manner by various staffs. Now, under the Capability Management System, a dedicated staff in Air Force Headquarters managed the strategic and long-term planning while the Commander Combat Support Group acted as owner of the capability with his headquarters conducting the more immediate capability planning.

The two master documents for capability planning, the Capability Plan (Air Force Headquarters) and the Weapon System Plan (CSG) concentrated initially on establishing the process, capturing the existing capability and highlighting the more immediate development needs. Both of the initial development plans were written by the author (with much appreciated help from his staff) on successive postings in 2001–02, although the solid work in establishing CSG's equipment capability was already done by Bob Coopes and his remediation team. The formal process, however, for the ongoing development of all aspects of CSG, not just equipment, was a major

¹⁹ Department of Defence, *Defence Annual Report 1997–1998*, AusInfo, Canberra, pp. 4–7. The management and reporting structure was later altered to outcomes (each Service and other strategic capabilities) and outputs (as a subset of each outcome). Combat support of air operations became one of the four outputs of the Air Force outcome.

step forward and ensured a considered and deliberate approach to what was now being widely acknowledged as a fundamental capability for the Air Force.²⁰

A number of factors contributed to the growing awareness of CSG's capability and its impact on overall Air Force capability. Undoubtedly, the operations in East Timor, and other operations that followed soon after, were a major factor, as were the changes in strategic management practice that raised CSG, in reporting and management terms, as an outcome that had to be reported to government and thus managed carefully. The ongoing turmoil from the earlier Defence reforms also ensured a continuing focus on CSG, especially so given those reforms affected the group almost exclusively among the RAAF Force Element Groups. Not that combat support consumed Air Force thinking; to the contrary, it remained a relatively easy capability to manage in comparison to the other Force Element Groups, which were technically complex, long lead, high cost and varied if not as broad as CSG. But certainly there was a growing awareness across the Air Force of the CSG capability and the dependence on it, reflected in a number of initiatives and decisions taken from 2001 onward, including the introduction of airworthiness certification, a new reporting system and some lesser changes to the organisation and command arrangements.

Historically, airworthiness certification was the realm of aircraft, to maintain a regulatory framework and to prove the technical airworthiness of each type in service. Periodic reviews of technical aspects, such as the engineering design, maintenance procedures and quality assurance, ensure the particular aircraft type is safe to fly. For CSG, the airworthiness process started with the airfield radios and navigation aids maintained by 1 Combat Communications Squadron and was included as part of the annual review for 44 Wing from around 2002. With the introduction into service of modern deployable tactical radar and a transportable tactical landing system, the navigation aids were becoming increasingly complex and required separate certification and detailed planning before they could be used by aircraft.²¹

A comprehensive review by the Aviation Capability Improvement Team (ACIT) of main base infrastructure during 2003–04, or at least that infrastructure directly affecting aircraft safety, such as arrestor systems, runway surfaces and emergency response services, some of which was deteriorating under the new contracted

²⁰ One of the difficulties for CSG equipment management is that, unlike the other Force Element Groups, it has to deal with a multitude of agencies within the Defence Materiel Organisation (DMO). Much of CSG's equipment is also common (to Army), making the group a minor customer for DMO. The two management plans cover aspects such as the organisation, training, funding, research priorities and the Base Master Plans, managed separately by each base.

²¹ The old radar was unreliable, maintenance intensive and rarely deployed away from the Sydney area. The new radar, introduced in 2004–05, was purchased as part of a tactical air defence radar project. The transportable tactical landing system (TTLS) is a microwave landing system developed for the US Marine Corps and was first considered by the RAAF during the deployment to East Timor in 1999, but it was not in service until 2003.

arrangements on the bases, led to the inaugural airworthiness board for air base support services in late 2004.²² Initially concerned with main base and non-expeditionary services only, the process was expected to extend eventually to all of the CSG-provided services and flow to combat support training. While not involving the airworthiness of an aircraft type, application of the process to combat support equipment and more widely to air bases, recognised that a failure on the ground can equally contribute to an aircraft or mission failure.



Unloading C-130, Exercise Northern Station, 2004 – CSG airworthiness certification was initially limited to airfield communications and navigation aids

(No 1 Air Operations Support Squadron)

The Air Force Capability Evaluation and Reporting Tool (AFCERT) aimed to assess the overall impact of deficiencies through computer-based modelling. The existing paper-based system, which would run in parallel to AFCERT, was far less comprehensive and strictly subjective. Whereas in the past, aircraft serviceability and aircrew availability were too often considered the best measures of Air Force combat readiness, now all of the elements that contribute to capability were recognised.

²² ACIT was an independent joint team reporting directly to the Chief of Air Force on ADF aviation issues.

Thus CSG's ability to provide cooks, air load teams, airfield defence guards, ground communications systems or technicians, medical staff and any other of the support elements would contribute to the measure of overall air combat capability, although AFCERT would take several years to develop as the data needed to be captured and the system populated. Nonetheless, inclusion of CSG with the introduction of AFCERT highlighted the understanding that had developed within the Air Force of all of the contributors to the air combat capability.

Training and doctrine were two other aspects that gained particular attention. Training Command, on the direction of the Chief of Air Force Advisory Committee in 2001, commenced a comprehensive review to identify the skill sets required by CSG. In turn, they were to be applied to initial and postgraduate training course curricula to satisfy CSG's training needs. Over the years, initial training had become more heavily influenced by the main base requirements rather than the expeditionary needs. While there was much in common, the delta was still quite large and became a liability for CSG.

Unlike the other Force Element Groups, CSG has no operational training unit other than for medical, and its units bore the responsibility of training new personnel on group-specific requirements, such as base command post procedures, reporting and radio procedures, deployment equipment, vehicle licensing and even air base doctrine and basic procedures applied daily on operations.²³ In some instances, proactive mustering sponsors initiated a rewrite of the skills required with an expeditionary focus for their particular specialisation, but much of the operational training for forward air bases would continue to fall on CSG's wings and units. Some formal courses had already been developed, mostly by the wings and conducted in-house, for airfield survey, field catering and the Executive Officers Course, but the real need was more fundamental. For CSG's part, Squadron Leader Sonja Halloran and Cameron Neill after her, as the group training officer, developed a career training path to identify the formal qualifications needed by each specialisation as they progressed through the group.

Doctrine for forward operating bases was a longstanding void that badly needed to be filled. CSG had its procedures and had adopted principles which were taught on Combat Support Executive Officers Courses developed and conducted as a formal course by 395 Expeditionary Combat Support Wing since 1998, on various tutorial exercises and on operations and other courses for ground defence officers, but there was no agreed or published joint doctrine for air bases.²⁴ Ground defence doctrine

²³ The medical training unit, Operational Health Support and Training Flight (OHS&TF), was a flight of 3 Combat Support Hospital. A proposal for a CSG operational conversion unit was rejected by the Chief of Air Force Advisory Committee in favour of Training Command reviewing its relevant course content.

²⁴ RAAF procedures were published in various documents, including the ground defence concept and air base security procedures in RAAF publications, base emergency plans, old standard operating procedures and the

for the air base was agreed but it was published as RAAF doctrine, as were security procedures, and neither were well known in the joint environment. Besides, in the age of terrorism and the rising asymmetric threat, the Air Force had adopted a new 'Force Protection' concept but had not yet developed the matching doctrine and procedures.²⁵

The problem, or at least the genuine concern, was that too often on joint operations the operational level planners and the deployed joint force commander, who ultimately commanded the combat support element, had no previous exposure to CSG or, indeed, to a forward air base. Their ignorance of the unpublished air base doctrine and the procedures to apply, through no fault of their own, all too frequently resulted in less than optimal arrangements for command, security, airfield safety and other basic aspects that made the task of the deployed combat support units unnecessarily difficult.



**ADGs on security duty, Baghdad International Airport, June 2003 –
Joint doctrine for airfields was a major void for CSG**

(Ian Browning)

like, but the Joint Service Publications for ADF doctrine made no reference to air bases.

²⁵ A Force Protection study, undertaken by Group Captain Graham Longbottom for Air Force Headquarters in 2000, outlined the broad principles and concepts which were to be developed further by CSG.

For the major exercises on the bare bases and at Tindal or Darwin, established procedures worked well but they rarely involved other than Air Force units and the planning involved CSG wings in the detail. Even on lesser airfields in Shoalwater Bay and elsewhere for the *Crocodile* and *Talisman Sabre* series of exercises in an Army-dominated land environment, air base procedures were generally applied and worked well, but for joint operations the forward airfields were too often poorly planned or hardly even considered.

During Operation *Anode* in the Solomon Islands, no single commander was appointed for the airfield at Honiara, which was considered by the planners more as a battalion administration area rather than an airfield, resulting in poor access control, poor allocation of unit locations and compromises of airfield safety. On some occasions when a base commander was designated in the joint force plans, usually in the administrative and not the operations plan, the appointment held little authority or responsibilities for the airfield were ill defined and boundaries for security and protection were vague. Air Commodore Stew Cameron, when appointed as the Commander Combat Support Group from mid-2001, was well aware of the implications of a lack of doctrine and quickly gained approval for its inclusion in the Joint Service series of doctrinal publications.

Stew Cameron's appointment marked a significant step in CSG's development as he was the first 'home-grown' commander, having served in East Timor and beforehand as a Base Commander. The previous Commanders of Combat Support Group (and of its predecessor, Operational Support Group) had no prior postings to the Force Element Group and all were aircrew officers. Stew Cameron was a logistics officer, as were his two successors, Air Commodores Andy Kilgour and Mark Gower, who both also had previous CSG or air base experience. One of the aims of the first Commander, Air Commodore Bruce Wood, when he was first engaged on the future structure of CSG was to ensure that the group 'had a balanced pyramid to give all combat support personnel, regardless of their specialisation, a career path from the bottom to the top'. 'That is', he told me, 'that [he believed] that the Commander Combat Support Group should be a combat support specialist and not just another one-star appointment for General Duties officers.'²⁶

Certainly, there is no doubt that prior experience of the 'home-grown' commanders helped. That is not to say that the other commanders were not equal at their task. To the contrary, they were all exceptional commanders, each bringing a wealth of operational experience and a welcome fresh view to CSG. No doubt, a number of officers of various categories could excel in the role, but Bruce Wood's point is valid. A visible career path to the top is a huge incentive for all of the officers in CSG.

²⁶ Air Commodore Bruce Wood, email to the author, 6 October 2007.

The combat support specialist notion can equally be applied more broadly to CSG, not just to the Commander's position. While most of the 'other rank' positions are already specialised by their nature, and there are only a few positions outside of CSG such that the combat support airman and airwoman's career path is well defined with most able to aspire to the top rank of warrant officer, the same cannot be said for the officers.

Career paths, particularly but not only at the rank of squadron leader and above, are varied with CSG just one of the multiple of options available. Yet, arguably, the most demanding posts in CSG are the command positions at squadron leader and above that fill the expeditionary command role, sometimes under warlike circumstances. They require a broad but detailed commander's knowledge of each of the CSG specialisations and a situational awareness of the air base and their area of responsibility to interact equally with other ground forces and air combat forces. They also fill the key staff positions in the headquarters at the tactical, operational and strategic levels, deployable and stay-at-home, where a lack of experience and knowledge of combat support can impact the mission as much as an unaware commander in the field. Fortunately, with time, the experience of CSG's junior commanders and staff officers has grown considerably and will continue to do so, though that has not always been the case.

Much of the more recent experience gained by CSG personnel has come from warlike operations in East Timor and later in the Middle East, and on disaster relief missions. During 2000–01, the operations that involved CSG, apart from the ongoing presence in East Timor and Bougainville, were *Plumbob*, *Gold* and *Relax*.

Operation *Plumbob*, in July 2000, saw air load teams of the Air Terminal Squadron deploy to Honiara in support of the C-130 phase of the evacuation of Australian nationals after unrest in the Solomon Islands.²⁷ Operation *Gold*, later that year, provided ADF support to the Sydney 2000 Olympic and Paralympic Games, with CSG's role being fixed base support in the Sydney area, and security provided by 3 Airfield Defence Squadron at Richmond and at Moorebank for Army helicopters. Operation *Relax* was an ocean surveillance and border protection activity conducted by RAAF AP-3Cs, among other ADF assets, from early September 2001 to address the increasing number of unauthorised arrivals from the north and west. No 381 Expeditionary Combat Support Squadron activated the bare base Learmonth for the AP-3Cs, which later operated out of Darwin. It was the first activation of Learmonth for several years as routine exercise activity had moved to Curtin and Scherger.

In 2002, after 92 Wing moved their operations to Darwin, a Rifle Flight of 3 Airfield Defence Squadron provided protection for naval boarding parties at sea, operating

²⁷ Evacuations were also conducted by the RAN ship, HMAS *Tobruk*.

against foreign fishing vessels and suspected illegal entry vessels (SIEVs). In 2007, by which time *Relax* had been consolidated into Operation *Resolute*, a 2 Airfield Defence Squadron Rifle Flight joined by a small medical team from 3 Combat Support Hospital performed the same role and were part of the first SIEV boarding that needed security support in three years.²⁸ Learmonth was again activated by 381 Expeditionary Combat Support Squadron at very short notice during December 2008 as AP-3C support to Operation *Resolute* was ramped up.

Guardian was another domestic operation, in support of the Commonwealth Heads of Government Meeting (CHOGM), with base support provided to air defence operations and security assistance provided by 2 Airfield Defence Squadron at various venues, in concert with Army units and the Queensland Police. CHOGM was originally scheduled for October 2001 but was postponed for several months after the momentous events in the US on 11 September, which starkly marked a changed world environment and the commencement of a new era of operational deployments for the ADF.

With nearly 3000 deaths suffered in coordinated terrorist attacks on buildings in New York and Washington DC, September 11 was a defining moment for the world with effects that would be felt for many years. The attacks changed Australia's strategic environment and resulted in the ADF's inclusion in a US-led coalition of international forces in a war on terrorism.

The ADF tempo of operations increased almost immediately, taking on a more complex nature, often at the higher end of the spectrum than previous operations. For CSG too, the new phase of operations would be complex, conducted over long lines of communication and it would not mean an easing of existing commitments or put a stop to new conflicts and disasters arising in Australia's nearer region.

²⁸ *Air Force*, vol. 49, no. 11, 28 June 2007, p. 7. The Air Force team on Operation *Resolute* was formally known as Transit Security Element 44 (TSE 44).

CHAPTER 7

BUILDING A LEGACY

Responding to the September 11 terrorist attacks in the US, Prime Minister John Howard invoked the ANZUS Treaty for the first time in its history. Under Article IV of the treaty both parties could undertake joint action in response to an attack on the territory of either country. In October, the Government announced Australia's participation in a US-led international coalition against terrorism aimed to defeat those responsible for the attacks.

Australia's initial commitment to the war on terrorism, known as Operation *Slipper* by the ADF, was a Special Forces contingent to Afghanistan, naval forces and, for the Air Force, F/A-18 Hornets for air defence, AP-3C Orion aircraft for maritime reconnaissance and KB-707 tankers for aerial refuelling tasks. While not all would deploy to Afghanistan and the combat support forces accompanying the early Air Force contingents would be minimal, Australia's initial commitment marked the start of a prolonged period of operational deployments to the Middle East for Combat Support Group (CSG), and it would not be limited to the war on terrorism.

Security on the home bases had already changed, with higher alert states adopted immediately after the attacks in the US and maintained at levels normally, at least in recent times, only encountered during base security exercises. Operation *Safe Base* replaced *Weathercock* as the protective security alert system for the bases. Even though *Weathercock* had served the ADF well for at least two decades, it had to be adapted to reflect the changed security environment and was quickly rewritten. A Defence-directed security audit of all bases, RAAF and others, identified priority works and funds gradually became available for upgrades through the *Safe Base* project. Other than some initial apparent overreaction on a few of the bases to the immediate security situation in September, caused in part by the outdated alert system, personnel adapted readily to the heightened security and were eager to participate in any of the planned operational deployments.¹

CSG's involvement in Operation *Slipper* was quite limited at first, apart from the increased support required on the home bases where the Air Terminal Squadron

¹ At RAAF Fairbairn (Canberra), for example, weapon pits were manned at the main gate in the days following September 11, and were shown on national television. Initial uncertainty on the security situation was to be expected given that base personnel training, and more generally the former *Weathercock* base alert system, was focused largely on a ground defence threat.

detachments around Australia and other units helped to prepare and then sustain the deployments. Coalition forces supported both the F/A-18 and KB-707 deployments with just a few CSG staff being integrated into each of the squadrons.

The F/A-18 squadrons, No 77 and subsequently 3 Squadron, provided 24-hour air defence cover for Coalition forces from November 2001 until May 2002 at Diego Garcia in the Indian Ocean, from where US strike aircraft launched attacks against the Taliban in Afghanistan. Notably, this was the first deployment offshore of Australian fighter aircraft on operations since the war in Korea and to Ubon in Thailand during the 1960s. Included in the 33 Squadron KB-707 deployment to Ganci Air Base, at Manas Airport in Kyrgyzstan from March 2002 were communications technicians, fitters for ground equipment maintenance, a ground defence officer for force protection advice, a medical officer who was integrated into the Coalition health facility, and a Security Police officer who acted as the linguist.

There was very likely a greater scope for more CSG support to be provided to both of these initial deployments on Operation *Slipper*, at least to cater for the unique to Australia requirements and to broaden the CSG experience base. According to Group Captain Rob Shortridge, who accompanied the advance party to Ganci and provided some input to the planning, the 33 Squadron planning team preferred to rely on their own squadron logistic staff for any combat support issues; a peculiar attitude given that base support is not part of the squadron logistics officers' peacetime duties or experience base.² Nonetheless, both deployments were relatively small, of short duration, were obviously never intended to be self-supporting and were well supported by their Coalition hosts in any case. Of note are a number of commendations awarded to the 381 Expeditionary Combat Support Squadron ground support equipment fitters and technicians for their efforts in Kyrgyzstan while attached in support of 33 Squadron.³

The No 92 Wing AP-3C detachment announced in October 2001 was not required immediately and did not deploy to the Middle East until January 2003, leaving a long window for planning and preparations. Accommodation, both domestic and work, at the forward base was addressed through a joint project with a commercial contract funded by Joint Logistics Command. Wing Commander Ian Browning, the senior airfield engineer at Headquarters Combat Support Group, led a small team forward to manage the project and supervise construction. Known as the Maritime Patrol

² Group Captain Rob Shortridge, email to the author, 16 October 2007.

³ 'International Recognition', in *Air Force News*, vol. 44, no. 18, 26 September 2002, p. 4. Sergeant Geoff Cox and Corporals Philip Mills and Tony Parsons received letters of gratitude from the USAF while Leading Aircraftman Dan Ellis received a Commanding Officers Commendation.

Project Management Team, they delivered 43 buildings and associated utilities in just 53 days, working from November 2002 to February 2003.⁴



Loading C-130 passengers at Baghdad, 2004

(Neil Collie)

Unlike the earlier deployments, 395 Expeditionary Combat Support Wing and 381 Expeditionary Combat Support Squadron, filling the first unit rotation for support under Wing Commander Mark Kelton, were integral to the planning of the 92 Wing deployment and provided unique Australian support, such as postal and pay services, communications, unit force protection and policing, spares support, motor transport, health care and chaplaincy, as well as supplementing base services jointly with the Coalition support unit, in this case Canadian. Australian cooks worked in the kitchen, for example, alongside their Coalition peers ensuring familiar tastes were always available to the RAAF contingent, and senior firefighters were included in the operations staff to assist the local base rescue crew with RAAF standards and AP-3C familiarity.

The invasion of Iraq was imminent by the time the AP-3Cs and their combat support element arrived at their Middle East base. The Iraq war followed a decade of diplomatic efforts through the UN to force Saddam Hussein's regime to abandon

⁴ Wing Commander Ian Browning, email to the author, 11 October 2007. Squadron Leader Rob McKenzie (logistics officer) and Flight Lieutenant John Force (airfield engineering officer), both of CSG, accompanied the four-man project team.

its weapons of mass destruction program. Following the earlier Gulf War of 1991, UN inspectors had attempted to verify and destroy the Iraqi weapons program, until 1998 when the inspection teams were refused further entry apart from a brief period immediately before hostilities began. The invasion in March 2003 followed exhaustive diplomatic efforts and a UN Resolution in November 2002 to comply with previous disarmament and inspection resolutions. The RAAF's major involvement was a squadron of F/A-18 Hornet fighters and a C-130 detachment, each with their own combat support element based on a reduced Expeditionary Combat Support Squadron, the AP-3C Orions, which were dual tasked in support of both the Afghanistan and Iraq operations, and various other personnel in headquarters and liaison positions including a 1 Combat Communications Squadron detachment providing national communications for the Forward Command Element of the Air Task Group.

Preliminary planning, which commenced in August 2002 with the dispatch of planning staff to the US Central Command in Tampa, Florida, initially overlooked the need for combat support other than communications. No 395 Expeditionary Combat Support Wing, CSG's tactical planning headquarters, was not included in the compartmentalised planning which, at the outset, was retained at the strategic level. Even later as planning progressed, the operational level planners focused on the air assets alone, in part perhaps through ignorance of combat support as Air Command had no combat support specialist planners at the time, and in part also perhaps because of an expectation that the US and Coalition would provide all of the support needed as they had done for the early *Slipper* deployments. While the latter approach is commonplace for short-duration exercise deployments to established bases, typical of peacetime deployments, it is at best a naive approach to wartime operations of unknown intensity and duration.

Common air base services aside, which the Coalition would provide in any case, priority support to specific combat missions like the right munitions at the right time, timely logistic and critical spares support, unit protection, weapons issue and training, national and local communications, serviceable ground equipment, personal health and fitness as well as the more general pay and finance, postal, discipline and a multitude of other support aspects all raise unique Australian requirements that the US or a coalition simply cannot satisfy. Besides, the increased support burden on the Coalition would surely have been a poor reflection on Australia's willingness to contribute and would very likely result in a lower priority allocation for support to the RAAF squadrons. The absence of integral support gained the notice of the Chief

of Air Force, who directed that the Air Force would make a ‘meaningful’ contribution to the combat support requirements and not rely totally on Coalition support.⁵

Space within the personnel cap approved earlier by government became available for CSG’s inclusion when the Army numbers required for the Logistic Support Force were revised downward. Thus, 382 Expeditionary Combat Support Squadron, led by Wing Commander Leigh Gordon, supported the 75 Squadron F/A-18 detachment, and 386 Expeditionary Combat Support Squadron (Wing Commander Ron Irons) supported the 86 Wing C-130 detachment. A separate 1 Combat Communications Squadron detachment also provided communications for the Forward Command Element of the Air Task Group. Tactical command for the operation—initially called *Bastille* for the work up and acclimatisation phase in the Middle East from late January 2003 to pressure the Iraqi regime further, and *Falconer* on commencement of hostilities on 19 March—was through four task groups (maritime, maritime patrol aircraft, special operations and air).

The squadrons including the Expeditionary Combat Support Squadrons reported directly to the Air Task Group commander, Group Captain Geoff Brown. That arrangement ensured the wing commanders heading each of the air combat elements could concentrate on their flying tasks and not be distracted by the more mundane, though no less important, combat support aspects. According to Air Commodore Mark Gower, the Officer Commanding 395 Expeditionary Combat Support Wing at the time, the command arrangements worked well. The danger, however, was at the task group level where combat support expertise was needed to ensure that the Task Group Commander was not unduly distracted but that support issues unable to be resolved by the units were addressed, that priorities were set and that support resources theatre-wide were coordinated to keep pace with the changing battle rhythm. Restructuring of the air load teams, for example, from one airfield or day to another as the focus of the airlift effort changed, and the coordination of specialist equipment and personnel as the inevitable failures occurred and priorities changed. Unlike the East Timor operation in 1999–2000 however, there were no combat support specialists attached to the Air Task Group other than a small element under Wing Commander Rob Barnes who looked after the immediate administrative and support needs of the command group rather than support their command function.⁶

⁵ Air Commodore Mark Gower, email to the author, 22 November 2007. As a Group Captain, Mark Gower was the Officer Commanding 395 Expeditionary Combat Support Wing at the time of the deployments.

⁶ *ibid.*



Unloading stores in the Middle East, 2004 – CSG provided national support and supplemented Coalition base services for Operation *Falconer*
(Neil Collie)

There is little sense in a direct comparison of the INTERFET and *Bastille/Falconer* operations because they are quite different, even for CSG which was far better prepared for operational deployments by 2003. Coalition air bases were used in the Middle East and thus the more demanding tasks of establishing and commanding the air base, overall air base protection, airfield movement areas and infrastructure maintenance and similar air base tasks were not an Australian responsibility. But *Falconer* was an air war with more demanding air combat squadrons to support. The preparation time was much greater for the Middle East deployments and the bases were located away from the combat zone, although the potential threat, even on the ground outside of Iraq, was equally as high albeit more difficult to define.

The USAF Wing Operations Centres (WOCs), which brought the base combat support effort together with the air combat planning to drive support priorities and allow for any support deficiencies in the air combat plan, impressed most of the RAAF officers exposed to them. WOCs were later adopted for RAAF use but a major difference in the Australian context is multiple role bases, whereas the US tends to operate single role bases (strike, for example). The requirement to coordinate the multiple combat support units deployed to the Middle East was no less than in East Timor or, indeed, during peacetime in Australia as they are controlled by the extant wing headquarters. The oversight, not to include a specialist combat support staff within the Air Task Group on Operations *Bastille* and *Falconer*, only reiterated the need to write and publish joint doctrine for air bases.

No 1 Combat Communications Squadron was awarded a well-deserved Meritorious Unit Citation for the support provided by its personnel to the war in Iraq, as was 75 Squadron for its superb effort in the air battle, though the other units involved, including the combat support units, are no less deserving of praise. As one published Defence summary of operations noted when commenting on the CSG contribution, ‘this broad range of [support] tasks was performed by a relatively small number of personnel working tirelessly to ensure that our forces had the means to make a significant contribution to the Coalition.’⁷

All of CSG’s units worked tirelessly in preparing for the deployment, including 322 Combat Support Squadron at Tindal, which helped prepare 75 Squadron, and the other units—1 Combat Logistics Squadron, 2 Airfield Defence Squadron, 3 Combat Support Hospital and 1 Air Terminal Squadron—all of which played critical roles in the pre-deployment preparatory and planning phase and supplied personnel for the three deploying Expeditionary Combat Support Squadrons. Attached medical staff conducted aeromedical evacuations while deployed as well as their normal base duties. Airfield defence guards (ADGs) provided force protection, including some flyaway security tasks for C-130s operating into Iraq, while the efforts of 1 Air Terminal Squadron staff are best reflected in the cargo statistics of the 86 Wing C-130 detachment. Representing just three per cent of the Coalition’s Hercules fleet, they carried some 16 per cent of the Hercules cargo, much of which was prepared and loaded or unloaded by the 1 Air Terminal Squadron teams.

The 1 Combat Communications Squadron effort was spread across four locations, five for a brief period, and the unit’s achievement in making and maintaining serviceable some of the more demanding deployable systems, like the information systems which were then still embryonic and relatively unreliable by today’s standards, was outstanding. Recognising how essential communications services were to the war effort, their unofficial unit motto during Operation *Falconer* was ‘no comms – no bombs’; a fact in air warfare and a great morale booster for the deployed communications personnel at the time. The same could equally be said, however, though it is less apparent and it does not rhyme, of food, health, security, munitions, fuel, spares and many other support needs.

Around 80 CSG personnel served in each of the deployed Expeditionary Combat Support Squadrons on Operation *Falconer* and another 10 or so with the 1 Combat Communications Squadron detachment for the Air Forward Command Element, which itself was embedded in the US-led Combined Air Operations Centre to

⁷ Department of Defence, *The War in Iraq: ADF Operations in the Middle East in 2003*, www.defence.gov.au/publications/lessons.pdf, accessed 2 October 2007.

coordinate aircraft tasking.⁸ On completion of the major combat operations in early May, 382 Expeditionary Combat Support Squadron returned to Australia with 75 Squadron while the remaining units transitioned to Operation *Catalyst* in support of the rehabilitation of Iraq, which continued through to the end of July, 2009.

Unit roles under *Catalyst* remained essentially the same, with some additional tasks and some movement of personnel around the Middle East area of operations as the ADF presence was reshaped and priorities for the operation changed. The remaining units were downsized over time as the structures were reviewed with each three to four-month rotation. In 2005 the rotations, very sensibly, were changed to six months. The shorter rotations required significantly more effort and people to sustain and barely gave deployed personnel the chance to settle properly into their environment and deployed roles. The Expeditionary Combat Support Squadron command positions were also down-ranked to squadron leader after two rotations and reporting was simplified, to the wing commander heading each element (airlift and maritime patrol) who had two subordinate squadron leaders, for each air operations and support. An air traffic control detachment with 13 air traffic control officers of 44 Wing and a command and support team of around 45 mounted by 395 Expeditionary Combat Support Wing, led by Wing Commander Ian Browning, departed Townsville on ANZAC Day 2003 for Baghdad International Airport (BIAP) to join Operation *Catalyst*.

Damaged by the war, BIAP had no communications, no navigation aids, no established procedures for air traffic and one of the two parallel runways (the military side) still suffered from bomb damage and was initially unusable. Security was a particular concern with the airport a high-profile target and the control tower a highly visible aim point for stand-off rocket and mortar or even vehicle-based attack. The complex, tower and adjacent operations building, were aged, somewhat neglected and also war damaged with limited power, no running water or sewerage, and no fresh food for the initial rotation. The variety of air traffic using Baghdad was also beyond the experience of most military or civilian air traffic controllers, with commercial airliners, military fast jets and rotary wing making up the daily average of around 500 aircraft movements, some occasional battlespace management included.

⁸ Department of Defence, Operation Falconer Fact Sheets, www.defence.gov.au/opfalconer/facts.htm, accessed 2 October 2007. Numbers quoted are 79 for the F/A-18, 75 for the AP-3C and 66 for the C-130 detachment, with a further 42 in total (all functions) in the Air Forward Command Element.



A hazy day at Baghdad showing the variety of traffic handled by the air traffic control detachment, with military aircraft in the background, June 2003

(Ian Browning)

Communications technicians from 1 Combat Communications Squadron installed and maintained a TACAN navigation aid and airfield communications, while the airfield engineers of 1 Combat Logistics Squadron repaired the building infrastructure. They—the plumbers, electricians and carpenters, especially in the first two rotations—had a particularly challenging task to recover the utilities with limited materials and tools, and nowhere locally to source them. Salvaging from one half of the building, unused, to reconstruct the other half was a practical approach. By the end of the second rotation, according to the detachment commander, Wing Commander Scott Wardle, the utilities worked better than they had for many years.⁹ Security was a daily concern, particularly from stand-off weapons which were commonly fired at the airport complex. ADGs of Airfield Defence Wing and other units coordinated their security activities with the USAF Security Force, operated vehicle checkpoints and conducted patrols of the areas adjacent to the tower while the US Army provided perimeter security.

Command of the BIAP air traffic control element, formally designated as CTU 633.4.2, was through the C-130 detachment commander.¹⁰ For local issues, as

⁹ Wing Commander Scott Wardle, email to the author, 8 October 2007. Scott Wardle followed Wing Commander Ian Browning (first rotation) as the detachment commander at BIAP and was replaced, in turn, by Wing Commanders Scott Winchester and Neil Collie.

¹⁰ The combined/joint task force designation system is used for all ADF operations but is avoided where possible in this work, for simplicity.

the C-130s were based away from Baghdad, the BIAP detachment was responsive directly to the Australian National Headquarters, which was also in Baghdad and oversaw the detachment's security procedures and set movement and other local orders.



Air Vice-Marshal Geoff Shepherd, Air Commander Australia, visits the air traffic control detachment, Baghdad, May 2004

(Wing Commander Neil Collie on right)

(Neil Collie)

While CSG provided all of the detachment commanders, they could equally have come from 44 Wing and some would have, if the detachment had remained in Baghdad beyond August 2004. The combat support aspects of the deployment though, security, the harsh environment and the poor state of the facilities in the beginning, justified the appointment of a CSG officer to command the detachment which, after all, is the normal arrangement for local airspace control at forward airfields and everyday on the home bases in Australia.

The BIAP air traffic control detachment played an important role in the rehabilitation of Iraq by reinstating airspace control at the country's principal airport, providing local battlespace control to the Coalition and training Iraqi air traffic controllers to

resume their responsibilities. The detachment was deservedly awarded a Meritorious Unit Citation 'for sustained outstanding service in warlike operations in providing air traffic control at Baghdad International Airport during Operations Falconer and Catalyst', presented by the Governor General at a welcome home parade held in Ipswich in early October.¹¹

Another unit to be awarded a Meritorious Unit Citation was an ADF medical detachment, known as Med Det Balad, the first ADF medical contingent to deploy to the war in Iraq. Serving in a US military trauma hospital at Balad Air Base, north of Baghdad, during some of the worst periods of fighting, they frequently experienced mass casualty events and treated Coalition battle casualties, Iraqi military and other Iraqi nationals. Over three rotations from September 2004 to December 2005, around 30 medical staff of Health Services Wing, mostly from the Specialist Reserve but including a number of Permanent Air Force, deployed along with Army and Navy health staff. Among them were surgeons, intensivists, an emergency physician and intensive care and emergency department nurses and medical assistants.



Med Det Balad, Iraq, 2004 – Med Det Balad supplemented a Coalition military hospital in Iraq (Wing Commander Michael Paterson (standing centre) led the first rotation)

(Health Services Wing)

Wing Commander Michael Paterson, a nurse and Commanding Officer of 1 Air Transportable Health Squadron at the time, commanded the first rotation and said on his return that 'it was probably the first time ADF health elements had done this degree of work on battle casualties since Vietnam.'¹² The citation awarded to the Med

¹¹ *Air Force News*, vol. 45, no. 19, 21 October 2004.

¹² Wing Commander Michael Paterson, cited in Simone Liebelt, 'Back from the battlefield', in *Air Force*, vol. 47, no.

Det Balad read, in part, that the detachment had 'made a significant contribution to Coalition health services during times of mass casualties, intense and traumatic periods' and commended them for 'outstanding devotion to duty, confidence and humanitarian spirit'.¹³

A number of other CSG personnel served in Iraq in a variety of roles, including some who deployed forward from the C-130 and AP-3C detachments. Chaplains regularly accompanied C-130 aeromedical evacuation (AME) flights and air load teams moved to various locations depending on aircraft and cargo needs. Cooks, clerks, suppliers, fitters, technicians and numerous others provided relief manning or skills for specialist tasks to the Australian National Headquarters, the Security Detachment in Baghdad and other units across the area of operations. A number of supply officers, suppliers and clerk suppliers served in the Force Level Logistic Assets (FLLAs) in both Baghdad and Kuwait, increasing in number and regularity in later years when the FLLA was restructured and the rotations became more tri-Service oriented. Sections of ADGs occasionally provided security for Navy ships on port visits and relief manned at the Security Detachment (SECDET) providing protection for the Australian diplomatic representative in Baghdad. From 2008, after 13 members of 2 Airfield Defence Squadron deployed with SECDET 13 (Rotation 13), ADG rotations to Baghdad became more regular and ongoing.

Four ADG SNCOs from Airfield Defence Wing deployed with the Australian Army Training Team Iraq Rotation 2 (AATTI-2) from late 2004, to assist with the training of the New Iraqi Army at the Basic Training Centre near Talil. Lessons included the use of weapons, tactics and basic military knowledge, not unlike 'any recruit, basic or IET course that is held back home' according to Sergeant Tim Ciesiolka who was among the first group to deploy.¹⁴

From May through to December 2007, a larger group of about 15, mainly ground support equipment fitters from various CSG units plus a 1 Combat Communications Squadron communications technician, a 1 Combat Logistics Squadron armament engineer and headed by the CSG Education Officer, Squadron Leader Carl Green, deployed to Taji with AATTI-8 where they developed training courses for the Iraqi Army Support Services Institute and the National Maintenance Depot, mainly in welding, small arms and generator maintenance, and vehicle recovery.

9, 2 June 2005, p. 4; and Jeffrey V. Rosenfeld, Andrew Rosengarten and Michael Paterson, 'Health Support in the Iraq War', in *ADF Health*, vol. 7, no. 1, April 2006, pp. 2-7. Tour lengths varied from three to six months, with a three-month break between rotations 2 and 3.

¹³ *Air Force*, vol. 48, no. 22, 30 November 2006, p. 3.

¹⁴ Sergeant Tim Ciesiolka, cited in *Air Force*, vol. 47, no. 3, 10 March 2005; Warrant Officer Wilson ('Red') Usaga and Sergeants Gregg Lloyd, Eden Woolan and Tim Ciesiolka deployed with AATTI-2. IET refers to Initial Employment Training.

Squadron Leaders Iain Carty and Nick Luck, both ground defence officers of Airfield Defence Wing (or immediately formerly so) also deployed with AATTI-8 to Talil where they were responsible for the training and mentoring of Iraqi Army personnel at the Regional Training Centre and the Military Academy Nasariyah.¹⁵ They were both responsible for management of their respective ADF training teams while Carty maintained command of the Talil detachment and was responsible for local force protection, daily patrols and liaison with other ADF and Coalition units in the area.¹⁶ An explosive ordnance disposal (EOD) technician was also attached to AATTI-8 and an EOD team, among other RAAF staff, filled regular rotations with the FLLA from the same year.

EOD teams deployed with each of the Expeditionary Combat Support Squadrons on Operations *Bastille*, *Falconer* and *Catalyst*. Squadron Leader Paul Muscat, attached as the Executive Officer of 382 Expeditionary Combat Support Squadron for Operation *Falconer*, deployed into Iraq at the end of hostilities to assist with the recovery of captured weapons, including an Iraqi fighter jet, for exploitation and possible museum use, though the recovery was subsequently aborted.

EOD staff had been seconded to the UN as part of the United Nations Monitoring, Verification and Inspection Commission (UNMOVIC) to Iraq before the commencement of hostilities and Operation *Falconer*.¹⁷ Warrant Officer Perry Thomas and Flight Sergeant Mick Avenell remained with UNMOVIC until the outbreak of the war in March 2003. Paul Muscat was later attached to the Coalition Headquarters during Operation *Catalyst* and was embedded within the US Army's 379th Engineer Battalion as Officer-in-Charge of the unit's Explosive Hazard Awareness Team (EHAT), responsible for awareness training of all new arrivals into Iraq of unexploded ordnance and improvised explosive devices (IED). He helped establish a Combined Exploitation Cell which was later joined with the EHAT training role as the Coalition Counter Improvised Explosive Device (C-IED) Task Force, known as Task Force Troy and manned by a number of other CSG EOD staff on rotation, mainly by warrant officers and SNCOs. Paul Muscat was awarded a US Bronze Star in 2005 and in 2008 completed the first of an ongoing rotation as the Chief Exploitation – International Security Force Afghanistan in the C-IED Task Force as part of the ADF's Operation *Slipper*.¹⁸

¹⁵ Also spelt Nasiriyah.

¹⁶ Squadron Leader Iain Carty, email to the author, 17 June 2008.

¹⁷ UNMOVIC replaced the former UN Special Commission (UNSCOM) in December 1999. Its mandate was to verify Iraq's compliance with its obligations under UN Security Council resolutions to be rid of weapons of mass destruction (WMD). Access to Iraq by UN inspection teams was refused from late 1999. Inspections resumed again in November 2002, until their final withdrawal in March 2003. Details for UNMOVIC are derived from the UN website, www.un.org, accessed 18 December 2007.

¹⁸ Squadron Leader Paul Muscat, emails to the author, 16 October 2007 and 19 November 2008.

CSG personnel filled a number of positions that were open to nominations Air Force wide, particularly in the National and Coalition Headquarters. Group Captains Rob Shortridge, Chris McHugh and Paul Hislop each filled six-month rotational posts during 2003–04 in senior executive positions within the Coalition Provisional Authority in the Baghdad and central south of Iraq regions. Their roles, as Deputy Regional Coordinators, were (among numerous other tasks) to coordinate reconstruction projects and the rebuilding of essential infrastructure and local government structures for the post-Saddam Hussein Iraq prior to the election of an Iraqi Government. They each, on occasions, acted as the Regional Coordinator, effectively becoming mayor and local governor of their respective region.¹⁹



Squadron Leader Paul Muscat (kneeling) with a Coalition EHAT team, Baghdad, 2005 – CSG personnel serve in a variety of roles in the Middle East
(Paul Muscat)

An airfield engineering team of 11 tradesmen and plant operators from 1 Combat Logistics Squadron led by Sergeant Wayne Newby constructed a Military Shelter System (MSS) in early 2005 for the Force Level Logistic Asset at Camp Victory in Baghdad. Though such a task would normally be completed within a few days, the conditions at Baghdad, including the availability of equipment and security constraints

¹⁹ Group Captain Rob Shortridge, email to the author, 5 November 2007; and Group Captain Paul Hislop, email to the author, 4 March 2008. The Coalition Provisional Authority (CPA) was established as a transitional government in Iraq from April 2003 (following the disbandment of the Office of Reconstruction and Humanitarian Assistance) and was divided into four geographic regions (north, central (Baghdad), south central and south). All were wing commanders at the time, attached to Iraq with acting rank.

on the transportation and use of materials for the floor (gravel for example, had to be sifted for security purposes before use), prolonged their stay. The MSS Construction Team as it was called, completed other 'while you are here' jobs during their wait while the concrete floor cured, including electrical works in the Australian National Headquarters and improvements to the area defence works and blast walls.

The ADF's presence in Afghanistan under Operation *Slipper*, Australia's contribution to the international coalition against terrorism, increased from late 2005 with the deployment of a Special Forces Task Group, the Reconstruction Task Force and subsequently, in May 2007, a Control and Reporting Unit from the RAAF's Surveillance and Reporting Group to Kandahar. Combat support was initially provided by CSG forces already deployed to the Middle East assigned to Operation *Catalyst*. Air load teams and others, including an airfield engineer for an airfield survey and advice, were called forward when required.



Warrant Officer Steve Wakeham (right) of 1 Air Terminal Squadron confers with Coalition partners at Tarin Kowt, Afghanistan, 2006

(Peter Kershaw)

Warrant Officer Dave Neylan and Leading Aircraftman Brett Pearson of 1 Air Terminal Squadron moved to Tarin Kowt, Oruzgan Province, for the initial C-17 and C-130 movements, followed by Warrant Officer Steve Wakeham and others on rotation. Although only one air load team member remained at Tarin Kowt on a permanent basis, with the second member flying in on each C-130, the air terminal presence quickly attracted an increase in Coalition aircraft movements, many at night with engine running turnarounds, and a consequent increased workload for the one-person team.²⁰

²⁰ Warrant Officer Dave Neylan, email to the author, 9 April 2008.

Squadron Leader Peter Kershaw, an airfield engineering officer of 1 Combat Logistics Squadron, supervised a locally contracted upgrade to the Tarin Kowt runway. Used for regular C-130 support, the runway had lacked any maintenance plan and due to poor drainage was subject to extended closure of up to two weeks after rain. Despite the contract plan, which initially failed to address the drainage problem, and troublesome plant and equipment which was hired locally and suffered downtimes of up to 50 per cent, the upgrades were complete within four months reducing the wet weather recovery period to less than 24 hours.²¹ Following the upgrade, the ongoing maintenance plan was supervised by a CSG airfield engineering officer on rotation and included as part of the Reconstruction Task Force.



Camp Maintenance Team, Kamp Holland, Afghanistan, 2007

(Back from left: Sapper Schodel (Army), Sergeant Newby, Leading Aircraftman Eastwell and Leading Aircraftman White)

(Front from left: Corporal Fryer, Major Green (liaison), Leading Aircraftman Warmington and Leading Aircraftman Swallow)

(No 1 Air Operations Support Squadron)

²¹ Squadron Leader Peter Kershaw, email to the author, 2 November 2007. Equipment and personnel used for the airfield upgrade were sourced both locally and from Pakistan.

A Camp Maintenance Team of six tradesmen from 1 Combat Logistics Squadron, 381 Expeditionary Combat Support Squadron and 322 Combat Support Squadron, again led by Sergeant Wayne Newby, also deployed to Tarin Kowt in 2006, working with the Dutch at Kamp Holland and were nominally part of the Reconstruction Task Force.²² Another team of plant operators and tradesmen constructed a deployable shelter (DAMALSH) at Kandahar, working at night to avoid the intense heat, as working and storage accommodation for the 41 Wing Control and Reporting Centre (CRC). The CRC, which deployed from May 2007 to July 2009, controlled combat air operations and airspace across Afghanistan and was supported by a small integrated CSG element consisting mainly of tradesmen, logistic, ground defence, medical and administrative staff.



The military shelter construction team worked at night to avoid the hot days, Kandahar, Afghanistan 2007

(From left: Leading Aircraftmen Brad Stratton and Scott Keleher, Corporal Pete Fisher (front), Leading Aircraftman Troy Daniel and Corporal Geoffrey Tait)

(No 1 Air Operations Support Squadron)

²² Squadron Leader Peter Noake, email to the author, 1 April 2008. Other airfield engineering officers to deploy on rotation for airfield maintenance included Squadron Leaders Terry McLennan, Dave Alder and John Cody. In early 2009, camp maintenance staff and responsibilities transferred to the Force Support Unit (FSU) which had replaced the FLLA as the national logistic asset in Afghanistan and elsewhere in the Middle East.

Terrorism came closer to Australia with the hideous bombings in Bali on the night of 12 October 2002, killing a total of 202 people including 89 mostly young Australians. Many of those who suffered serious injuries survived through the efforts of the AME crews from Health Services Wing. Five evacuation flights by No 86 Wing C-130 aircraft were conducted to Darwin and a further four from Darwin to other Australian cities in the three days following the bombings. Initially unaware of the scale of the tragedy, the first AME team was prepared for 'up to five patients ... seriously injured, possibly more' when they departed Richmond early on 13 October. Estimates increased at Darwin, en route to Bali, to '15 very seriously injured and 20 seriously injured patients', and additional medical staff and extra equipment were added. Plans changed again at Bali where they had expected to assess patients at Denpasar airport, load and return to Darwin. Instead, they had to travel 40 minutes in chaotic traffic to the Sanglah Hospital which was inundated with the seriously injured.²³

Squadron Leader Steve Cook, a medical officer from 3 Combat Support Hospital, remained at the airport with two medical assistants to establish an Aeromedical Staging Facility (ASF) in the airfield fire section with what little equipment they had for the 'unplanned for' role. Squadron Leader Greg Wilson proceeded to Sanglah Hospital with the remainder of the AME team, describing the hospital on his arrival as 'overwhelmed by the size and severity of the casualties.'²⁴ He prioritised the injured for evacuation while the ASF stabilised and prepared the patients for their flight, and received other patients who arrived unannounced at the airport.

Aircraft arrived and departed through the night, each bringing with them additional AME teams, Reserve specialists from each of the three Services, support staff and more badly needed equipment and medical supplies. Two CSG ambulances and four drivers were moved to Bali to help with the transfer of patients and four chaplains (two RAAF) provided ministry and helped comfort patients. Indeed everyone, aircrew, technical crew and the 1 Air Terminal Squadron air load team members who deployed to Bali included, assisted the medical teams as best they could by holding drips or torches in the darkness, acting as stretcher bearers or with basic first aid, monitoring and comforting patients.

Operation *Bali Assist* was not the largest medical evacuation operation conducted by the Air Force but it was the largest evacuation of seriously injured patients in such a short time period. In all, 66 critically ill patients suffering mainly from severe burns, blast and shrapnel wounds were evacuated from Bali to Darwin, most within 13 hours after the arrival of the first aircraft. Thirty-five of the injured were further

²³ Gregory V. Hampson, Steven P. Cook and Steven R. Frederiksen, 'Operation Bali Assist', in *Medical Journal of Australia*, vol. 177, no. 11/12, 2/16 December 2002, pp. 620–621.

²⁴ Ruth Pollard and Malcolm Brown, 'The long journey home from blast's horrific injuries', in *Sydney Morning Herald*, 19 October 2002; and 'Acts of mercy', in *Air Force News*, vol. 44, no. 20, 24 October 2002, pp. 1–2.

evacuated from Darwin to southern cities the following day.²⁵ A total of 43 medical staff conducted the evacuations, mostly doctors, nurses and medical assistants from Health Services Wing but a large number of Reserve specialists (at least seven) and health staff from the other Services were included. Sadly, one patient died on the first evacuation flight and another on the tarmac at Bali, though this is an extraordinarily low number considering the seriousness of the patients' injuries.

Bali was again subject to terrorist bombing on 1 October 2005, and again AME teams from Health Services Wing responded. Twenty-one patients with injuries as horrific as those suffered in the 2002 bombings were evacuated during Operation *Bali Assist* 2, in two C-130J flights to Darwin. Nine of the patients were further evacuated south to Williamstown after treatment and stabilisation in the Royal Darwin Hospital.²⁶



AME teams prepare patients for evacuation, Denpasar, Bali, October 2005 – Health Services Wing developed new concepts as a result of the Bali bombings

(Health Services Wing)

²⁵ Hampson, Cook and Frederiksen, 'Operation Bali Assist', pp. 620–623. The majority of patients were evacuated on the first four aircraft, the first of which arrived at Bali at 1930 hours on 13 October and the fourth departed soon after 0830 on 14 October 2002.

²⁶ Steven Cook, Tracy Smart and Jeff Stephenson, 'Learning the hard way: Australian Defence Force health responses to terrorist attacks in Bali, 2002 and 2005', in *ADF Health*, vol. 7, no. 2, October 2006, pp. 51–55; and 'Bringing them back home', in *Air Force*, vol. 47, no. 19, 20 October 2005. The death toll in the October 2005 Bali bombings was 26, including four Australians, and about 130 injured. Civil air ambulances conducted the remainder of the evacuations from Darwin to other Australian cities.

In the few brief years between the Bali bombings, when disaster and humanitarian relief missions dominated the growing list of CSG operations, the CSG concept for operations was revisited. The health support concept in particular, which had lacked detail and was largely lost in the broader combat support concept, was given special attention after the initial Bali bombings and the Asian tsunami (26 December 2004) that preceded the second bombings. The new health concept was modular, with three levels of Expeditionary Health Facility (EHF) offering varying levels of health support aligned to ADF joint doctrine.

On 2 October 2005, an EHF2 pre-positioned to Darwin, joined by a Fly Away Surgical Team (FAST) and thus providing a basic field hospital for the tarmac at Bali, with an initial surgery capability, primary health care, AME teams and the capacity to retrieve patients locally by ambulance. Health intelligence, often difficult to obtain in the initial aftermath of a disaster, was provided by the Medical Assessment Element (MAE) which flew immediately to Bali by civil air, preceding any C-130 flights and arriving ahead of the evacuation teams. An Aeromedical Evacuation Operations Officer (AEEO) also deployed, joining the No 86 Wing Operations Centre at Darwin to coordinate evacuations with aircraft operations and the medical aspects of their reception at Darwin.²⁷

Whereas in 2002 a series of AMEs were planned, responding initially to the best intelligence available on the number and condition of patients requiring evacuation, in 2005 an AME system was activated and deployed, according to the revised health concept for AME and disaster relief.

Similar to the 2002 evacuations, the medical teams in 2005 were supplemented by specialists from the Reserve. Security Police were included in 2005 for aircraft security and liaison with Indonesian police and airport security. Tindal (322 Combat Support Squadron) supplemented Darwin with air load teams, medical and other staff and equipment, including an ambulance bus for patient transfer. Again, all base staff played their role at Darwin and Richmond beforehand, and at Williamtown in receiving the nine patients who came from the Newcastle area.

²⁷ Cook, Smart and Stephenson, 'Learning the hard way', pp. 53–54. The MAE arrived at Bali by civil air during the early afternoon of 2 October while the first C-130 arrived at about 2130 hours (local times). The MAE was headed by Wing Commander Steve Davis (Commanding Officer 3 Combat Support Hospital). Wing Commander Karen Leshinskas (Headquarters Health Services Wing) acted as the AEEO.



Patient transfer at Williamtown following the Bali bombings of October 2005

(Health Services Wing)

One shortcoming noted by Group Captain Tracy Smart, the Officer Commanding Health Services Wing, and her senior medical officers who participated in the Bali operations was the communications used by the AME teams; personal mobile phones being the primary means of communicating to Darwin on both occasions.²⁸ While the effect on AME operations would have been minimal, other than an unwarranted inconvenience with potential security implications, the lack of communications and sometimes other basic support was not uncommon in rapid response operations around that time, caused perhaps by a lack of awareness of all of CSG's capabilities and thus a failure to consider them in the planning process.²⁹ Certainly it would not have been through any shortage of suitable communications equipment held by 1 Combat Communications Squadron, had they been aware of the need on either occasion, which is extensive and readily available.

The CSG concept for operations had evolved steadily since it was first articulated around the time of the East Timor deployments, but it remained largely unknown outside of the group. Following the war in Iraq, the Air Commander Australia, Air

²⁸ *ibid.*, pp. 52 and 54.

²⁹ The CSG concept at the time was for 395 Expeditionary Combat Support Wing to act as the lead planning headquarters for CSG involvement in any operations, though for a rapid response involving a specialist capability (such as aeromedical evacuation) this was not always practical and not always adhered to, thus losing the broader knowledge of all CSG's capabilities in the planning process.

Vice-Marshal John Kindler, placed a high priority on developing all of the Force Element Groups' concepts, which had lapsed in the current high operational tempo or, indeed, had not been developed at all. Every Force Element Group had to be supported and thus the CSG concept, applicable to all, was the first written (by the author as Chief of Staff Combat Support Group) to Air Vice-Marshal Kindler's requirements and the first to be formally endorsed. The Health Services Wing concept was developed by Group Captain Tracy Smart and her senior headquarters staff after the Asian tsunami and, during a period of high-profile activity for Air Force health, gained a great deal of exposure through briefings to the Chief of Air Force and other senior ADF commanders. Both concepts reflected in essence what was happening on operations, or at least what CSG staff understood should happen under ideal planning conditions. Other subordinate wing concepts developed subsequently were simple extracts of the master CSG concept.

In many respects the Health Services Wing concept was more revolutionary than evolutionary, not least because it changed much of the Air Force health terminology, it was clearly focused on expeditionary health services which had not previously had a stand-alone concept, it was developed in a relatively compressed time frame and had immediate application, and because it gained a high level of exposure. Like its parent CSG concept, the Health Services Wing concept was a modular 'building brick' system that could be adapted to deliver the capability needed, from basic primary health care through to a hospital, and it included the intelligence and command requirements which paid dividends on the Bali evacuations in 2005. The Health Services Wing concept also acknowledged the expeditionary role of all of CSG's health staff, meaning those in Darwin, Townsville and other bases who had performed essentially a non-expeditionary role for the Area Health Services. Unfortunately, despite the excellent work done by CSG in developing the updated concepts for operations, which were quite comprehensive and produced well ahead of any other concepts within Air Command at the time, they remained largely unknown to the planning staffs in the operational headquarters that most needed to be aware of them.

The Asian tsunami in late December 2004 was one of the deadliest natural disasters in world history. Triggered by an undersea earthquake off the west coast of Sumatra on Boxing Day morning, waves up to 30 metres high devastated coastal communities and caused nearly 250 000 deaths in 11 countries bordering the Indian Ocean from the Maldives and Sri Lanka to Malaysia. Australia's relief efforts focused on Aceh, an Indonesian special territory on the northern tip of Sumatra which suffered the worst of all areas hit by the waves, accounting for about two-thirds of the total death toll and

several times that number left homeless.³⁰ Australia's initial response and the ADF's immediate contribution was two, becoming four, C-130 transport aircraft with crews and a support team loosely based on 386 Expeditionary Combat Support Squadron to assist with the distribution of relief stores and assess what other support might be provided by the ADF.



Wing Commander Marcus Skinner (left) and Squadron Leader Jackie Hardy off-load an AME patient, Sumatra, Indonesia, January 2005 – CSG was among the first ADF forces to respond to the Asian tsunami

(Health Services Wing)

³⁰ UN Environment Programme (UNEP), *After the Tsunami: Rapid Environment Assessment*, 22 February 2005, www.unep.org/tsunami/tsunami_rpt.asp, accessed 4 October 2007.

The relief effort, led initially by Group Captain John Oddie of 86 Wing with Squadron Leader Tim Chalke heading the combat support element, worked in cooperation with the Indonesian Armed Forces. Humanitarian supplies, donated by aid organisations worldwide, arrived at larger airports away from the disaster area, Medan and Jakarta (Halim Air Base), and were moved by C-130 to Bandar Aceh³¹ while refugees were evacuated on return flights.

An air load team from 1 Air Terminal Squadron supplemented by 386 Expeditionary Combat Support Squadron logistic staff prepared the loads for C-130 lift and worked tirelessly at Bandar Aceh to unload and turn around the ferrying aircraft. For the first week the air load team worked without a forklift at Bandar Aceh and no side-lifting or multi-pallet equipment suitable for the larger aircraft at Medan, and thus had to handle many of the loads manually. A section from 2 Airfield Defence Squadron, included at first with security needs in mind, became involved in a variety of other tasks including supervision of the queuing crowds at the water point established by Army engineers in Bandar Aceh. No 1 Combat Communications Squadron technicians provided the necessary communications for command and control at Medan and, from the first week in January, supported a 44 Wing air traffic control detachment at Bandar Aceh, for helicopter movements as the number of international agencies providing relief multiplied.

Health Services Wing medical staff provided critical care to thousands at Bandar Aceh and conducted aeromedical evacuations and escorts for evacuees on C-130 flights to Medan. The primary task for the initial medical team though, was to assess available health facilities and the need for medical care to help determine follow-on forces. Wing Commander Geoff Robinson, a nurse who led the assessment team, described the scene of destruction at Bandar Aceh as 'beyond belief'. On the assessment he said that 'once [the team] found there was nothing left ... it was basically send as much of everything as you possibly can.'³²

Butterworth became the logistic hub when a joint Force Support Element (FSEBW) was established there from 5 January, to handle humanitarian aid and ongoing support to the ADF forces in Sumatra. While the Army's Logistic Support Force provided the core of the FSEBW, both 324 Combat Support Squadron and 395 Expeditionary Combat Support Wing units contributed to its strength, including in executive positions. Cooks, tanker drivers, ground support equipment fitters, Security Police, communications operators, suppliers, air load staff and others also supplemented the permanent staff of 324 Combat Support Squadron at Butterworth.

³¹ Also spelt 'Banda Aceh' in some documents; however, 'Bandar' is the Indonesian word meaning port or harbour.

³² Wing Commander Geoff Robinson, 'Assessment leaves med team gobsmacked', in *Air Force*, vol. 47, no. 2, 24 February 2005.

CSG units in Australia too, were taxed by the immediate response over the Christmas standby period. Headquarters with skeleton staffs, notably 395 Expeditionary Combat Support Wing and Health Services Wing for CSG, were busy from the day following Boxing Day in planning the deployments, directing and coordinating their squadrons, sending equipment and personnel forward, anticipating future needs and responding to Air Command's frequent requests for other potential response options.

No 1 Air Terminal Squadron in particular, with nearly one-third of its complement on end-of-year postings and an almost equal number already committed to operations elsewhere, achieved remarkable results to support the increased number of C-130 and Defence charter aircraft moving support equipment, ADF units and humanitarian stores to Sumatra. The 1 Air Terminal Squadron Detachments at Richmond, Amberley, Darwin and Tindal, along with the teams in Sumatra and at Butterworth, deserve a special mention for their outstanding efforts in quite demanding circumstances. While most of the personnel who deployed to Sumatra in the initial response were rotated after the first two weeks, the original air load team remained, for a shortage of replacements.

The steady-state ADF presence on Sumatra began to take shape in the second week of January when an Army field hospital—the ANZAC Hospital as it was jointly manned with New Zealanders—and Army engineers undertaking recovery work joined the C-130s. Combat support staff, now headed by Squadron Leader Kirrily Dearing of 382 Expeditionary Combat Support Squadron, was grouped within the Air Component of the Joint Task Force for Operation *Sumatra Assist*. The air load teams, medical and other support staff remained until the ADF's commitment in Sumatra ended in late March, when some CSG motor transport fitters and suppliers were attached to the Force Extraction Team. Logistic personnel, deemed unnecessary for the Joint Task Force, returned early which created an unwanted difficulty receipting and accounting for the deployed equipment at a time when governance was among the ADF's highest priorities.³³

The Chief of the Defence Force, General Peter Cosgrove, summed up his praise for the people involved when speaking to the *Defence* magazine about the beginnings of Operation *Sumatra Assist*. 'Everybody, and I mean everybody', he said, 'who had a role to play in this operation – the most important natural disaster relief operation offshore that the ADF has ever conducted – everybody performed flawlessly.'³⁴

³³ Wing Commander Kirrily Dearing, email to the author, 20 March 2008. The absence of a logistic staff meant that equipment sent forward, such as forklifts and other vehicles, could not be correctly receipted by the deployed force. Dearing points out that she had to rely on staff at Butterworth for assistance with Air Component equipment.

³⁴ General Peter Cosgrove, cited in Louise Butcher, 'Keeping the task clear', in *Defence*, February 2005, www.defence.gov.au/defencemagazine/editions/20050201/features/specialfeatures1a.htm, accessed 4 October 2007.

Operation *Sumatra Assist* had a disastrous ending for the ADF and CSG when it moved to Phase II following another major earthquake eruption off Sumatra on 29 March 2005, causing around 1000 deaths on the small island of Nias. Again, air load teams, communications staff and medical teams for AME operations deployed to Sumatra to support the C-130 relief effort. Tragically, on 2 April in one of the ADF's worst peacetime disasters, a Navy Sea King helicopter carrying an AME team crashed as it approached a remote village on Nias, resulting in nine deaths. Squadron Leader Paul McCarthy, medical officer, Flight Lieutenant Lynne Rowbottom, nurse, Sergeant Wendy Jones, medical assistant, and six Navy personnel died in the accident. Leading Aircraftman Scott Nichols was one of two seriously injured survivors, both of whom would eventually return to work.

Sadly, these were not the first fatalities suffered by CSG. On 2 December 2000, Wing Commander Ray Thomas, an inaugural member of Headquarters CSG, died in a tragic car accident while travelling on representational duties to a function in the local Ipswich area. On 1 November 2002 Corporal Douglas ('Freddo') Frederiksen, a cook of No 386 Expeditionary Combat Support Squadron, and Leading Aircraftman Matthew ('Marty') Martin, an airfield defence guard of No 2 Airfield Defence Squadron, both died in a motor vehicle accident while en route from Brisbane to the Wide Bay Training Area for a joint exercise. Both Freddo and Marty had volunteered to support the exercise and were travelling in a military convoy when their Land Rover veered off the road down a steep embankment near Black Mountain on a notorious stretch of the Bruce Highway.³⁵

Following Operation *Sumatra Assist*, which had wound down by the end of April other than for a small detachment from 381 Expeditionary Combat Support Squadron to support the Sea King crash investigation team, a long-term recovery program had to be implemented for 1 Air Terminal Squadron. The posting plot, or more correctly the unit succession plan, had not accounted for the high operational tempo at the time, and the need for new arrivals to undertake specialist air load and driver training courses before they could be employed effectively by 1 Air Terminal Squadron. The squadron's overall individual readiness for deployment was lowered each year with the posting cycle, an unacceptable occurrence when the operational tempo was so high. In the short term, some air terminal sections were closed and additional courses were arranged with the Air Movements Training and Development Unit while in the longer term, postings and training were to be better coordinated.

³⁵ *Air Force*, vol. 44, no. 22, 21 November 2002, pp. 1–2.



On the tarmac at Henderson Field, Operation *Anode*, Honiara, c. 2004 (the personnel in light-coloured shirts are Australian Federal Police officers) – The Expeditionary Combat Support Squadron domestic area is to the rear right

(No 395 Expeditionary Combat Support Wing)

Operation *Anode*, an Australian-led security operation in support of the Regional Assistance Mission to Solomon Islands (RAMSI) was one of a number of concurrent operations for the RAAF and CSG in 2004–05, though at the time of the Asian tsunami No 1 Air Terminal Squadron was the only CSG unit committed to *Anode*. The original deployment to the Solomon Islands started in July 2003 with two Caribou aircraft of 38 Squadron providing mobility for the infantry forces whose role was to assist the multinational RAMSI and the Solomon Islands Police Force restore law and order.³⁶ A composite combat support squadron mounted as a 395 Wing Detachment supported the Caribous and RNZAF Iroquois helicopters with essential air base services at Honiara International Airfield (Henderson Field).³⁷

Command of the air element was flawed from the outset. The component method of command normally used on joint and combined operations was not applied initially, with the naval and air elements established as separate joint task forces to the land-centric joint task force, each reporting independently to the Commander Australian

³⁶ The RAMSI mission is known as Operation *Helpem Fren* (Pidgin English for ‘Helping Friend’) It was conducted at the invitation of the Solomon Islands Government and supported by 15 regional countries, with Australia, New Zealand, Fiji, Tonga and Papua New Guinea contributing troops. CSG provided all air base combat support at Honiara.

³⁷ Squadron Leader Peter Noake (Commanding Officer 1 Air Terminal Squadron) commanded the first rotation, followed in turn by Squadron Leaders Rohan Gaskill (Headquarters 395 Expeditionary Combat Support Wing), Kirrily Dearing (382 Expeditionary Combat Support Squadron) and Dean Robinson (1 Combat Logistics Squadron).

Theatre. While the command arrangements would have had minimal (if any) direct impact on the relatively simple air operations, there were obvious concerns over the legal standing of any local orders issued by the joint force commander and thus the consistency of rules and regulations across the force. The command issue was addressed in October when, following a staff visit by the Chief of Air Force, Air Marshal Angus Houston, the Naval and Air components were assigned to be under command of the one Joint Task Force.³⁸

Command of Henderson Field too, was unsatisfactory, at least for some vital aspects such as the allocation of space and unit areas, access control and the control of critical resources. Henderson was regarded more as a logistic base rather than an airfield and in line with Army doctrine for administrative areas, Commander of the Force Support Battalion (FSB) was designated as the Camp Commandant. While the FSB was the major logistic unit for RAMSI and provided the vast majority of domestic and logistic services, even at Henderson, command of airfields and basic airfield safety was not part of their expertise. With multiple aircraft types operating, from helicopters and Caribou light transports through to C-130s, VIP jets, international airliners and chartered heavy jets, and with a multitude of units located in close proximity to the runway under disjointed command arrangements, safety issues were inevitable.

The FSB was sited on an attractive hardstanding, a disused portion of the runway but on the extended centreline of the active runway with stores containers located inside the safety zone for aircraft approaches and on the emergency overrun. The site was selected in consultation with the Expeditionary Combat Support Squadron during the much abbreviated planning process before deployment, when limited information was available and without knowledge of any planned heavy jet operations. Without confirmation of the initial siting plan after arrival, the FSB also constructed an access road and a bulk fuel installation nearby to the threshold, in ignorance of airfield safety distances and showing no understanding of the inherent dangers of an active runway.

A potential major accident was averted when a chartered Ilyushin aircraft (IL-76) landed some distance short, on the disused portion of the runway. The infringing stores had been moved on the advice of the Commanding Officer of the Expeditionary Combat Support Squadron, Squadron Leader Peter Noake, just 24 hours earlier. The bulk fuel installation was also later moved and the access road closed, on direction of the local Civil Aviation authority after several failed attempts by Peter Noake and his team. There were numerous other incidents, mostly unauthorised incursions by vehicles and people onto the airfield movement areas that required aircraft to take

³⁸ Wing Commander Rohan Gaskill, email to the author, 21 February 2008.

evasive action or 'go round', and some damage was caused to runway and taxiway lights by careless or unaware drivers.³⁹

After some disciplinary charges for airfield incursions proved difficult to prosecute because of the lack of any base standing instructions or orders (no-one had the authority to issue them), airfield discipline was included in arrival briefings and, in time, the number of safety incidents fell.⁴⁰ The lesson though, which was well understood by CSG but apparently still not so by the joint planners at the operational level, was that of command of the air base. The lack of agreed joint doctrine for airfields was undoubtedly a contributor to the initial fiasco at Honiara, as was the dearth of knowledge of CSG and its air base expertise, particularly at the operational level. Those were issues of which CSG was well aware, and striving hard to address.



Christmas 2003, Operation *Anode* , Honiara – Command of Henderson Field was problematic for the early rotations

(Squadron Leader Rohan Gaskill front right)

(No 395 Expeditionary Combat Support Wing)

Although the initial capability to support 38 Squadron was somewhat limited by the delayed movement of essential stores and equipment (another flaw in the joint planning), four rotations, each of three months duration and each consisting of fewer

³⁹ Noake email, 1 April 2008.

⁴⁰ Gaskill email, 21 February 2008.

than 40 CSG personnel, were completed by the Expeditionary Combat Support Squadrons at Honiara. Accommodated in hutchies at first, located adjacent to the main tarmac and working out of tents and some of the airport buildings, the small Expeditionary Combat Support Squadron provided a limited range of essential services from air terminal and air traffic control services to basic airfield engineering, limited communications, medical, administration and motor transport and ground equipment maintenance.

By the third rotation, demountable buildings purchased under CSG's East Timor Remediation Projects had replaced most of the tents and local community projects, undertaken by the support staff in their spare time, were well underway. Included in the latter were three small wooden bridges and other minor construction tasks for the Lau Valley Primary School in Honiara, plus the donation of much needed school equipment purchased with funds generously donated and raised by the Expeditionary Combat Support Squadrons.⁴¹ The Caribous and the CSG contingent were withdrawn in July/August 2004 when the security situation was such that a response by the Army's infantry forces could be maintained from Australia rather than deployed forward.

The security situation in the Solomon Islands did deteriorate again, in December 2004 only days before Christmas and the Asian tsunami, when Leading Aircraftman Adam Dunning, a member of the RAAF Reserve and formerly of 2 Airfield Defence Squadron but now serving with the Australian Federal Police in Honiara, was fatally shot while on a routine vehicle patrol in support of RAMSI. Australia immediately dispatched an infantry company group from the Army's 3rd Brigade, requiring only air terminal support from CSG, and later scaled down the presence as the situation calmed.

Following national elections in mid-April 2006, which resulted in widespread rioting in Honiara and minor injuries to a number of Australian policemen, infantry forces were again deployed, accompanied by a Rifle Flight from 2 Airfield Defence Squadron for security at Henderson field, a medical team from 3 Combat Support Hospital and a 1 Air Terminal Squadron air load team. Unlike the earlier deployment in 2003, airfield aspects of the later deployment worked well, albeit on a much smaller scale and after some negotiation on arrival.

The Commander Joint Task Force appointed the Rifle Flight Commander, Flight Lieutenant Paul Brnada, in charge of the airfield and all units in location, including an Army aviation element, and assigned him boundaries out to the surrounding area. All he had to do, Paul Brnada explained, was to ensure that he knew 'who or what wanted

⁴¹ *Air Force News*, vol. 46, no. 5, 8 April 2004, p. 5. The first Expeditionary Combat Support Squadron rotation started the community projects, which were continued by the subsequent rotations.

to land and come onto the airfield so we could accommodate them and ensure open and clear communication, which worked well'.⁴² One of the expected tasks of the CSG element, which remained at Honiara until late May, was to handle evacuees wanting to leave Honiara, though few such flights eventuated.

Short-notice, rapid response operations are fairly common for CSG, even outside of the major natural disasters and security breakdowns that attract international attention. Response times for cyclone and similar disaster relief efforts in Australia and the near region, which have long been conducted by RAAF C-130s, reduced to a 'near-immediate' response from the mid-1990s after Emergency Management Australia stockpiled stores in the Sydney area. Often, such as for the Australian relief effort to Iran following an earthquake on Boxing Day 2003, CSG involvement is limited to preparing and packing cargo and loading aircraft at Richmond. Air load teams though, frequently do travel with the relief aircraft to help unload, such as to the cyclone-ravaged Pacific island of Niue in early January 2004 where they unloaded the relief stores by hand. A few weeks later another air load team supported a C-130 relief effort to Vanuatu, devastated by Cyclone Ivy.



Unloading a C-17 Globemaster III, Williamtown, May 2007 – Air load teams frequently support short-notice disaster relief tasks

(No 1 Air Operations Support Squadron)

⁴² Squadron Leader Paul Brnada, email to the author, 4 April 2008.

The 1 Combat Logistics Squadron EOD Flight also occasionally responds at short notice, to aircraft crashes in Australia when explosive ordnance is involved and to other incidents. Unexploded ordnance from a former World War II stockpile of Japanese aerial delivered bombs resulted in a number of short-notice deployments for the EOD Flight during 2004–05, to Nauru. The first bomb clearance mission conducted by the RAAF in recent history to Nauru was in late 1970 by the Central Ammunition Depot; long before ordnance clearance was regrouped with the air base and combat support roles.⁴³ The three contemporary missions, labelled *Nauru Assist 1–3*, were alike though their differences reflect the maturing nature of the EOD role within CSG and some significant improvements in the planning process.

Nauru Assist 1, conducted in April 2004, was planned almost entirely within the unofficial EOD network from the Australian Theatre operational level headquarters directly to the flight level within 1 Combat Logistics Squadron, without the knowledge of anyone in the formal chain of command until after the initial reconnaissance team had deployed. All three were well-executed missions but the subsequent operations in April and September 2005 demonstrated a much improved planning process, with medical, logistic and C-130 support included for *Nauru Assist 3*. The later missions also included training for the local police in bomb recovery, a broader reconnaissance of the island and plans for a longer term solution to assist Nauru address the problem. Another EOD mission to Kiribati in August 2008, Operation *Kiribati Assist*, with similar objectives to the latter Nauru missions and conducted jointly with Navy and Army teams, demonstrated a continuation of the improved planning process and the now mature nature of CSG's EOD capability.

While the increased tempo of operations, both in the Middle East and closer to home, showed no signs of easing and disaster relief missions seemed more intense and frequent in the new decade, they did not shape the CSG organisation. The primary force structure determinant for the ADF, and consequently for CSG, remained as the defence of Australia. The CSG structure, based primarily on the three Expeditionary Combat Support Squadrons of 395 Wing supplemented by the specialist units of Airfield Defence Wing, Health Services Wing and Reserve personnel for sustainment plus the three main bases manned by 396 Wing in the north, met the defence of Australia needs for expeditionary air bases and was readily adaptable to meet lesser contingencies, as it had for the war on terror in Afghanistan, the invasion of Iraq and numerous security and disaster relief missions nearer to home.

⁴³ RAAF News, vol. 12, no. 11, December 1970, p. 6.



Flight Sergeant Colin Lyster recovers a World War II bomb, Operation Nauru Assist, 2005 – No 395 Expeditionary Combat Support Wing conducted three bomb recovery missions to Nauru during 2004–05

(Paul Muscat)

Australia's National Security: A Defence Update 2003, released in February 2003 as an update document to the Defence White Paper (*Defence 2000: Our Future Defence Force*) when the invasion of Iraq was imminent, emphasised the twin global threats of terrorism and weapons of mass destruction (WMD), and continued instability in the nearer region as shaping Australia's strategic environment. Although the update concluded that the White Paper of 2000 remained basically sound, the changed strategic environment required some rebalance of ADF capabilities and of the expenditure projected in the Defence Capability Plan, to ensure a more flexible and mobile force.⁴⁴

For the Air Force, new capabilities to be delivered over the coming decade and life of the Defence Capability Plan were significant. The rebalance would shuffle some of the planned capabilities as priorities changed to reflect the updated strategic guidance, and add some new capabilities. More importantly for CSG, the Air Force itself would

⁴⁴ Department of Defence, *Australia's National Security, A Defence Update 2003*, Department of Defence, Canberra, 2003, www.defence.gov.au/ans2003/Report.pdf, accessed 2 February 2008.

reshape and rebalance to prepare for the future capabilities. The combat support organisation, perhaps more than any, would change.

CHAPTER 8

RESHAPE AND REBALANCE

Change has been an ongoing process for Combat Support Group (CSG) since May 1998 when it was formed. The broader Defence environment, since the major shake-up delivered by the Defence Reform Program in the late 1990s, was one of continuous improvement and the Air Force constantly considered the future challenges and how it might adapt for the new capabilities to be delivered through the Defence Capability Plan.

The networked combat and command systems of the future, Wedgetail Airborne Early Warning and Control aircraft, the Joint Strike Fighter, the KC-30A Multi Role Tanker Transport and the Multi-mission Unmanned Aerial Vehicle (MUAV) would require an Air Force with some different skills to exploit and support them fully. Most of the previous changes to CSG were finetuning of an organisation that had been fashioned in rather tumultuous circumstances. Now it would have to adapt, to meet future and broader Air Force needs.

Health Services Wing and 396 Combat Support Wing were the major additions to CSG in its first decade, addressing perceived shortfalls to the initial organisation, while impossible command arrangements on the bases and extra funding following the East Timor deployment drove lesser though still significant change. The evolving 'Force Protection' concept and a desire to streamline the expeditionary wings and units caused a number of internal reviews during 2001–03 but no major change resulted. Apart from any other factor, further change without good reason after the initial heady years of CSG was unlikely to be endorsed by the Chief of Air Force.

Growing concerns over a lack of standardisation and the management of air base infrastructure identified by the Aviation Capability Improvement Team review did attract wider attention and prompted Air Commodore Andy Kilgour, appointed as Commander Combat Support Group in 2004, to undertake a major review with a focus on the fixed bases and a general tidy up of the organisation during his tenure. No 322 Combat Support Wing at Tindal, a 'one-squadron, one-base' wing since May 1998, was disbanded in July 2005 while its subordinate 322 Combat Support Squadron folded into 396 Wing, which also took on the southern Air Command bases giving it a truly 'main base' focus.¹

¹ The Training Command bases (East Sale, Williams, Pearce and Wagga) were excluded and remained under the

Other changes flowing from the review, which was conducted by Group Captain Ian Frame in a 'bottoms-up' approach, standardised the air terminal function on all bases under 1 Air Terminal Squadron, transferred an airfield engineering capability to each of the Expeditionary Combat Support Squadrons from 1 Combat Logistics Squadron which retained the heavy plant capability, standardised unit structures including the mechanical engineering functions at Richmond, and established a combat support position within the Directorate of Plans, Headquarters Air Command.²

More changes were driven by broader Defence issues. Corporate governance became a priority across the ADF in 2004 after concerns over Defence accounting practices and doubts about the recorded value of its inventory were raised by the National Audit Office. A Logistic Services Agency, or Equipment Management Section as it became known, was established within Headquarters Combat Support Group with a staff of about 15 to manage equipment accounts, while the squadrons in the field underwent a frenzy of stocktakes to restore the accounts. A Senate inquiry into Australia's military justice system, critical of disciplinary investigations conducted by the ADF, resulted in the transfer of CSG's Security Police investigators to the newly established Provost Marshal – Air Force in late 2006, and prompted a further review of the other Security Police roles and their career streaming.³

The ongoing review of training needs, which had started in 2002, led to a new Air Base Executive Course, designed primarily for the fixed-base commanders with a focus on governance, leadership and management to complement existing Air Force and CSG courses. The ground work was laid for a CSG categorisation scheme too, similar to that applied on all Air Force flying squadrons, but it would require significant development and was still to be implemented at the time of writing. The changes through 2005–06, however, seem minor when compared to the restructure to come under the rebalance project in 2007.

Development of the ADF's command and control functions with the pending relocation of the Air Operations Centre from Glenbrook to a purpose-built facility at Bungendore, near Canberra, provided the impetus for major change to the Air Force and for CSG as a consequence. The standing up of the Joint Operations Command

Training Commander but were to follow CSG procedures and standards set by 396 Combat Support Wing, whose headquarters was to relocate from Darwin to Amberley.

² Air Force Organisation Directive 03/05 – Reorganisation of Combat Support Group, 29 June 2005. Changes to the engineering function at Richmond included the transfer of the 1 Combat Communications Squadron MEOMS (Mechanical Equipment Operations Maintenance Section) function to 386 Expeditionary Combat Support Squadron. Earlier internal reviews during 2002–03, which were not implemented, focused on 1 Combat Communications Squadron, 1 Combat Logistics Squadron, 1 Air Terminal Squadron and Airfield Defence Wing.

³ Air Force Organisation Directive 2006-05 – Formation of Provost Marshal – Air Force, Service Investigation Organisation, 11 September 2006.

(JOC) and the collocation of the components (maritime, land, air and special operations) would change the Air Commander's role from operations to a raise, train and sustain function. Coupled with the continuing high operational tempo that directly affected only portions of the Air Force, and the need to prepare for future new capabilities, which received extra emphasis after the unplanned-for C-17 Globemaster III heavy lift aircraft was added to the inventory in 2006, change was unavoidable.

The Chief of Air Force, Air Marshal Geoff Shepherd, identified a need to rebalance the Air Force to ensure the workforce was best placed to meet current demands, and then to reshape it for the longer term to prepare for future demands. In essence, the Air Force had to create more 'head space' first, in its heavily tasked current workforce before it could prepare itself for future new capabilities.



No 1 Air Operations Support Squadron marshaller, May 2007 – The C-17 and other major equipment plans caused the Air Force to rebalance and reshape for the future

(No 1 Air Operations Support Squadron)

CSG, commanded by Air Commodore Mark Gower from 2006, undertook a major review as part of the rebalance and reshape projects. The first change resulted from the raising of the Air Force Training Group in July 2007 as a Force Element Group within

Air Command. The former Training Command bases (East Sale, Pearce, Wagga and Williams) passed to CSG, albeit the vast majority of support on those bases would continue to be provided by the Defence service provider groups by now consolidated as the Defence Support Group (DSG).

To address the changed operational arrangements under the Joint Operations Command, which would plan all joint operations rather than Air Command but without any combat support expertise, a Combat Support Coordination Centre (CSCC) was raised at Amberley as a single point of contact for combat support operations planning. The idea came from the early success achieved by Air Lift Group's Air Mobility Control Centre, which itself was an adaptation of a US model.

Underlying the reshaping of CSG was a refocus on the expeditionary role and an acknowledgement that every unit was part of the expeditionary capability, or rather perhaps, with constrained resources and a continuing high rate of operational activity that showed no signs of slowing, that every support person had to contribute. The northern based units (321, 322 and 323 Combat Support Squadrons), which had focused exclusively on their fixed bases but did provide individuals for deployment, were retitled as Expeditionary Combat Support Squadrons and assigned an expeditionary role as a composite northern Expeditionary Combat Support Squadron under the renamed 396 Expeditionary Combat Support Wing. The Airfield Defence Wing was disbanded and the three Airfield Defence Squadrons consolidated into two and transferred to 395 Expeditionary Combat Support Wing. No 2 Airfield Defence Squadron would continue to be the higher readiness squadron with Permanent Air Force manning while 1 Airfield Defence Squadron provided the Reserve capability. No 386 Expeditionary Combat Support Squadron based at Richmond was also disbanded, to supplement the northern units, while 1 Combat Logistics Squadron and 1 Air Terminal Squadron were combined into a single unit named No 1 Air Operations Support Squadron (1AOSS), with an increase of around 80 positions for air load teams to cater for the impending arrival of the C-17.⁴

Command of the rearranged units was evenly distributed between 395 and 396 Wings, though for operations they would be interdependent. Under the reshaped CSG, 395 Expeditionary Combat Support Wing commanded the Airfield Defence Squadrons and the majority of base personnel in two of the three Expeditionary Combat Support Squadrons, whereas 396 Expeditionary Combat Support Wing commanded the communications specialists in 1 Combat Communications Squadron

⁴ Air Force Organisation Directive 2007-03 – Reorganisation of Combat Support Group (CSG), 18 July 2007. Combat Support Units Richmond and Glenbrook were combined as No 325 Combat Support Squadron on 1 October 2008; see Air Force Organisation Directive 2008-04 – Renaming Combat Support Unit Richmond to No 325 Expeditionary Combat Support Squadron, and Disbandment of Combat Support Unit Glenbrook, 29 August 2008.

and all of the airfield engineers, air load teams and the shared equipment in 1 Air Operations Support Squadron. Both were also interdependent on Health Services Wing, which itself was to be reorganised into four Expeditionary Health Squadrons including the health flights of the southern bases on transfer from the former Training Command. A Health Operational Conversion Unit (HOCU) was also to be formed but, at the time of writing, the reorganisation had still to be formally endorsed. The air transportable hospital concept was discarded in favour of the Fly Away Surgical Team (FAST), long a part of the health construct but now the preferred add-on for expeditionary health facilities when an emergency surgical capability is required. For joint operations and exercises, the Combat Support Coordination Centre, as the coordinating authority, was pivotal to the reorganised CSG both to coordinate across the wings and as a link to Joint Operations Command at the operational level.

Units on the main bases were also rationalised, although now there were a lot more of them under the command of CSG. Responsibilities were distributed evenly between the CSG wings with 395 Expeditionary Combat Support Wing relocating from Townsville to Amberley in late 2007 with added responsibilities for the Combat Support Units at East Sale, Richmond, Glenbrook, Williams and Wagga, while those at Edinburgh and Pearce were added to 396 Expeditionary Combat Support Wing's northern-based units.

At Williamtown and Amberley the two non-expeditionary Combat Support Units were disbanded, their responsibilities passing to the resident Expeditionary Combat Support Squadron. Under a broader plan to clarify the division of responsibilities on the fixed bases, between CSG and the Defence Support Group, Air Force began to step back from other than the essential 'around the tarmac' airfield services, one of the primary intentions of the Defence Reform Program that led to the formation of CSG in 1998. Following a pilot program run at Amberley during 2008, use of the Base Commander term would lapse, to allow the Defence Support Group Base Managers to fulfil their roles while CSG focused on the generation of air power. The expeditionary air base command model, though, would not change.

Of the future capabilities planned for the Air Force, the C-17 and the KC-30A tanker transport aircraft had the more immediate implications for CSG. Although air load teams had handled heavy-lift and outsized aircraft for some time, mainly Defence charters for major ADF deployments and occasional USAF C-17s, they were more spikes of activity rather than a routine occurrence. The C-17, with a lift capacity four times that of the C-130J, brought project upgrades to some of the base air terminal facilities, some new air load and cargo handling equipment as well as the increased number of positions for air terminal staff.



AME training on the C-17 for Health Services Wing with the US 18th Aeromedical Evacuation Squadron, Kadena, Japan, 2007

(Health Services Wing)

Health Services Wing personnel undertook familiarisation training on the C-17 with the USAF during 2007, to learn about the improved AME capability.⁵ New equipment, namely the Deployable Aeromedical Retrieval and Transport System (DARTS), had been designed, purchased and brought into service for an enhanced C-130 AME capability since the Bali bombings in 2002 and 2005, but still the C-17 offered some distinct advantages for medical staff, patient care and comfort.⁶ Health Services Wing also received new equipment through Joint Project (JP) 2060, with deliveries of portable imaging and monitoring systems, and other equipment expected through to 2011, and new technology equipment not yet approved but expected to follow in a later phase of the project.⁷

⁵ Chris Vadnais, 'Masters at AME', in *Air Force*, vol. 49, no. 21, 15 November 2007, p. 7. Eleven members of Health Services Wing received familiarisation training from the 18th Aeromedical Evacuation Squadron at Kadena Air Base, Japan.

⁶ Tracy Smart, Linda Corbould and Jeff Stephenson, 'Next generation aeromedical evacuation: the C-17 Globemaster', in *ADF Health*, vol. 8, no. 1, April 2007; and Wing Commander Ross Wadsworth, email to the author, 18 April 2008. DARTS provides power and restraint for medical equipment (and consumables) and is designed within airworthiness requirements.

⁷ Department of Defence, Defence Materiel Organisation, 'JP 2060 – ADF Deployable Medical Capability – Project Overview', www.defence.gov.au/dmo/lsd/jp2060/jp2060.cfm, accessed 8 April 2008; and *Air Force*, vol. 47, no. 4, 24 March 2005, p. 5.

A number of other major projects managed by the Defence Materiel Organisation delivered new equipment, or neared the delivery phase, for CSG during 2007–08. The Airfield Defence Squadrons received new Bushmaster protected mobility vehicles through Project *Bushranger* after a prolonged wait and extended use of interim solutions for most of a decade for the quick reaction force role and air base mobility of the airfield defence guards (ADGs). The first of the new ‘next generation’ Rosenbauer Panther aircraft rescue and firefighting vehicles, replacing the Trident vehicles, with potential for expeditionary use according to the Defence Materiel Organisation, were delivered in March 2008 with further deliveries expected through to 2009, in time for the arrival of the KC-30A aircraft later that year. Improved material handling equipment and mobile cranes were delivered under the Joint Theatre Distribution System project, while future field vehicles are due later in the decade under Project *Overlander*. This latter project will gradually replace the current fleet of Land Rovers and Mercedes Unimog medium trucks starting with the Amberley-based squadrons and, possibly, will eventually replace some of the commercial vehicles purchased as an interim measure under the CSG remediation projects.



Bushmaster protected mobility vehicles were among the new equipment delivered by joint projects in 2007–08

(No 395 Expeditionary Combat Support Wing)

CSG also benefited from enhancements to command support systems and deployable information technology through the Joint Command Support Environment project, updated night vision and sensing equipment through Project *Ninox* and consignment tracking systems through the Improved Logistics Information System project, with further improvements to logistic systems expected to follow.⁸

The operational tempo did not slow for the reorganisation, or for the ongoing projects and development of CSG's equipment needs. During 2005–06, CSG wings and their units participated in no less than eight offshore operations, not counting the ongoing major commitments to Operations *Catalyst* and *Slipper* in the Middle East and the no less important domestic operations conducted within Australia. Ongoing support to the exercise schedule also continued at a high level, with CSG involved in at least two major joint and numerous other exercises annually, plus the all important wing and unit exercises which remain essential for individual and unit currency and readiness to sustain the major operations.

The period was the busiest in CSG's history if the frequency of operations becomes the yardstick but that would be a very unwise measure as the initial East Timor and Middle East deployments involved far greater numbers of people over much longer periods in more complex operations. In truth, every year in CSG's first decade was busy, even the years with fewer operational deployments because invariably that allowed a greater participation in more exercises, not to exclude the administrative tempo that seemed always to be high.⁹

Humanitarian assistance missions continued to dominate in the count of operations through 2006. Operation *Pakistan Assist* was in response to a major earthquake that hit in the Pakistan-administered region of Kashmir in the mountainous terrain of northern Pakistan on 8 October 2005, leaving an official death toll of over 70 000 and as many injured, with millions left homeless and much of the infrastructure in the remote area destroyed.

No 3 Combat Support Hospital provided one of four ADF, five-person, primary health care teams, assisted by a supplier from 386 Expeditionary Combat Support Squadron and with Wing Commander Karen Leshinkas of Headquarters Health Services Wing assigned to the Joint Task Force headquarters. The 140-strong medical and support contingent established Camp Bradman near the small village of Dhanni, on the higher reaches of the Neelum Valley about 25 kilometres north-east of Muzaffarabad. The 121-day deployment, from November 2005 to April 2006,

⁸ Department of Defence, Defence Materiel Organisation, '2006–16 Defence Capability Plan: Public Version', www.defence.gov.au/dmo/id/dcp/dcp.cfm, accessed 14 April 2008; and Defence Materiel Organisation, 'Projects', www.defence.gov.au/dmo/lsp/index.cfm, accessed 14 April 2008.

⁹ A list of the major ADF operations involving CSG is provided at Appendix 4.

extended another 30 days for the 3 Combat Support Hospital team who remained in support of Army helicopters that had deployed to Qasim Air Base outside of Islamabad, was characterised by extreme cold and often wet conditions as the winter settled, long and difficult lines of supply and a high professional satisfaction with the care provided at a time of extreme need.¹⁰

No 1 Air Terminal Squadron supported the deploying aircraft, while a Rifle Section from 2 Airfield Defence Squadron, led by Flying Officer Robert Skoda, provided aircraft security for 86 Wing at Islamabad over the initial three-week deployment period.



Health Services Wing medical staff at Camp Bradman near Dhanni, Pakistan, 2006 – The Pakistan earthquake added to a long list of disaster relief operations

(From left: Leading Aircraftman Michael Gunn, Sergeant Maria Brown, Flight Lieutenant Tim Strickland, Flight Lieutenant Audrey Tan, Wing Commander Karen Leshinskas, Flight Lieutenant Paul McGinty and Sergeant Symon Yeates)

(Health Services Wing)

At home, the destruction caused by Cyclone Larry after it crossed the coast of far north Queensland near Innisfail on 20 March 2006 was likened to ‘some terrible bombing

¹⁰ Paul McGinty, ‘Operation Pakistan Assist’, in *ADF Health*, vol. 8, no. 1, April 2007; and *Air Force*, vol. 48, no. 4, 23 March 2006, p. 5.

raid' by the former Chief of the Defence Force (CDF), General Peter Cosgrove.¹¹ While there was no loss of life or any severe injuries reported, the Category 5 tropical cyclone destroyed thousands of homes and businesses, prompting the Queensland Government to declare a natural disaster zone and appoint the former CDF to coordinate the reconstruction effort.

No 1 Air Terminal Squadron air load teams at Townsville, supplemented by others from Richmond and Williamtown, prepared relief stores for airlift to Innisfail and handled 86 Wing Caribou and C-130 aircraft in both locations. Two airfield engineering officers from 395 Expeditionary Combat Support Wing monitored the Innisfail runway for damage while about 50 airfield engineering and support staff from 1 Combat Logistics Squadron, commanded by Squadron Leader Craig Sedgman, were assigned to the ADF's Joint Task Force formed for Operation *Larry Assist*. Supplemented by firefighters and motor transport fitters from 382 Expeditionary Combat Support Squadron, 1 Combat Logistics Squadron remained in the Innisfail area from 26 March to 3 April. Their primary tasks included the clearing of debris and assistance to the local community with tree lopping, erecting temporary roofing and generally cleaning up. A logistics officer from Headquarters 395 Expeditionary Combat Support Wing also deployed as the CSG liaison officer to the Joint Task Force Headquarters.¹²



Helping to clean up Innisfail after Cyclone Larry, 2006

(No 395 Expeditionary Combat Support Wing)

¹¹ General Peter Cosgrove, cited in Michael Brooke, 'Vital signs', in *Air Force*, vol. 48, no. 5, 6 April 2006, p. 3.

¹² Wing Commander Ian Browning, 395 Expeditionary Combat Support Wing, email to the author, 6 March 2008.

No 322 Combat Support Squadron at Tindal aided the nearby community of Katherine in early April 2006 when floods caused the evacuation of the local hospital and a nursing home. The squadron, assisting local civilian medical staff and supplemented from Darwin (321 Combat Support Squadron), cared for the evacuated patients, one of whom gave birth at Tindal, and provided logistic support by way of bedding, showers, laundering and the like to the people of Katherine.¹³

Much further from home, Lebanon was an unlikely place for the ADF to be sent on operations; even less so for the Air Force and CSG during the war in July 2006 between Israel and the Hezbollah when Israel launched a series of attacks into Lebanon, including air strikes against Beirut International Airport. The strikes were in retaliation for a Hezbollah attack against an Israeli border patrol resulting in a number of deaths and the capture of two Israeli soldiers.

Department of Foreign Affairs and Trade (DFAT) estimates were of 25 000 Australians in Lebanon at the time, which coincided with the peak holiday season.¹⁴ ADF Operation *Ramp* was in support of DFAT to help evacuate Australians from war-torn Lebanon, mostly by sea to Cyprus and from there by air to Turkey, while some others were evacuated by road through Syria and on to Jordan. Movement for the evacuees onward from Cyprus to Turkey was by both an 86 Wing C-130, diverted from tasks elsewhere in the Middle East, and chartered civil flights arranged by DFAT.

No 386 Expeditionary Combat Support Squadron provided an Evacuee Handling Centre (EHC) under the command of Squadron Leader Craig Sedgman (1 Combat Logistics Squadron) and including a 1 Air Terminal Squadron air load team, 2 Air Transportable Health Squadron medical staff and a 3 Airfield Defence Squadron section of ADGs for EHC and aircraft security, bringing the total strength to 32. Based at Larnaca on Cyprus from 21 July, the primary roles of the EHC were to receive and process evacuees arriving by sea from Lebanon and to assist with their onward movement to Turkey. An element of the CSG EHC, one of two deployed as part of the ADF's Joint Task Force on Operation *Ramp* (the other, mounted by the Army, was based in Turkey), deployed to Beirut aboard the MV *San Gwann* in early August to collect evacuees after an earlier attempt aboard the same vessel to Tyre was aborted due to the shallow depth of the harbour.¹⁵

¹³ *Air Force*, vol. 48, no. 6, 20 April 2006, p. 3.

¹⁴ Department of Foreign Affairs and Trade, *Department of Foreign Affairs and Trade Annual Report 2006–2007*, 'Output 2.1: Consular and Passport services – The Lebanon evacuation', p. 175, www.dfat.gov.au/dept/annual_reports/06_07/downloads/full.pdf, accessed 19 April 2008.

¹⁵ Squadron Leader Craig Sedgman, email to the author, 18 April 2008. A team of about 10 from the EHC deployed to Beirut in a one-day operation for the seaborne evacuation. Redeployment to Australia was gradual, over a 10-day period as evacuations slowed, the last of the squadron personnel arriving home on 19 August 2006.



CSG provided one of two ADF EHC teams to assist evacuate Australians from war-torn Lebanon, Operation *Ramp*, 2007

(Craig Sedgman)

A small Medical Assessment Element, led by Group Captain Tracy Smart and occasionally supplemented by the EHC medical staff, also joined the Defence Supplementation Staff at the Australian Embassy in Beirut to assist DFAT in the evacuations; liaising with the Joint Task Force and helping with the collection, assembly, initial processing and care of evacuees. No 386 Expeditionary Combat Support Squadron processed around 3000 evacuees on Cyprus during Operation *Ramp*. In total, 5164 Australians and their immediate dependents, plus a further 1250 nationals from third countries, were evacuated from Lebanon.¹⁶

Despite some initial misgivings by the media and some in the local Lebanese community because of the perceived slow response by Australia, Operation *Ramp* can only be considered as an outstanding success. The distance from home, the large number of evacuees and the liaison required for safe passage within war-torn Lebanon and neighbouring countries made *Ramp* an extremely complex operation. Writing in the *defender* magazine, Ian Dudgeon, a Canberra-based consultant with experience in both Defence and DFAT, attributed the success to 'many factors' including 'the personnel involved, their availability, including their ability to move at very short notice, and the commitment, sheer hard work and competence of all in the operational and logistic chains'.¹⁷

¹⁶ Department of Foreign Affairs and Trade, *Department of Foreign Affairs and Trade Annual Report 2006–2007*, p. 175; and *Air Force*, vol. 48, no. 19, 19 October, 2006, p. 5.

¹⁷ Ian Dudgeon, 'Crisis contingency plans: The Lebanon experience', in *defender: The National Journal of the Australian Defence Association*, vol. XXIII, no. 3, Spring 2006, p. 25.

The ADF returned in numbers to the former East Timor during May 2006 after riots had broken out and street gangs rampaged amid rivalry within the young country's military and police forces. Around 2500 ADF personnel, based on an Army battalion group, deployed on Operation *Astute* at the request of the Timor-Leste Government to help stabilise a worsening security situation and, initially at least, to evacuate Australians from danger.

No 382 Expeditionary Combat Support Squadron, under the command of Wing Commander Rob McKenzie, provided the core of the EHC at Dili (Comoro) with 2 Airfield Defence Squadron, under Squadron Leader Michael Krause, assigned for security. Communications staff and equipment from 1 Combat Communications Squadron, air load teams from 1 Air Terminal Squadron, Health Services Wing medical personnel drawn mainly from Darwin, and some air traffic control officers from 44 Wing were attached to 382 Expeditionary Combat Support Squadron for EHC and air base duties. They processed over 500 evacuees in the first week, while concurrently providing essential airfield services for the deployment C-130s, evacuating personnel on their turnaround.

In total, as the evacuations eased after the first week and the force built up for stabilisation operations, around 155 personnel deployed to Comoro with 382 Expeditionary Combat Support Squadron and another 70 with 2 Airfield Defence Squadron, including attached military working dog teams. CSG also provided a significant number of personnel to the Joint Task Force command element at Darwin, headed by Wing Commander Forster Breckenridge (386 Expeditionary Combat Support Squadron) working as the Executive Officer to Group Captain John McGarry (86 Wing).¹⁸

Operation *Astute* demonstrated the flexible nature of combat support with a seamless transition from evacuation to stabilisation operations on a short-notice deployment, though that had always been the distinguishing characteristic of the RAAF EHC with its personnel drawn from air base duties and air evacuations seen as a natural extension of the air terminal role. *Astute* also demonstrated the awareness of CSG capabilities within the joint arena, and increased confidence in the Expeditionary Combat Support Squadron commander to be given greater responsibilities. After the evacuation phase, for the remaining three months of the deployment, Rob McKenzie was appointed as Camp Commandant at Comoro by the Commander of the Joint Task Force and was assigned eight Army units (or parts thereof) and upwards of 500 personnel, in transit or permanently in location, under his control. Although

¹⁸ Wing Commander Rob McKenzie, email to the author, 3 April 2008; Browning email, 6 March 2008; and *Air Force*, vol. 48. no. 12, 13 July 2006, p. 8. No 1 Air Terminal Squadron, 3 Airfield Defence Squadron and 386 Expeditionary Combat Support Squadron were not disbanded until 1 January 2007. Health staff, after the evacuation phase, worked in the jointly manned Australian Military Hospital (Dili).

joint units are commonly assigned to an Expeditionary Combat Support Squadron on operations and exercises, on Operation *Astute* they appear to have been assigned with a far greater confidence and understanding of the local CSG commander's capabilities.¹⁹

From a health perspective, *Astute* also marked the first deployment of the Deployable Aeromedical Retrieval and Transport System (DARTS) on an operation, deploying with the enhanced AME team on the first C-130 into Dili. Elements of CSG, including military working dog teams for tarmac security, remain deployed to Timor-Leste on Operation *Astute* at the time of writing.

No 382 Expeditionary Combat Support Squadron, still under the command of Rob McKenzie, also deployed to PNG for humanitarian operations during November 2007 after torrential rain from Cyclone Guba had caused substantial damage to infrastructure in the Oro Province and resulted in over 150 deaths. Supporting AusAID relief efforts, 382 Expeditionary Combat Support Squadron, with about 50 personnel including attachments from 1 Combat Communications Squadron and 1 Air Operations Support Squadron, established a forward operating base at Girua for around two weeks from late November, to support C-130, Caribou and Army Black Hawks, among other non-military aircraft, distributing relief stores. A Medical Assessment Element also deployed for the first week of the operation.

Despite some misgivings with the initial planning, Operation *PNG Assist* was extremely successful with nearly 500 tonnes of stores handled by 382 Expeditionary Combat Support Squadron in a fairly short time frame. Shortfalls in planning, which included the communications plan done in isolation of the Expeditionary Combat Support Squadron plan, should have been no surprise as *PNG Assist* coincided with the move of Headquarters 395 Expeditionary Combat Support Wing from Townsville to Amberley and the Combat Support Coordination Centre (CSCC) was still fairly new.²⁰

A 15-strong medical team led by Wing Commander Michele Walker, the Commanding Officer of 1 Air Transportable Health Squadron, returned to the Solomon Islands in April 2007 on Operation *Solomon Assist* after a tsunami struck the western islands causing 52 deaths and leaving around 7000 people homeless. Though not as widespread or devastating as the Asian tsunami of 2004, the medical team provided primary health care, very little trauma, and worked with local health care

¹⁹ Contrast the situation in Dili on Operation *Astute* in 2006 with that at Honiara on Operation *Anode* in 2003. No doubt the experience of the Army units involved affected the outcomes in each case, with 3 Brigade senior officers having a long-term relationship with CSG in the field, as distinct from the Logistic Support Force (at Honiara) with a very limited experience of CSG in the field.

²⁰ Wing Commander Robert McKenzie, email to the author, 12 April 2008. The CSCC was formed in early 2007.

staff on Choiseul Island for two weeks while medical services were re-established and confidence of the population restored.²¹



The health team for tsunami relief at Choiseul Island, Solomon Islands, April 2007 (Contingent commander, Wing Commander Michele Walker, at the front (second from left))

(Health Services Wing)

AME teams also responded to the crash of a Garuda airlines Boeing 737 passenger jet at Yogyakarta airport in Indonesia on 7 March 2007, on ADF Operation *Garuda Assist*. Twenty-one passengers were killed in the accident, including five Australians, with the AME teams arriving by C-130 just over 12 hours after the crash to assist with repatriation of the injured Australians.²²

CSG supported the Melbourne Commonwealth Games in 2006 and the APEC Economic Leaders' Meeting in Sydney during November 2007,²³ through Operations *Acolyte* and *Deluge*, providing support to remote radar posts for air surveillance operations, base services and some explosive ordnance disposal technicians. Two cooks from 395 Expeditionary Combat Support Wing joined Operation *Outreach* in June 2007, supporting the Federal Government's intervention program into

²¹ Paul Lineham, 'Home from Solomons', in *Air Force*, vol. 49, no. 7, 3 May 2007, p. 6; and AusAID, Hot Topics (Archived Topics), 'Solomon Islands Earthquake and Tsunami', www.ausaid.gov.au/hottopics/archive.cfm, accessed 23 April 2008.

²² Andrew Stackpool and Joseph Ternowetsky, 'Touched by tragedy', in *Air Force*, vol. 49, no. 4, 22 March 2007, p. 3.

²³ APEC (Asia-Pacific Economic Cooperation) was established in 1989 and is the premier forum for facilitating economic growth, cooperation, trade and investment in the Asia-Pacific region.

indigenous communities in the Northern Territory, while Health Services Wing medical staff had some limited involvement in the initial reconnaissance and survey teams for the intervention.

CSG's involvement in Operation *Azure* also commenced from 2007, with a six-month rotational deployment of a warrant officer air load specialist to the United Nations Mission in Sudan (UNMIS). Airfield engineers continued their involvement, started in the late 1990s, with Army engineers in supporting indigenous communities through the Army Aboriginal Community Assistance Program (AACAP), assisting with construction tasks at remote locations on Cape York and in northern Western Australia.

In May 2008, a No 1 Air Operations Support Squadron air load team accompanied a 36 Squadron C-17 aircraft delivering relief stores to Rangoon in the aftermath of Cyclone Nargis, while later on that year, in November, 382 Expeditionary Combat Support Squadron assisted in the clean-up of Brisbane's inner western suburbs which had been devastated by a cyclonic-like tropical storm. During December, 381 Expeditionary Combat Support Squadron activated Learmonth in support of an increased AP-3C surveillance effort for Operation *Resolute*, while on the same operation in April 2009, CSG medical staff responded, both at the scene and as AME teams, to help injured survivors of a foreign vessel that had suffered an explosion on board near Ashmore Reef.²⁴ Logistic, health and security personnel supported the recovery of an 86 Wing Caribou aircraft that crashed at Efogi, in the PNG highlands, in September 2008,²⁵ and during August EOD staff contributed to Operation *Kiribati Assist* on a joint clearance effort of World War II explosive ordnance discovered on the Pacific islands of Kiribati.²⁶ In February 2009, a team of airfield engineers deployed at short notice from Townsville to provide showers, ablutions and laundry facilities for the people of Kinglake, one of a number of Victorian towns devastated on 7–8 February by some of the worst bushfires Australia has experienced.²⁷

The year 2008 also marked 50 years of RAAF combat support at Butterworth, with celebrations hosted by 324 Combat Support Squadron during May. CSG celebrated its tenth anniversary in June, while Air Commodore Chris ('Noddy') Sawade was appointed as the fifth Commander in November.

²⁴ 'Rescue Mission – Air Force to the fore', in *Air Force*, vol. 51, no. 7, 30 April 2009, pp. 1 and 3.

²⁵ Flying Officer Eamon Hamilton, 'Bringing back the Bou', in *Air Force*, vol. 51, no. 1, 5 February 2009, pp. 12–13.

²⁶ The Hon. Joel Fitzgibbon MP, Minister for Defence, Media Release 095/2008, 'Operation Kiribati Assist', 8 August 2008.

²⁷ Andrew Stackpool and WO2 Graham McBean, "'Awesome" job by all', in *Air Force*, vol. 51, no. 3, 5 March 2009, p. 3.



The first Officer Commanding of RAAF Butterworth, Air Commodore Keith Parsons (Retd), is greeted by the Deputy Chief of Air Force, Royal Malaysian Air Force at the 50th anniversary celebrations of combat support at Butterworth, May 2008

(Author)

The number and variety of operational deployments during CSG's first decade provided much valuable experience for nearly every member of what had become one of the Air Force's busiest Force Element Groups. Some, particularly in the air load teams and medical units, were stretched at times by the prolonged high tempo, as were the wing headquarters staffs who were involved by necessity in every operation and exercise. The ADF's joint exercise program and the wings training schedule were both severely interrupted during CSG's earlier years, exercises being cancelled and others much down-scaled which in turn affected readiness, particularly for support to operations at the higher end of the combat scale. But after almost four years, the *Northern* series of exercises was reintroduced in 2004.

Exercise *Northern Station 04* involved all three Expeditionary Combat Support Squadrons—Nos 381 and 382 as players and 386 in an exercise control role—while in 2005 *Northern Awakening* was timed to coincide with the major joint exercise *Kakadu*, thus taking advantage of the Scherger base activation to attract participation by F-111s which were supported by 381 Expeditionary Combat Support Squadron and

2 Airfield Defence Squadron. In 2007 *Northern Station* involved 396 Expeditionary Combat Support Wing in its first expeditionary exercise.

No 386 Expeditionary Combat Support Squadron activated Curtin for the air defence exercise *Pitch Black 06*, while Health Services Wing's Air Transportable Hospital deployed to Shoalwater Bay on *Talisman Sabre 05* in its first and only deployment, save a shake-out exercise to Singleton in 2004. Exercise *Swift Eagle*, the annual Ready Deployment Force exercise, which had involved a CSG EHC on alternative years since 1994, included 382 Expeditionary Combat Support Squadron and 2 Airfield Defence Squadron in 2004, while the explosive ordnance teams of 395 Expeditionary Combat Support Wing continued to attend the annual Navy-led Exercise *Dugong*. EOD teams also deployed annually to Guam for Exercise *Tricrab*, a US Navy-led exercise with Singapore and the other US Services participating, though even it was cancelled on occasions due to the high tempo of operations.



Conferring with the Officer Commanding at Innisfail, 2006

(From left: Warrant Officer Phil Jones, Squadron Leader Craig Sedgman and Group Captain Ron Irons)

(No 395 Expeditionary Combat Support Wing)

Combined training, meaning with international forces, was rare for CSG, other than an occasional short exchange with the UK and New Zealand, or the permanent exchange enjoyed by 1 Air Terminal Squadron with the RAF and its regular interaction with US and RNZAF counterparts on both exercises and operations. During 2004 the Canadian Forces, while in the process of reviewing and developing their own

combat support capability, sent representatives to visit CSG on a fact-finding mission and returned some months later to observe Exercise *Northern Station*, which was also observed by the RNZAF.

A team from US Pacific Command visited *Northern Awakening* and *Kakadu* in 2005 while, in return, CSG participated with a representative on the US exercise *Unified Engagement* in Hawaii in August and October 2006. A group from the Headquarters US Pacific Air Force and other US visitors also observed *Pitch Black 06*, at both Darwin and Curtin. As a precursor to Exercise *Talisman Sabre 07*, a combined engineering team from the US Marine Corps, Australian Army and CSG airfield engineers constructed a C-17 capable runway in just three weeks in the Bradshaw Field Training Area in the Northern Territory under a Joint Rapid Airfield Construction project. During 2007 a small US team, mainly force protection specialists, attended *Northern Station* while CSG sent observers to the US exercise *Eagle Flag*, hosted by the Expeditionary Centre at Fort Dix, New Jersey, and an air base recovery exercise, *Silver Flag*, at Kadena, Japan.²⁸



CSG plant operators worked with US and Australian Army engineers to build a C-17 capable airfield from scratch in just 22 days, Bradshaw, NT, 2007

(No 1 Air Operations Support Squadron)

²⁸ Group Captain Paul Hislop, email to the author, 2 May 2008.

CSG's main arena for international engagement, at least since 2006, has been through standardisation committees. The longstanding Air Standardization Coordination Committee (ASCC), which was formed by the US, UK and Canada in the years following World War II and joined by Australia and New Zealand in the 1960s, had lost much of its relevance in the modern era. The Cold War philosophy, with its fixed base posture against a readily identifiable threat had long given way to the asymmetric threat and non-state adversaries, making expeditionary major combat or stability operations, peace support, counterinsurgency, humanitarian relief and evacuation operations the more likely scenarios for international cooperation. CSG became an active participant in most of the working groups of the newly formed Air and Space Interoperability Council (ASIC) from 2006, with a stronger focus on, inter alia, mobility, force protection and agile combat support.²⁹

The international attention CSG has attracted in recent years is but one of the indicators of the mature nature of the Air Force's combat support capability. Not that the RAAF is a world leader in expeditionary airfield support; far from it. Resources and size alone mean that CSG is but a bit player when compared to the support capabilities of the superpower, the US, or to those of other larger air forces such as the UK. But the concepts Australia has developed and successfully implemented through CSG are unique among air forces and attract some interest. The single organisation in particular and thus grouping of all combat support forces under the one command is one aspect that the larger air forces regard highly. Typically, other air forces operate with multiple specialist organisations under disparate command arrangements, not unlike the RAAF structures employed in the South-West Pacific during World War II.

No doubt the ADF's medium size and the Air Force's long history of involvement in expeditionary operations influenced the shape of its modern-day combat support force, even if the major catalyst for change in the late 1990s came from external demands for improved efficiency with mandated personnel ceilings; and that after nearly a decade of fruitless internal reviews.

Throughout Air Force history many of the lessons have been hard-learned, seemingly forgotten and then learned again. The failure to provide any combat support to Australia's initial commitment to the air war in Vietnam suggests that at least some of the lessons learned in the early days of World War II, at Rabaul and on the islands where the advanced operating bases were established, had been long forgotten. Events such as the bombing of Darwin in 1942, while not well known by those in the modern Air Force, would have influenced the thinking of some involved in the

²⁹ *ibid.*; and 'Air and Space Interoperability Council – Capstone Concept', www.dtic.mil/asic/docs/ASIC_CapstoneConcept.pdf, accessed 2 May 2008. 'Agile combat support' is US terminology adopted by the ASIC to describe the essential capabilities needed to deploy, establish, operate and maintain an air base.

shaping of combat support concepts over the decades that followed and thus must have ultimately flowed to CSG, albeit the links are now very obscure.

The lessons of unsuitable field equipment at the beginning of the Korean War, which contributed to some deaths and a wrongly deserved reputation for the support unit involved, had little effect on the equipment holdings of the Air Force in the 1970s. Just as the casual attitude towards aeromedical evacuation, so prevalent early in World War II, had again to be corrected in Korea. But it would be unkind not to praise those who paved the path for CSG throughout the Air Force's history, and it would be unjust not to acknowledge the enormity of the legacy left by them, through World War II, Korea, Vietnam and elsewhere.

There are many influences on a Defence capability, not least of which is the strategic environment in which the capability is shaped. Even particular commitments have different influences; the initial support in Vietnam may well have differed had Australia sent combat aircraft rather than a transport support flight to that war. It would very likely have differed too, had the self-supporting squadron concept proposed in the 1950s been adopted, rather than a reliance on the broader Air Force with which squadrons in the 1970s had few tactical links, let alone an understanding. A squadron concept though, while ultimately used in Vietnam and ill-applied initially in Korea, only suits 'plug-in' capabilities and could not support independent expeditionary air bases or many of the other more specialised tasks conducted by CSG.

CSG marked the most significant change in the peacetime history of Air Force combat support, with its permanently manned units for the expeditionary role, its single organisation and its forward-looking development function with staff dedicated to the role of managing and improving the support capability. The legacy left by its immediate predecessor organisation, Operational Support Group (OSG), and the independent units before, cannot be ignored for their contribution to the contemporary capability. The strategic circumstances of their time, and of the era that immediately preceded them, had little regard or capacity for an expeditionary support force. The basic wartime structures of CSG, however—procedures, training philosophy and fundamental doctrine—were all developed by OSG and the independent units, if not captured by them then at least resurrected from their experience for further development by CSG.



Former commanders of CSG at the tenth anniversary celebrations, Ipswich, June 2008

(From left: Air Commodores Bruce Wood, Chris Beatty, Stew Cameron, Andy Kilgour and Mark Gower)

(Author)

Of the three Services in the ADF, only the Air Force separates its combat support forces structurally from its major combat elements. The reasoning, for efficiency, is incontrovertible given the air combat capability that Australia has delivered under a tightly constrained personnel cap; and it has done so very successfully.

CSG has supported the full spectrum of air operations from fighter and strike in the application of force, albeit with coalition base support, to peace and stabilisation operations, airlift and air surveillance, humanitarian relief and emergency evacuations, and it has enabled command and control through its strategic communications networks. No single tactical organisation in the other Services, or in the Services of other countries for that matter, could have provided, let alone sustained for a decade, such an array of support.

Combat support may be a recent addition to Air Force terminology but the role is far from new. In various forms it has been a fundamental enabler for Australia's air combat capability since the Air Force was formed in 1921 and before in the Australian Flying Corps. At times, the basic need for combat support and air power's dependence on it has been poorly understood, the capability poorly employed and its preparedness

has been let falter. But it has always been there, and will continue into the future, regardless of its form.

During the past decade, in a period of unprecedented continual operational activity, Combat Support Group has built quite a legacy with its flexible construct proven in modern warfare. While the accolades are quite rightly attributed to the air combat forces, their successes would not have been achieved without the combat support forces.

APPENDIX 1: COMMANDERS AND UNITS – COMBAT SUPPORT GROUP

Combat Support Group

(Formed 18 May 1998)

Commanders

1998–1999 Air Commodore Bruce Wood
2000–2001 Air Commodore Chris Beatty, DFC, AFC
2001–2003 Air Commodore Stew Cameron, CSC
2004–2005 Air Commodore Andy Kilgour, AM
2005–2008 Air Commodore Mark Gower, OAM
2008 Air Commodore Chris ('Noddy') Sawade, CSC

No 395 Expeditionary Combat Support Wing

(Formed as 395CSW May 1998, retitled 395ECSW August 1999)

Officers Commanding

1998–1999 Group Captain Greg Weekes, AM
2000–2001 Group Captain Geoff Tasker
2001–2003 Group Captain Mark Gower, OAM
2004–2005 Group Captain Graham O'Brien
2006–2007 Group Captain Ron Irons
2008 Group Captain Guy Burton, CSC

Airfield Defence Wing

(Transferred from OSG May 1998)

Officers Commanding

1998 Wing Commander Gary Penney
1999–2002 Wing Commander Sheldon Kimber, AM
2003–2005 Wing Commander Guy Burton, CSC
2006 Wing Commander John Leo, DSM
(Disbanded January 2007)

No 322 Combat Support Wing

(Formed May 1998)

Officers Commanding

1998–1999 Group Captain Brenton Crowhurst
2000–2002 Group Captain John Kennedy
2002–2004 Group Captain Cornelis Metz
2005 Group Captain Wayne Knight
(Disbanded July 2005)

No 396 Combat Support Wing

(Formed November 2000, retitled 396ECSW January 2007)

Officers Commanding

2000–2001 Group Captain John Benjamin
2001–2002 Group Captain Greg Fitzgerald
2003–2004 Group Captain Chris McHugh, CSC
2005–2006 Group Captain Mark Kelton
2007–2008 Group Captain Peter Viggers
2009 Group Captain Scott Winchester

Health Services Wing

(Formed December 2001)

Officers Commanding

2002–2004 Group Captain Amanda Dines
2004–2007 Group Captain Tracy Smart
2008 Group Captain Karen Leshinskas

Combat Reserve Wing

(Formed May 1998)

Officers Commanding

1998–2005 Group Captain G.J.M. ('Monty') Smith
2006 Group Captain Dave Pasfield, AM
(Transferred to Air Force Training Group 2007)

No 1 Airfield Defence Squadron

(Transferred from OSG May 1998)

Commanding Officers

1998 Squadron Leader Tom Nelson
1999–2000 Squadron Leader John Hollway
2000–2002 Squadron Leader Anthony O'Leary
2003–2005 Squadron Leader Richard Harbron
2006–2007 Squadron Leader Andrew McHugh, CSM
2007 Wing Commander Wayne Kelly

No 1 Airfield Operations Support Squadron

(Formed January 2007)

Commanding Officers

2007–2008 Wing Commander Peter Noake
2009 Wing Commander Steven Force

No 1 Air Terminal Squadron

(Formed January 1999)

Commanding Officers

1999 Squadron Leader Michael O'Brien
2000–2002 Squadron Leader Neil Collie
2002–2003 Squadron Leader Peter Noake
2004–2005 Squadron Leader Sandy Turner
2006 Squadron Leader Richard Alberts
(Disestablished January 2007)

No 1 Air Transportable Health Squadron

(Formed December 2001)

Commanding Officers

2002–2003 Wing Commander Greg Hampson
2004–2006 Wing Commander Michael Paterson
2007 Wing Commander Michele Walker

No 1 Combat Communications Squadron

(Transferred from OSG May 1998, retitled July 1999)

Commanding Officers

1998–1999 Wing Commander Ron Derlagen
2000–2002 Wing Commander Robert Amos
2002–2004 Wing Commander Karon Millett
2005–2007 Wing Commander Gary Roderick
2008 Wing Commander Steven Rampant

No 1 Combat Logistics Squadron

(Transferred from OSG May 1998, retitled July 1999)

Commanding Officers

1998–1999 Squadron Leader Ralph Kettle
2000–2001 Wing Commander Dave Pasfield
2002–2004 Wing Commander Robert Barnes
2004–2006 Wing Commander Alan Wright
2006 Wing Commander Geoff Lydeamore
2006 Wing Commander Peter Noake
(Re-formed as 1AOSS January 2007)

No 2 Airfield Defence Squadron

(Transferred from OSG May 1998)

Commanding Officers

1998–2000 Squadron Leader John Leo
2001–2002 Squadron Leader Greg Mitchell
2003–2004 Squadron Leader Dave Paddison
2005–2006 Squadron Leader Michael Krause
2007–2008 Wing Commander John Leo, DSM
2009 Wing Commander Iain Carty

No 2 Air Transportable Health Squadron

(Formed December 2001)

Commanding Officers

2001–2004 Wing Commander Michael O'Donoghue
2005–2007 Wing Commander P. Hall
2007 Wing Commander Ian Greer

No 3 Airfield Defence Squadron

(Transferred from OSG May 1998)

Commanding Officers

1998–2000 Squadron Leader Greg Belford
2001–2002 Squadron Leader Paul Collins
2003–2004 Squadron Leader Robert (Geoff) Peterson
2004–2005 Squadron Leader Simon Sauer
2006 Squadron Leader Wayne Kelly
(Disbanded January 2007)

No 3 Combat Support Hospital

(Retitled August 1999)

Commanding Officers

1999 Wing Commander James Ross
2000 Wing Commander P. Clarke
2001–2003 Wing Commander Geoff Robinson
2004 Wing Commander Greg Norman
2005–2007 Wing Commander Steve Davis
2008 Wing Commander Heidi Yeats
(Dual titled as No 3 RAAF Hospital until December 2001)

No 381 Expeditionary Combat Support Squadron

(Formed February 1999, title in common use from May 1998)

Commanding Officers

1999–2000 Wing Commander Peter Shinnick
2001–2003 Wing Commander Mark Kelton
2004–2005 Wing Commander Scott Winchester
2006–2007 Wing Commander Ian Watts
2008 Wing Commander Peter Davis

No 382 Expeditionary Combat Support Squadron

(Formed February 1999, title in common use from May 1998)

Commanding Officers

1999–2001 Wing Commander Paul Hislop
2002 Wing Commander Andrew Elfverson

2003 Wing Commander Leigh Gordon, CSM
 2003–2005 Wing Commander Ian Browning
 2006–2008 Wing Commander Rob McKenzie
 2009 Wing Commander Marty Smith

No 383 Expeditionary Combat Support Squadron

(Formed June 2000)

Commanding Officers

2000 (East Timor) Wing Commander Dave Pasfield
 2001 Wing Commander Andrew Elfverson
 2002 Wing Commander Leigh Gordon, CSM
(Removed from establishment 2002)

No 386 Expeditionary Combat Support Squadron

(Formed February 1999, title in common use from May 1998)

Commanding Officers

1998–1999 Wing Commander Di Jenson
 2000–2002 Wing Commander Cornelis Metz
 2003–2004 Wing Commander Ron Irons
 2005–2006 Wing Commander Forster Breckenridge
(Removed from establishment January 2007)

No 321 Combat Support Squadron

(Formed February 1999)

Commanding Officers

1999–2000 Wing Commander Alan Cook
 2000–2002 Wing Commander Graeme Hook
 2003 Wing Commander Pat Cunningham
 2003–2005 Wing Commander Chris Phelan
 2005–2007 Wing Commander Janez Marinic
 2008 Wing Commander Noel Hinschen

No 322 Combat Support Squadron

(Formed May 1998)

Commanding Officers

1998–1999 Wing Commander Mark King
 2000–2001 Wing Commander Mark Simpson
 2002–2004 Wing Commander Steve Hart
 2004–2007 Wing Commander Chris O’Beirne
 2008 Wing Commander Rohan Gaskill

No 323 Combat Support Squadron

(Formed February 1999)

Commanding Officers

1999–2001 Wing Commander Chris McHugh, CSC

2001 Wing Commander Geoff Lydeamore
 2002–2003 Wing Commander Glendon Krause
 2004–2005 Wing Commander Dave Thiele
 2006–2007 Wing Commander Graeme Davies
 2008 Wing Commander David Coysh

No 324 Combat Support Squadron

(Formed February 1999)

Commanding Officers

1999–2000 Wing Commander Tony Jones
 2000–2003 Wing Commander Andrew Sparrow
 2004–2006 Wing Commander Peter Viggers
 2006–2008 Wing Commander Frank Grigson
 2009 Wing Commander Ken Robinson

No 325 Combat Support Squadron

(Formed 1 October 2008)

Commanding Officer

2008 Wing Commander Chris Phelan

Combat Support Unit Amberley

(Transferred to CSG 2002)

Commanding Officers

2002 Wing Commander Scott Wardle
 2003 Wing Commander Steve Butterworth
 2004–2005 Wing Commander Mark Bartetzko
 2006–2007 Wing Commander John Martin
(Disestablished December 2007)

Combat Support Unit East Sale

(Transferred to CSG 2007)

Commanding Officers

2007–2008 Wing Commander Keith Joiner
 2009 Wing Commander Sharyn Bolitho

Combat Support Unit Edinburgh

(Transferred to CSG 2002)

Commanding Officers

2002 Wing Commander Keith Brackenbury
 2002–2004 Wing Commander Richard Subotkiewicz
 2005–2007 Wing Commander David Flood
 2008 Wing Commander Rodney Smallwood

Combat Support Unit Pearce

(Transferred to CSG 2007)

Commanding Officers

2007 Wing Commander Ian Thorpe

Always There: A History of Air Force Combat Support

2008 Wing Commander Russell Page

Combat Support Unit Richmond

(Transferred to CSG 2002)

Commanding Officers

2002 Wing Commander Steve Richards, AM

2003–2004 Wing Commander Wayne Knight

2005–2007 Wing Commander Tracey Simpson

2008 Wing Commander Chris Phelan

(Re-formed as 325CSS 1 October 2008)

Combat Support Unit Wagga

(Transferred to CSG 2007)

Commanding Officer

2008 Wing Commander John Herlihy

Combat Support Unit Williams

(Transferred to CSG 2007)

Commanding Officers

2007–2008 Wing Commander Margot Forster

2009 Wing Commander Barbara Courtney

Combat Support Unit Williamtown

(Transferred to CSG 2002)

Commanding Officers

2002–2003 Wing Commander Ian Farnsworth

2003–2004 Wing Commander Geoff Patchett

2004–2005 Wing Commander Dean Carr

2006–2007 Wing Commander Wal Mazzoni

2008 Wing Commander Peter Davis

(Transferred to 381ECSS 2008)

RAAF Glenbrook

(Transferred to CSG 2002)

Commanding Officers

2002–2003 Wing Commander Mal Selkirk

2004–2005 Wing Commander Ken Roberts

2006 Wing Commander Brett Bishell

(Support staff transferred to 325CSS 1 October 2008)

Notes:

1. Reserve Squadrons and Combat Support Units (1998–2000) are excluded for brevity.
2. Overlapping years indicate mid-year changes of command.

APPENDIX 2: COMMANDERS AND UNITS – OPERATIONAL SUPPORT GROUP

(includes former independent units)

Operational Support Group

(Formed February 1991)

Commanders

1991 Group Captain Doug Chipman
1992–1993 Group Captain Roxley McLennan, AM
1994–1996 Group Captain Rick Jones
1997–1998 Group Captain Greg Weekes, AM
(Disbanded May 1998)

Operational Support Wing

(Formed February 1991)

Officers Commanding

1991–1992 Wing Commander Andy Fairman
1992–1993 Wing Commander Josh Coleman
1993–1995 Wing Commander Graeme Baesjou
1996–1998 Wing Commander Graham O'Brien
(Disbanded May 1998)

Airfield Defence Wing

(Formed July 1992)

Officers Commanding

1992–1995 Wing Commander Robert Cooper
1996–1998 Wing Commander Gary Penney
(Transferred to CSG May 1998)

No 1 Operational Support Unit

(Formed September 1968, disbanded 1972, re-formed February 1984)

Commanding Officers

1984–1985 Wing Commander Leo James
1986–1987 Wing Commander Graeme Crombie,
MBE
1988–1989 Wing Commander Alan Aldridge
1989–1991 Wing Commander Andy Fairman
1991 Squadron Leader Robert Cook
1992–1994 Squadron Leader Mark Gower
1995–1997 Squadron Leader Alan Ross

1998 Squadron Leader Ralph Kettle
(Transferred to CSG May 1998, retitled 1CLS July 1999)

No 1 Airfield Defence Squadron

(Formed April 1945, disbanded November 1945, re-formed June 1992)

Commanding Officers

1992–1995 Squadron Leader B. Farley
1996–1998 Squadron Leader Tom Nelson
(Transferred to CSG May 1998)

No 2 Airfield Defence Squadron

(Formed April 1945, disbanded November 1945, re-formed March 1983)

Commanding Officers

1983 Squadron Leader J.B.H. Brown
1984–1985 Squadron Leader S.D. Kerr
1985–1987 Squadron Leader Ken Thackeray
1987–1990 Squadron Leader Denis Anderson
1990–1992 Squadron Leader Gary Penney
1993–1994 Squadron Leader Nick Vroomans
1995 Squadron Leader Tony O'Leary
1996–1997 Squadron Leader Peter Reinks
1997–2000 Squadron Leader John Leo
(Transferred to CSG May 1998)

No 3 Airfield Defence Squadron

(Formed March 1995)

Commanding Officers

1995–1996 Squadron Leader Nick Vroomans
1997 Squadron Leader Ken Thackeray
1998 Squadron Leader Greg Belford
(Transferred to CSG May 1998)

Air Transportable Telecommunications Unit

(Formed September 1965)

Commanding Officers

1965–1968 Squadron Leader C. McDonald
1968–1969 Squadron Leader M. Collins
1970–1971 Squadron Leader D. Haber
1972–1975 Squadron Leader J. Hughes
1975–1977 Squadron Leader I. Williams
1978–1980 Squadron Leader I. Latter
1980–1981 Squadron Leader Ron Usher
1982–1983 Squadron Leader W. Lynch
1984–1986 Squadron Leader B. ('Jumbo') Jordan
1987–1988 Squadron Leader R. Porter
1989–1990 Squadron Leader Ron Derlagen
1991–1993 Squadron Leader D. Wust
1994–1996 Wing Commander Nick Barneveld
1997–1998 Wing Commander Ron Derlagen
(Transferred to CSG May 1998, retitled ICCS July 1999)

Mobile Air Terminal Unit

(Formed May 1978 (ALG), transferred to OSG July 1997)

Officer-in-Charge

1997–1998 Flight Lieutenant Kirrily Dearing
(Transferred to CSG May 1998)

No 323 Air Base Wing

(Transferred to OSG 1996, retitled 323CSS February 1999)

Commanding Officers

1996 Wing Commander Geoff Lydeamore
1997–1998 Wing Commander Ian Petkoff
(Transferred to CSG May 1998)

Support Unit Butterworth

(Formed July 1989, transferred to OSG 1996, retitled 324CSS 1999)

Commanding Officers

1996–1997 Wing Commander Karl Frick
1998–2000 Wing Commander Tony Jones
(Transferred to CSG May 1998)

Note:

1. *Overlapping years indicate mid-year changes of command.*
2. *Excludes the shadow-posted Air Base Wings 1994–95 and Nos 324 to 327 Contingency Air Base Wings 1996–98.*

APPENDIX 3: RAAF COMBAT SUPPORT UNITS OF WORLD WAR II

(Principal locations shown)

Airfield Construction Wings

61 ACW (*Balikpapan*)

62 ACW (*Labuan*)

Airfield Construction Squadrons

1 ACS (*Tarakan*)

2 ACS (*Balikpapan*)

3 ACS (*Balikpapan*)

4 ACS (*Labuan*)

5 ACS (*Labuan*)

6 ACS (*Balikpapan*)

7 ACS (*Bougainville*)

8 ACS (*Balikpapan*)

9 ACS (*Randwick*)

14 ACS (*Morotai*)

Airfield Defence Squadrons

1 AFDS (*Nightcliff*)

2 AFDS (*Labuan*)

Air Stores Parks

21 ASP (*Labuan*)

22 ASP (*Morotai*)

23 ASP (*Balikpapan*)

24 ASP (*Balikpapan*)

25 ASP (*Labuan*)

26 ASP (*Aitape*)

27 ASP (*Tarakan*)

28 ASP (*Balikpapan*)

29 ASP (*Tarakan*)

30 ASP (*Labuan*)

31 ASP (*Amberley*)

32 ASP (*Labuan*)

Medical Receiving Stations

1 MRS (*Nightcliff*)

2 MRS (*Madang*)

3 MRS (*Townsville*)

4 MRS (*Broome*)

5 MRS (*Labuan*)

7 MRS (*Morotai*)

Medical Clearing Stations

20 MCS (*Aitape*)

21 MCS (*Port Moresby*)

22 MCS (*Labuan*)

23 MCS (*Tarakan*)

24 MCS (*Labuan*)

26 MCS (*Balikpapan*)

27 MCS (*Balikpapan*)

28 MCS (*Tarakan*)

29 MCS (*Labuan*)

30 MCS (*Balikpapan*)

Operational Base Units

1 OBU (*Mallacoota*)

11 OBU (*Moruya*)

12 OBU (*Coffs Harbour*)

13 OBU (*Camden*)

14 OBU (*Lowood*)

15 OBU (*Charleville*)

16 OBU (*St Georges Basin*)

21 OBU (*Rockhampton*)

22 OBU (*Bowen*)

23 OBU (*Townsville*)

24 OBU (*Mareeba*)

25 OBU (*Cairns*)

26 OBU (*Iron Range*)

27 OBU (*Cooktown*)

28 OBU (*Horn Island*)

29 OBU (*Inverleigh*)

30 OBU (*Cloncurry*)

33 OBU (*Higgins Field*)

34 OBU (*Karumba*)

37 OBU (*Aitape*)

38 OBU (*Balikpapan*)

39 OBU (*Bougainville*)

40 OBU (*Lae*)

41 OBU (*Dodabura*)

42 OBU (*Madang*)

43 OBU (*Milne Bay*)

44 OBU (*Merauke*)

45 OBU (*Port Moresby*)

Always There: A History of Air Force Combat Support

- 46 OBU (*Middleburg Is*)
- 47 OBU (*Labuan*)
- 48 OBU (*Finschafen*)
- 49 OBU (*Hollandia*)
- 51 OBU (*Groote Eylandt*)
- 52 OBU (*Darwin*)
- 53 OBU (*Batchelor*)
- 54 OBU (*Darwin area*)
- 55 OBU (*Gorrie*)
- 56 OBU (*Gove*)
- 57 OBU (*Alice Springs*)
- 58 OBU (*Truscott*)
- 59 OBU (*Millingimbi*)
- 60 OBU (*Morotai*)
- 61 OBU (*Tarakan*)
- 71 OBU (*Carnarvon*)
- 72 OBU (*Albany*)
- 73 OBU (*Corunna Downs*)
- 74 OBU (*Yanrey Station*)
- 75 OBU (*Noonkanbah*)
- 76 OBU (*Exmouth Gulf*)
- 77 OBU (*Guildford*)
- 78 OBU (*Port Hedland*)
- 79 OBU (*Broome*)
- 80 OBU (*Derby*)
- 82 OBU (*Crawley Bay*)
- 83 OBU (*Balikpapan*)
- 84 OBU (*Labuan*)
- 85 OBU (*Balikpapan*)
- 86 OBU (*Cunerdin*)
- 87 OBU (*Geraldton*)
- 88 OBU (*Bundaberg*)
- 89 OBU (*Biak*)
- 90 OBU (*Kingaroy*)

Malaria Control Units

- 1 MCU (*Madang*)
- 2 MCU (*Labuan*)
- 3 MCU (*Nightcliff*)

Bomb Disposal Units

- 3 BDU (*Morotai*)
- 5 BDU (*Morotai*)

Radio Installation and Maintenance Units

- 2 RIMU (*Townsville*)
- 3 RIMU (*Madang*)
- 4 RIMU (*Labuan*)

- 5 RIMU (*Darwin*)
- 6 RIMU (*Morotai*)

Air Ambulance Units

- 1 AAU (*Middle East*)
- 2 AAU (*Archerfield*)

Medical Air Evacuation Transport Units

- 1 MAETU (*Lae*)
- 2 MAETU (*Morotai*)

Hospitals

- 1 RAAF Hospital (*Wagga*)
- 2 RAAF Hospital (*Ascot Vale*)
- 3 RAAF Hospital (*Concord*)
- 4 RAAF Hospital (*East Sale*)
- 5 RAAF Hospital (*Tocumwal*)
- 6 RAAF Hospital (*Heidelberg*)
- 7 RAAF Hospital (*Adelaide*)

Postal Units

- 3 RAAF Postal Unit (*Melbourne*)
- 4 RAAF Postal Unit (*Sydney*)
- 5 RAAF Postal Unit (*Brisbane*)
- 6 RAAF Postal Unit (*Townsville*)
- 7 RAAF Postal Unit (*Finschafen*)
- 8 RAAF Postal Unit (*Darwin*)
- 9 RAAF Postal Unit (*Perth*)
- 10 RAAF Postal Unit (*Adelaide*)
- 11 RAAF Postal Unit (*Labuan*)

Headquarters Telecommunications Units

- First Tactical Air Force Telecommunications Unit (*Labuan*)
- No 11 Group Telecommunication Unit (*Morotai*)
- Northern Command Headquarters Telecommunication Unit (*Madang*)
- North-Western Area Headquarters Telecommunication Unit (*Darwin*)
- North-Eastern Area Headquarters Telecommunication Unit (*Townsville*)
- Air Force Headquarters Telecommunication Unit (*Melbourne*)
- Brisbane Telecommunication Unit (*Brisbane*)
- Gawler Telecommunication Unit (*Gawler*)
- Gorrie Telecommunication Unit (*Gorrie*)

Service Police

- 1 RAAF Service Police Unit (*Melbourne*)

RAAF Stations

RAAF Station Bradfield Park
RAAF Station Camden
RAAF Station Canberra
RAAF Station Darwin
RAAF Station Garbutt
RAAF Station Laverton
RAAF Station Maryborough
RAAF Station Narromine
RAAF Station Parafield
RAAF Station Pearce
RAAF Station Point Cook
RAAF Station Port Moresby
RAAF Station Rathmines
RAAF Station Richmond
RAAF Station Tocumwal

APPENDIX 4: MAJOR ADF OPERATIONS SUPPORTED BY COMBAT SUPPORT GROUP

1998

Ausindo Jaya
Bel Isi II (*Note 1*)
Brancard
Pollard
Ples Draï
Shaddock

1999

Ausindo Jaya
Bel Isi II
Concord
Faber
Spitfire
Warden

2000

Warden
Tanager
Plumbob
Concord
Abseil
Slipper
Gold

2001

Bel Isi II
Slipper
Tanager
Relex
Gaberdine

2002

Bali Assist
Bel Isi II

Bastille
Citadel
Relex
Slipper

2003

Bastille
Falconer
Catalyst
Anode
Guardian
Spire
Slipper
Citadel
Relex 2

2004

Anode
Spire
Niue Assist
Nauru Assist
Vanuatu Assist
Catalyst
Slipper
Sumatra Assist

2005

Sumatra Assist
Sumatra Assist 2
Bali Assist 2
Nauru Assist 2 and 3
Pakistan Assist
Catalyst
Slipper

2006

Astute
Anode
Pakistan Assist
Ramp
Resolute
Slipper
Catalyst
Larry Assist
Acolyte

2007

Garuda Assist
PNG Assist
Solomon Assist
Resolute
Catalyst
Slipper
Deluge
Outreach
Astute
Azure

2008

Catalyst
Slipper
Astute
Azure
Resolute
Kiribati Assist

All Years

Gateway

Note:

1. Operation Bel Isi is also referred to as Belisi (one word) in some documents.

BIBLIOGRAPHY

Books

- Barton, Leonard L., *Succour from the Sky: No 1 Air Ambulance Unit RAAF 1941–1944*, L.L. Barton, Mosman, 2001
- Barton, Leonard L., *The Desert Harassers: Being Memoirs of 450 (RAAF) Squadron 1941–1945*, Astor Publications, Mosman, 1991
- Bennett, John, *Highest Traditions, The History of No 2 Squadron, RAAF*, Australian Government Publishing Service, Canberra, 1995
- Bennett, John, *The Imperial Gift: British Aeroplanes which Formed the RAAF in 1921*, Banner Books, Maryborough, 1996
- Brent, Wing Commander Keith (ed.), *Regional Air Power Workshop, RAAF Richmond, 17 to 19 September 1996*, Air Power Studies Centre, Canberra, 1996
- Coulthard-Clark Chris, *The RAAF in Vietnam: Australian Air Involvement in the Vietnam War 1962–1975*, Allen & Unwin, St Leonards, 1995
- Coulthard-Clark, C.D., *The Third Brother: The Royal Australian Air Force 1921–39*, Allen & Unwin, North Sydney, 1991
- Cutlack, F.M., *The Australian Flying Corps in the Western and Eastern Theatres of War, 1914–1918*, University of Queensland Press, St Lucia, 1984
- Davidson, Peter A., *Sky Pilot: A History of Chaplaincy in the RAAF 1926–1990*, Directorate of Departmental Publications, Fyshwick, 1990
- Gamble, Bruce, *Darkest Hour: The True Story of Lark Force at Rabaul – Australia’s Worst Military Disaster of World War II*, Zenith Press, St Paul, MN, 2006
- Gillison, Douglas, *Australia in the War of 1939–1945 – Series 3 (Air) – Volume I – Royal Australian Air Force, 1939–1942*, Australian War Memorial, Canberra, 1962
- Grantham, Sid, *The 13 Squadron Story*, S.R. Grantham, Dee Why, 1991
- Harvey, John and Mark Lax (eds.), *Regional Air Power Workshop, Townsville, 4 to 8 September 1995*, Air Power Studies Centre, Canberra, 1995
- Herington, John, *Australia in the War of 1939–1945 – Series 3 (Air) – Volume III – Air War against Italy and Germany, 1939–1943*, Australian War Memorial, Canberra, 1954
- Johnston, E.S., *The RAAF Ground Staff of the Desert Air Force Squadrons*, E.S. Johnston, Point Lonsdale, 1992
- Lax, Mark (ed.), *Air Power Presentations – 1995*, Air Power Studies Centre, Canberra, 1996

Always There: A History of Air Force Combat Support

- Lockwood, Douglas, *Australia Under Attack: The Bombing of Darwin – 1942*, New Holland Publishers, Sydney, 2005
- McAulay, Lex, *We who are About to Die: The Story of John Lerew – A Hero of Rabaul 1942*, Banner Books, Maryborough, 2007
- Mordike, John (ed.), *South East Asian Commitments 1950–1965: The Proceedings of the 1997 RAAF History Conference*, Air Power Studies Centre, Canberra, 1998
- Mordike, John (ed.), *The Post-war Years: The Proceedings of the 1996 RAAF History Conference*, Air Power Studies Centre, Canberra, 1997
- Mordike, John (ed.), *The RAAF in the War in Vietnam: The Proceedings of the 1998 RAAF History Conference*, Air Power Studies Centre, Canberra, 1999
- O'Neill, Robert, *Australia in the Korean War 1950–53 – Volume II: Combat Operations*, Australian War Memorial and Australian Government Publishing Service, Canberra, 1985
- Odgers, George, *Australia in the War of 1939–1945 – Series 3 (Air) – Volume II – Air War Against Japan, 1939–1945*, Australian War Memorial, Canberra, 1957
- Pears, Maurie and Fred Kirkland, *Korea Remembered: The RAN, ARA and RAAF in the Korean War of 1950–1953*, Doctrine Wing, Combined Arms Training and Development Centre, Georges Heights, 1998
- Royal Australian Air Force (compiled by RAAF Historical Section), *Units of the Royal Australian Air Force: A Concise History – Volumes 1 to 10*, Australian Government Publishing Service, Canberra, 1995
- Stephens, Alan, *Going Solo: The Royal Australian Air Force, 1946–1971*, Australian Government Publishing Service, Canberra, 1995
- Stephens, Alan, *The Australian Centenary History of Defence – Volume II – The Royal Australian Air Force*, Oxford University Press, South Melbourne, 2001
- Walker, Allan S. and others, *Australia in the War of 1939–1945 – Series 5 (Medical) – Volume IV – Medical Services of the RAN and RAAF*, Australian War Memorial, Canberra, 1961
- Waters, Gary and Mark Lax (eds.), *Regional Air Power Workshop, Darwin, 23 to 25 August 1994*, Air Power Studies Centre, Canberra, 1994
- Waters, Gary, *Oboe – Air Operations over Borneo, 1945*, Air Power Studies Centre, Canberra, 1995
- White, T.W., *Guests of the Unspeakable: The Odyssey of an Australian Airman – Being a Record of Captivity and Escape in Turkey*, John Hamilton Ltd, London, 1928
- Williams, Sir Richard, *These are Facts: The Autobiography of Air Marshal Sir Richard Williams KBE, CB, DSO*, Australian War Memorial and Australian Government Publishing Service, Canberra, 1977
- Wilson, David, *Always First: The RAAF Airfield Construction Squadrons 1942–1974*, Air Power Studies Centre, Canberra, 1998

Wilson, David, *The Brotherhood of Airmen: The Men and Women of the RAAF in Action 1914–Today*, Allen & Unwin, Crows Nest, 2005

Wilson, David, *Warden to Tanager: RAAF Operations in East Timor*, Banner Books, Maryborough, 2003

Magazines and Journals

ADF Health [Journal]

Air Force

Air Force News

Australian Defence Force Journal

Defence [Magazine]

Defender: The National Journal of the Australian Defence Association

Northern Services Courier [Defence Newspaper – Townsville]

RAAF News

Sydney Morning Herald

Official Reports

Department of Defence, *Australia's National Security, A Defence Update 2003*, Department of Defence, Canberra, 2003

Department of Defence, *Australia's Strategic Policy*, Directorate of Defence Publishing and Visual Communications, Canberra, 1997

Department of Defence, *Defence Annual Reports, 1996–1997 to 2007–2008*

Department of Defence, Defence Materiel Organisation, '2006–16 Defence Capability Plan: Public Version', www.defence.gov.au/dmo/id/dcp/dcp.cfm, accessed 14 April 2008

Department of Defence, *Force Structure Review: Report to the Minister for Defence, May 1991*, Australian Government Publishing Service, Canberra, 1991

Department of Defence, *Future Directions for the Management of Australia's Defence: Report of the Defence Efficiency Review, 10 March 1997*, Directorate of Publishing and Visual Communications, Canberra, 1997

Department of Defence, *The Defence of Australia 1987*, Australian Government Publishing Service, Canberra, March 1987

Department of Foreign Affairs and Trade, *Department of Foreign Affairs and Trade Annual Report 2006–2007*, www.dfat.gov.au/dept/annual_reports/06_07/index.html, accessed 19 April 2008

National Archives of Australia: Royal Australian Air Force, A705, Air Force Headquarters – AMOE [Air Member for Organisation and Equipment] (Organisation) – Establishment

Always There: A History of Air Force Combat Support

– No 76 (Fighter) Squadron, 231/9/925 PART 1, 1942–1944, <http://naa12.naa.gov.au/scripts/ItemDetail.asp?M=0&B=167767>, accessed 7 May 2007

National Archives of Australia: Royal Australian Air Force, A705, Air Force Headquarters – AMOE [Air Member for Organisation and Equipment] (Organisation) – Establishment HD-108 – No 77 (Fighter) Squadron, 231/9/926 PART 1, 1942–1944, <http://naa12.naa.gov.au/scripts/ItemDetail.asp?M=0&B=167771>, accessed 7 May 2007

National Archives of Australia: Royal Australian Air Force, A705, RAAF Headquarters – Directorate of Security – Employment of Watch Dogs at RAAF Establishments, 96/1/96 PART 1, 1943–1945, <http://naa12.naa.gov.au/scripts/ItemDetail.asp?M=0&B=3419709>, accessed 18 June 2007

National Archives of Australia: Royal Australian Air Force, A1194, The Royal Australian Air Force List – 1927–1935, 03.21/15810, 1927–1935, <http://naa12.naa.gov.au/scripts/ItemDetail.asp?M=0&B=4039417>, accessed 7 May 2007

Wrigley, Alan K., *The Defence Force and the Community: A Partnership in Australia's Defence: Report to the Minister for Defence*, Australian Government Publishing Service, Canberra, 1990

Records held by the Office of Air Force History

‘Air Raids on Darwin – Comment by Department of Air on Report by Mr Justice Lowe’, 24 April 1942

Brookes, Squadron Leader W.D., ‘RAAF Operations from Rabaul’, Report to North-Eastern Area, 24 February 1942

History of the First Tactical Air Force RAAF, 25 Oct 1944 – 15 Aug 1945

McCauley, Air Commodore J.P.J., ‘Report by Air Commodore J.P.J. McCauley, CBE, on the Findings of the Court of Inquiry: Evacuation of RAF Aerodromes Malaya: December 1941’, 28 May 1946

‘Operational Complaints and Difficulties Concerning Rabaul’, extracts from North-East Area Headquarters File 7/75/Air

‘Royal Australian Air Force – Australian Air War Effort’, 5th Edition May 1943, 9th Edition February 1945, 10th Edition August 1945

‘Report on RAAF Operations in Malaya, Singapore, Sumatra and Java, 1941–42’

Squadron Operations Record Books – RAAF Forms A.50 and RAF Forms 540

Thomas, Group Captain F.W., ‘Milne Bay – General’, Report on Milne Bay, North-East Area file 24/56/ Air, c. 1942

INDEX

Note: Italics show page reference to images, bold italics show page reference to footnotes

- Admiralty Islands 46, 62
advanced operating base 30–32, 34, 52, 62,
230
Aeromedical evacuation (AME) 74, 165
Bali 194–197, 195, 197
East Timor 130, 148–149
Indonesia 123, 225
Korea 61, 62
Middle East 183, 188
PNG 121, 123–124
Sumatra (tsunami) 199–202
training 216
Vietnam 73
World War II 24–25, 41–42
Aerospace Operational Support Group **161**
AFCERT 171–172
Afghanistan 165, 168, 177, 178, 180, 189, 191,
191–193, 192, 193, 208
Air and Space Interoperability Council (ASIC)
230
Air Base Wings 92, **92**, 103, 107. *See*
also Contingency Air Base Wings
Air Board 26, 40, 57
air campaign
first Australian 1
Air Combat Group
formation of 161
Air Command 78
CSG collocated with 104–105;
model base project 92;
operations and plans 136, 180, 197–198,
212;
structure 78, 87, 102, 106–108, 127, 214
aircraft
A-6B Intruder 82
Antonov An-12 142
AP-3C Orion 175–178, 180, 226
Auster 50
Beaufighter 47
Black Hawk helicopter 81, 86, 124, 141, 148,
224
Boston 47
C-17 Globemaster III 191, 207, 213,
214–216, 216, 226, 229
C-47 Dakota 61, 64, 129
C-130 Hercules 66, 73–75, 79, 82, 86, 121,
123–124, 129, 139, 141, 142, 148, 171,
171, 179, 179–181, 183, 185, 191, 192,
194, 200, 215–216, 220, 221, 223, 224
Caribou 68, **74**, **75**, 79, 81, 86, 123, 124,
129, 131, 142, 148, 203
F-4 Phantom 65
F-101 fighter 66
F-111 63, 82, 228
F/A-18 Hornet 82, 177, 178, 180
Fairey IIIID seaplane 10
Hudson 30–31, 40
Ilyushin IL-76 204
Iroquois helicopter 60, 68, 69, 70, 72, **74**,
75, 81, 121, 203
KB-707 tanker 122, 177
KC-30A tanker transport 211, 215, 217
Lincoln bomber 64
Lockheed L-1011 Tristar 141
Meteor 58–60, 61
spare parts for 59
Mustang 58–59
P-3C Orion 82
Spitfire 40
Sunderland flying boat 17, 18
Wirraway 32
airfield construction 38, 44, 44–45, 49, 56,
62–63, 68
airfield defence and security
development of 14, 67–68, 94, 119, 177
during World War II 18, 21, 29–30, 33–36,
38, 47–49
in East Timor 137–138, 223

- in Ubon 66
- in Vietnam 70–72
- airfield engineering 123, 124, 125
 - development of 95, 114, 220, 226, 229
 - equipment for 163–166
 - in Bougainville 122
 - in East Timor 139–141
 - in Middle East 185, 190, 192–193
- Air Force Headquarters 78, 102, 157, 167, 169. *See also* RAAF Headquarters
- Air Lift Group 78–79, 87, 95, 104, 214
- Air Stores Park (ASP) 14, 22, 39, 241
- air terminal services 61, 74, 76, 121, 123–124, 171, 175, 207, 213, 215, 220, 226
 - operations
 - in East Timor 129, 139, 144
 - in Middle East 183, 191
 - in Sumatra 201
 - in Vietnam 69, 73
 - structures 95, 107, 211, 215
- Air Transportable Hospital 162–164, 163, 215, 228
- airworthiness 170–171
- Aitape 43
- Alder, Dave SQNLDR **193**
- Alexander, GPCAPT 18
- Allied Intelligence Bureau 50
- Amalgamated Wireless (Australasia) Ltd (AWA) 10
- Amberley, RAAF Base 55, 63, 67, 77, 92, 94, 107, 123, 136, 149, 157, 162, 167, 201, **212**, 214, 215, 224
- Ambon 30, **35**
- Ammunition Disposal Flight 66, 127
- ANZUS Treaty 177
- Archerfield, RAAF Base 13
- Army Aboriginal Community Assistance Program (AACAP) 226
- Article XV squadrons 19–20, 25–26. *See also* Empire Air Training Scheme
- Asian tsunami 115, 196, 198, 199, 203, 206, 224
- Australian Air Corps 8
- Australian Army Medical Corps 4
- Australian Army Training Team Iraq (AATTI) 188–189
- Australian Flying Corps 1
 - base camp 7
 - disbandment of 8
 - equipment 4, 8
 - medical support 4
 - organisation of 3
 - squadrons 3–6
 - Training Wing 5
 - wireless operators 6
- Australian Imperial Force
 - in World War I 1, 2, 4, 7
 - in World War II 15, 20, 24, 25, **40**, 43, 52
- Australian Theatre 102, 123, 133, 204, 208
- Australian War Cabinet 20
- Avenell, Mick FSGT 189
- Aviation Capability Improvement Team (ACIT) 170–171, 211
- Baesjou, Graeme WGCDR 239
- Baghdad 2, 165, 173, 179, 184–188, 185, 186, 190
 - ATC Detachment 184–186
 - Security Detachment (SECDET) 188
- Balad medical detachment 187–188
- Balderson, L.J. FLG OFF 10
- Bali bombings 165, 194–197, 195, 216
- Balikpapan 45, 47, 50
- Bandar Aceh 200
- Bardia 24
- Barham, William LAC 45
- Barnes, Rob WGCDR 181
- Barton, Leonard LAC **35**
- Base Commanders 88, 106, 109, 159–161, 215
- Base Squadrons. *See also* RAAF Wings and Units
 - support concept for 52, 53, 64, 73
 - retitled 87
- Base Support Flight Vung Tau 68–69
- Base Support Units 73
- Base Support Wings
 - introduced 87
 - retitled 92
- Baucau 130, 134, 141, 142–144, 143, 145, 147
- Beatty, Chris AIRCDRE 145, 156, 157,

- 162–163, 232, 235
- Beazley, Kim 89, 119
- Belcher, Harry FLTLT 46
- Belford, Greg SQNLDR 236, 239
- Bell, CPL 31
- Bessoneau hangars 9
- Best, Laurie WOFF 135
- Bladin, F.M. AVM 56
- Blake, Major 7
- Bofu 53, 55, 56, 57
- bomb disposal 18, 39, 43, 45–47, 49
- Borneo operations 43, 46, 47–50, 52
- Borysewicz, Ray WGCDR 98
- Bosnia 84
- Bougainville 85–86
 - CSG deployment to 121–122
 - OSG deployment to 85–86
- Bougainville Revolutionary Army 86, 121
- Bradshaw Field Training Area 229
- Bradshaw, Keith SGT 49
- Breckenridge, Forster WGCDR 223, 237
- Brewster, Martin SQNLDR 122
- British Commonwealth Air Group 56
- British Commonwealth Occupation Force (BCOF) 54
- British Commonwealth Zone Medical Unit 61
- British equipment
 - in World War I 2, 4, 8
 - gift 8–10
 - in World War II 17–18, 28
 - in Korea 59
- Brnada, Paul FLTLT 206, **207**
- Brookes, W.D. SQNLDR 32
- Brough, J.J. SQNLDR 67
- Brown, Geoff GPCAPT 181
- Brown, J.B.H. SQNLDR 77, 239
- Brown, Maria SGT 219
- Browning, Ian WGCDR **95**, 178, **179**, 184, **185**, **223**, 237
- Buggy, Grant WGCDR 104
- Bunt, Peter FLTLT 81
- Burton, Guy GPCAPT 235
- Bushmaster vehicle 217
- Butterworth, air base 63, 64, 73, 81, 86, 87, **109**, 157, 200, 206, 226, 227
- caches 79, 165, 166
- Cambodia 83–84, 86–87
- Cameron, Stew AIRCDRE **133**, 136, 141, 174, 232, 235
- Camp Victory 190
- Canada 60, 68
 - engagement with 229–230
- Candy, C.D. AVM **43**, 44, **51**, 57
- capability management 97, 169
- Capability Plan 169
- Carey, Gabriel FLGOFF 124, 141
- Carty, Iain SQNLDR 189
- Central Flying School 1
- Chalke, Tim SQNLDR 200
- Chalmers, Graeme WGCDR 83
- chaplains 13, 27, 72, 149, 188, 194
- Chapman, Harry WOFF 33
- Charlesworth, A.M. AIRCDRE 58
- Chipman, Doug GPCAPT 79, 81, 239
- C-IED 189, 190. *See also* Task Force Troy
- Ciesiolka, Tim SGT 188
- Citizen Air Force (CAF) 13
- Clewes, David LAC 134
- Cocos Island 63, 64
- Cody, John SQNLDR **193**
- Coleman, Josh WGCDR **106**, 239
- Collie, Neil WGCDR **185**, 186, 236
- combat support
 - concepts post World War II 53–54, 57, 73, 77–81, 93, 105
 - concepts for CSG 107–109, 156, 197–198, 214–215
 - first use of the term 103
 - in World War II 20, 37, 50–52
- combat support capability
 - gaps in 153
 - reform of 93–94
- Combat Support Coordination Centre (CSCC) 214, 224
- Combat Support Force 107, 109
- Combat Support Group
 - career paths for personnel 174–175
 - commanders 232, 235
 - doctrine 116, 172–174, 182, 205
 - equipment remediation 153, 162–168

- formation of 1, 105
- geographic command 160–162
- Headquarters 105–106, 158, 212
 - relocation 157
- in East Timor 128–151
- international engagement 228–230
- stated role of 105
- structures 106–109, 155–159, 208
- training development 172, 212
- unit restructure 153, 155, 157–158, 162, 211–215
- Commercial Support Program 91, 92
- Commonwealth Strategic Reserve 63
- Comoro airfield 131, 129–141, 140, 145, 223
 - security 137
- Comoro Air Support Group (CASG) 145
- communications and information technology.
 - See also* radio
- development of 10, 66, 94–95, 97, 110–111, 153, 166, 170, 218
- in Vietnam 68, 69
- in World War II 18, 20, 31, 31, 32, 39, 50–51
- on operations 83–84, 122, 124, 141–142, 146, 183, 185, 197, 200
- Contingency Activation Project 92, 94, 101, 103
- Contingency Air Base Wings 79–80, 93, 94, 98–99
- Cook, Steven P. SQNLDR 194, **194**
- Cooney, Terry SGT 160
- Cooper, Robert (Bob) WGCDR 81, 239
- Cooper, Sharon FLTLT 149
- Coopes, Bob WGCDR 163, 164, 169
- Cosgrove, Peter GEN 146, 201, 220
- Cox, Frank AVM 160
- Cox, Geoff SGT **178**
- Crombie, Graeme WGCDR **73, 76, 83, 239**
- Curtin, RAAF Base 82, 82, 90, 93, 95, 99, 119, **109**
- Customer Service Agreements (CSA) 161–162
- Cutajar, Paul LAC 45
- Cyclone Ivy 207
- Cyclone Larry 219–220, 220
- Cyclone Nargis 226
- Cyclone Tracy 63, 129
- Dale, Willaim WGCDR 44
- Daniel, Troy LAC 193
- Darwin
 - Japanese raid on 32–35, 34, 35
- Darwin, RAAF Base 13, 32–35, 63, 67, **92, 104, 108, 109, 144, 157, 165, 174, 175, 194–196, 221**
 - Japanese raid on 37
- Davies, Chaplain 27
- Davis, Steve WGCDR **196**
- Dearing, Kirrily SQNLDR 123, 201, **201, 203, 240**
- Dee, Paddy SGT 75
- Defence budget 89
- Defence Capability Plan 209, 211, 218, 249
- Defence Efficiency Review 101–102
- Defence Logistics Redevelopment Project 90
- Defence Materiel Organisation (DMO) 162, 217
- Defence Reform Program (DRP) 92, 100, 102–103, 110, 112, 162, 167, 153, 155
- Defence Regional Support Review 90
- Defence service provider groups 104, 105, 110, 128, 144, 214
 - formation of 102
 - relationship with CSG personnel 112–114, 116, 156–157, 158
- Defence Supplementation Staff 128, 222
- Denpasar airport 194
- Deployable Aeromedical Retrieval and Transport System (DARTS) 216, **216, 224**
- Deployable Aircraft Maintenance and Logistics Shelter (DAMALSH) 165, **165, 193**
- Derlagen, Ron WGCDR 236, 240
- Dili 130, 132, 133, 150
- Directorate of Movements and Transportation 76
- Downey, John WGCDR 84–85
- Dunning, Adam LAC 206
- Dutch East Indies. *See* Netherlands East Indies
- East Sale, RAAF Base 63, 92, **107, 211, 215**
- East Timor 121, 218, 128–151, 223–224. *See also* INTERFET. *See also* Timor Leste ballot 128–129

- Remediation Project 162–164, 164
- Eastwell, LAC 192
- Eaton, B.A. GPCAPT 64
- Edinburgh, RAAF Base 67, **92**, 112, 167, 215
- Ellis, Dan LAC **178**
- Empire Air Training Scheme (EATS) 15, 19, 20, 26. *See also* Article XV squadrons
- Endean, CPL 11
- Equipment Management Section 212
- Evacuee Handling Centre (EHC) 82–83, 128, 221–222, 228
- Exercise
- Annual Garrison 99
 - Crocodile 99 125, 127–128, 130
 - Diamond Dollar 87 81, 83
 - Dugong 228
 - Eagle Flag 229
 - Green Exposure 80
 - Kakadu 227, 229
 - Kangaroo 81 77
 - Kangaroo 83 77
 - Kangaroo 89 81–82, 82, 97
 - Kangaroo 95 119
 - Kangaroo One 74
 - Kangaroo series **74**, 79
 - Kangaroo Two 74
 - Long Look 81
 - Northern Atlas 116, **118**
 - Northern Awakening 116, 117, 126–127
 - Northern Awakening 05 227, 229
 - Northern Station 116, 171
 - Northern Station 97 228
 - Northern Station 99 127
 - Northern Station 04 171, 227, 229
 - Northern Station 05 228
 - Northern Station 07 228, 229
 - Pelicans Progress 78
 - Phoenix 119
 - Pied Piper 83
 - Pitch Black 119
 - Pitch Black 88 **81**
 - Pitch Black 96 99–100, 119
 - Pitch Black 06 228, 229
 - Remote Trek 98 166
 - Retimo **118**
 - Silver Flag 229
 - Swift Eagle 82, 128, 228
 - Swift Eagle 88 81
 - Swift Eagle 94 119
 - Swift Eagle 96 82, 113, 119
 - Swift Eagle 97 119
 - Swift Eagle 98 **81**, 125
 - Swift Eagle 04 228
 - Talisman Sabre 174
 - Talisman Sabre 05 228
 - Talisman Sabre 07 229
 - Tandem Thrust **74**, 119
 - Tandem Thrust 97 **81**, 93, 97
 - Tricrab 228
 - Unified Engagement 229
 - Western Reward 76, 79
 - Winter Sun 118, 119
- Expeditionary Health Squadrons 215
- Explosive Hazard Awareness Team (EHAT) 189, 190
- Explosive Ordnance Disposal (EOD) 66, 127, 189, 208, 209, 228. *See also* bomb disposal
- F88 Austeyr 97
- Fairbairn, RAAF Base 68, 77, 92
- Fairman, Andy WGCADR 81, 239
- Fasher, Damian FLTLT **84**
- Fellows, Mark LAC 159
- Fenton, Leslie FLGOFF 33
- Fiji **86**, **203**
- First Tactical Air Force. *See* No 10 Group
- Fisher, Les AIRMSHL 102, 104, 106
- Fisher, Pete CPL 193
- Fly Away Surgical Team (FAST) 86, 196, 215
- Force Element Groups (FEGs) 78, 78, 87, 92–93, 106, 112, 116, 121, 157–159, 161, 169, 170, 172, 198
- Force, John FLTLT **179**
- Force Level Logistic Assets (FLLAs) 188
- Force Protection concept 173, 211
- Force Structure Review 91, 94
- Force Support Battalion (FSB) 133, 204
- Frame, Ian GPCAPT 212
- Frederiksen, Douglas CPL 202
- Fryer, CPL 192

- Gallagher, Dominic LAC 138
Gambut 24, 26
Garcia, Shane SGT 160
Gaskill, Rohan WGCDCR 84, 85, 203, 204,
205, 237
Gates, WOFF 10
Gibson, Ray AIRCDRE 104
Gillam, Bevan LAC 159
Goodenough Island 40
Gordon, Leigh WGCDCR 181, 237
Gorton, Prime Minister John 69
Gower, Mark AIRCDRE 85, 174, 181, 213,
232, 235, 239
Green, Carl SQNLDR 188
Green, Dave WGCDCR 127
Green, MAJ 192
Griffith, WGCDCR 37
Gulf War 122, 180
Gunn, Michael LAC 219
- Half Flight 1, 1–3, 4
equipment for 2
recruitment for 1–2
Halloran, Sonja SQNLDR 172
Hampson, Greg WGCDCR 236
Hardy, Brian 74
Hardy, Jackie SQLDR 199
Health Operational Conversion Unit
(HOCU) 215
Henderson Field 203–205, 206
command of 204, 224
Hepburn, SQNLDR 11
Heyward, Glen FLTLT 84
Higgs, Fred SGT 32
Hill, Majella 104
Hine, Margaret WGCDCR 148
Hislop, Paul GPCAPT 142, 143, 190, 229,
236
Honiara 175, 203, 205
Honiara International Airfield. *See* Henderson
Field
Horn, Norman SGT 46–47
Houston, Angus AIRMSHL 115, 160, 204
Howard, Prime Minister John 125, 126, 177
Howle, Donald SQNLDR 34
- Indonesian Air Force *See* TNI-AU
INTERFET 130–151, 163, 182
airfield movements 139
airfield security 136–138
handover to UN 144–145
initial plans 129–130, 133–134
International Coalition Air Wing (ICAW)
139
logistics 132–135
some lessons for CSG 135, 151, 153–155
International Force East Timor. *See* INTER-
FET
International Red Cross 129
Iraq
Coalition Provisional Authority 190
invasion of 179–184
command structure 181
preliminary planning 180
rehabilitation of 184–191
weapons verification 189
Irian Jaya 123–124
Irons, Ron GPCAPT 181, 228, 235, 237
Irvine, Thomas LAC 49
Iwakuni 54, 56, 64
- Jakarta 128
James, Leo WGCDCR 76, 77, 239
Jarvis, Vincent CPL 23–24
Jennings, Bob WOFF 111
joint doctrine 40, 117, 182, 205, 172–173
joint exercise *See* exercise
joint projects (JP) 96–97, 166, 177, 178,
216–218
Joint Operations Command (JOC) 212–213
Jones, Phil WOFF 228
Jones, Rick GPCAPT 239
Jones, Tony WGCDCR 237, 240
Jones, Wendy SGT 202
- Kamp Holland 192, 193
Kandahar 168, 191, 193
Katherine floods 125, 221
Keleher, Scott LAC 193
Kelly, Wayne SQNLDR 235, 236

- Kelton, Mark GPCAPT 179, 235
 Kennedy, Peter CPL 123
 Kershaw, Peter SQNLDR 192, **140**
 Kettle, Ralph SQNLDR 236, 239
 Kieta Airfield Recovery Team 122
 Kilgour, Andy AIRCDRE 174, 211, 232, 235
 Kimber, Sheldon WGCDR 235
 Kimpo 61, 62
 Kindler, John AVM 198
 Kingswood 63, 127
 Kiribati 208, 226
 Kleidon, LAC 49
 Knight, Wayne GPCAPT 235, 238
 Komoro 129, **129**. *See also* Comoro
 Korean War 58–62, 62, 231
 RAAF equipment shortages 58, 60
 Kota Bharu 27
 Krause, Glendon WGCDR 237
 Krause, Michael SQNLDR 223, 236
 Kut-el-Amara 3
 Kuwait 121–122, 188
 Kyrgyzstan 178
- Labuan 47–50, **50**, 52
 Lakeland Downs 81, 83, 91, 119
 Laloki River 41
 Larkin, Matt LAC 134
 Latham, Philips LAC 34, **35**
 Laverton, RAAF Base 8, 13, 76
 Leaf, Dave SQNLDR 149
 Learmonth, RAAF Base 63, 76, 79, 90, 93,
 109, 119, 166, 175, 226
 Lebanon 221–222
 Leo, John WGCDR **129**, 137, 235, 236
 Lerew, John WGCDR 32
 Leshinskas, Karen GPCAPT **196**, 218, 219,
 235
 Lincoln Agreement 121
 Lloyd, Greg SGT **188**
 logistics
 accounting and governance 9–10, 98, 212,
 in East Timor 132–133
 information systems **133**, 218
 in Korea 58–60
 in Vietnam 68
 in World War II 39, 43, **43**, 51
 post Vietnam era 74–76
 Logistic Services Agency. *See* Equipment
 Management Section
 Logistic Support Force 81, **224**
 Longbottom, Graham GPCAPT **173**
 Long, Pat MAJ, US 45
 Lowe Commission of Inquiry 36
 Luck, Nick SQNLDR 189
 Luzon 45
 Lydeamore, Geoff WGCDR 236, 237
 Lyster, Colin FSGT 209
- MacArthur, Douglas GEN 17
 Malaria Control Units 38, 43, 242
 Malaya 17, 20, 27–29, 64
 Malaysia 66, 81, 198
 Malta 61, 64
 Manas Airport 178
 Manpower Required in Uniform Project
 (MRU) 92, 101, 103, **112**
 Manus Island 43, 46, 62, 63
 marine craft 30, 37, 41, 64
 Martin, Matthew LAC 202
 McCarthy, Paul SQNLDR 202
 McCormack, Errol AIRMSHL 105, 109, 155
 McGarry, John GPCAPT 223
 McGinty, Paul FLTLT 219
 McHugh, Chris CPCAPT 190, 235, 237
 McKay, Chaplain 27
 McKenzie, Rob WGCDR **179**, 223, 224, 237
 McLennan, Roxley AIRCDRE 79, 136, 138,
 140, 141, 239
 McLennan, Terry SQNLDR 193
 McNamara, Chaplain 27
 Medan 200
 Med Det Balad 187, 187–188
 Medical Air Evacuation Transport Units (MA-
 ETUs) 41–42, 242
 Medical Assessment Element (MAE) 196,
 222
 Medical Clearing Station 38, 241
 Medical Receiving Station 14, 22, 241
 Mesopotamia 1–3, 4
 Messenger, Henry LAC 47

Always There: A History of Air Force Combat Support

- meteorology 51, 56
Metz, Cornelis GPCAPT 235, 237
Miho 56
Military Shelter System (MSS) 165, 190
Military Working Dog Teams 111, 147, 223, 224
Mills, Philip CPL 178
Milne Bay, Battle of 40–41
Mindoro landings 45
mobile air movements sections 74
Mobile Air Traffic Control System (MATCS) 97, 108, 126
mobile radio workshop 11
Mobile Task Force 53, 54, 62
Model Base Project 92–93, 101
Mogadishu 85
Momote 43, 62
Monte Bello Islands 63
Morotai 38, 45, 46, 47
motor transport 72, 75, 91, 96, 118, 147, 164, 217
 AFC and early RAAF 4, 8, 11–13
 in World War II 22–23, 28–29, 33–34
 projects 96, 163–165, 168–169, 217
Mount Batten 18. *See also* RAF Station
 Mount Batten
Muscat, Paul SQNLDR 189, 190

Nadzab 43–44, 44
Naylor, Ross Chaplain 149
Nauru 208, 209
Neaylon, Francis AC 35
Neill, Cameron SQNLDR 172
Nelson, Tom SQNLDR 235, 239
Netherlands East Indies 27, 30
Newby, Wayne SGT 190, 192, 193
New Zealand 28, 56, 60, 74, 86, 121, 136, 139, 144, 201, 203, 230,
 5th New Zealand Brigade 24
 See also Royal New Zealand Air Force
Neylan, Dave WOFF 123, 191
Nias 202
Nichols, Scott LAC 202
Niue 207
No 10 Group 43–44, 37
Noake, Peter WGCDCR 193, 203, 205, 204, 236
Noemfoor 38, 43, 44, 48, 48
Northern Atlas 116
Nui Dat 69, 70

Oakes, Colin LAC 75
Oboe operations 47–48, 48
O'Brien, Graham GPCAPT 83, 127, 128, 129, 133, 134, 169, 198, 235, 239
Oddie, John GPCAPT 200
O'Donoghue, Michael WGCDCR 146
Operation
 Abseil 121
 Acolyte 225
 Anode 166, 174, 203, 203–207, 205
 Astute 223–224
 Ausindo Jaya 123–124
 Azure 226
 Bali Assist 194–196
 Bali Assist 2 195–197
 Bastille 180–181, 189
 Bel Isi 121
 Bel Isi II 121–122
 Brancard 128
 Catalyst 184, 187, 189, 191, 218
 Citadel 149
 Concord 129
 Deluge 225
 Faber 129
 Falconer 181–183, 189
 Garuda Assist 225
 Gemini 83
 Gold 175
 Guardian 176
 Kiribati Assist 208, 226
 Lagoon 85, 86
 Larry Assist 220
 Morris Dance 97
 Nauru Assist 1–3 208, 209
 Osier 84
 Outreach 225–226
 Pakistan Assist 218–219
 Ples Draï 123
 Plumbob 175

- PNG Assist 224
 Pollard 122
 Ramp 221–222, 222
 Relex 175–176
 Resolute 176, 226
 Safe Base 177
 Shaddock 124
 Shepherd 84
 Slipper 177–179, 189, 191–193, 218
 Solomon Assist 224–225
 Spire 149
 Spitfire 129
 Sumatra Assist 198–202
 Tamar 84
 Tanager 145, 157
 Vista 85, 86, 87
 Warden 130–145, 153, 157
 Operational Base Units (OBUs) 37, 51, 241
 Operational Command 78
 Operational Deployment Force. *See* Ready
 Deployment Force
 Operational Facilities Flight 95, **95**, 185
 Operational Health Support and Training
 Flight **172**
 Operational Support Group 81, 82, 90,
 98–100, 116, 117, 231, 239
 equipment 96–98
 formation 79
 disbandment of 107
 involvement in operations 84–86, 121, 123
 structure 94–96
 Ormsby, Andrew WGCDR 146
- Pakistan **74**, **192**, 218
 Palmer, Kym WGCDR 146
 Papua New Guinea 123–124, **203**, 224
 famine relief operations 74
 Parr, John LAC 23–24
 Parsons, Keith AIRCDRE 227
 Parsons, Tony CPL **178**
 Pasfield, David GPCAPT 107, 235, 236, 237
 Passchendaele 6
 Paterson, Michael WGCDR 187, 236
 Pearce Monitoring Group 121
 Pearce, RAAF Base 13, 63, 92, **92**, 112, **161**,
 214, 215
 Pearson, Brett LAC 191
 Pembroke Dock 17
 Penney, Gary WGCDR 83, 126, 235, 239
 PE-WE 112
 Phan Rang 68, 70–71, 71
 Phelan, Chris WGCDR 237
 Philippines 45, 47
 Plymouth 17–18
 PMKeyS 113
 Point Cook, RAAF Base 1, 8–10, 12, 13, 27
 portable runway approach lighting (PAPI)
 140
 Portugal 144
 Postal Units 39, 43, 52, 242
 Power, Noel CPL 71–72
 Project Camel Train 79
- RAAF Headquarters 8, 12, 36, 50, 56
 RAAF Station Sembawang 27–30
 RAAF Transport Flight Vietnam 68
 RAAF Wings and Units
 CSG Units
 Airfield Defence Wing 99, 114, 107, 114,
 122, 126–127
 disbandment of 214
 formation of 79, 94
 in Cambodia 86
 in Iraq 185, 188
 Combat Reserve Wing **106**, 107
 Health Services Wing 115, 121, 211, 215
 Bali bombings 194–197
 concept 198
 formation of 114, 162
 in Bandar Aceh 200
 in Iraq 187
 Medical Operational Support Unit
 (MOSU) 66–67
 Mobile Air Terminal Unit 76, 95, 107, 121,
 123–124, 123
 command arrangements 78, 95, 107
 formation of 76
 No 1 Airfield Defence Squadron 38, 94,
 155, 183, 214
 No 1 Air Operations Support Squadron

- 213, 214, 226
- No 1 Air Terminal Squadron 107, 114,
129, 177–178, 201, 202, 214, 219, 228
- Cyclone Larry 220
- in Bali 194
- in Bandar Aceh 200–202
- in Bougainville 121
- in East Timor 223
- in Honiara 175, 203, 206
- in Iraq 183
- in Lebanon 221
- No 1 Air Transportable Health Squadron
114, 162, 187, 215, 224
- No 1 Combat Communications Squadron
107, 110, 114, 124, **129**, 170, 180, 197,
208, 214, 223, 224
- in Bandar Aceh 200
- in Iraq 183, 185
- in Kuwait 122
- No 1 Combat Logistics Squadron 107,
116, 125, **129**, 165, 183, 212, 214, 221
- in Bougainville 122
- in Iraq 185, 190–191
- in Irian Jaya 123
- No 2 Airfield Defence Squadron 38, 39,
47, 49, **54**, 81, 127, **129**, 176, 214, 219,
228
- command arrangements 78
- in Bandar Aceh 200
- in East Timor 130, 131, 136, 137, 138,
223
- in Honiara 206
- in Iraq 188
- personnel from 39, 77, *111*, *118*, *135*,
138, *173*, *217*
- re-formation of 77
- No 2 Air Transportable Health Squadron
114, 162, 221
- in Lebanon 221
- No 3 Airfield Defence Squadron 155, 175,
221
- formation of 94
- No 3 Combat Support Hospital 109, *115*,
148, 162, 183, 194, 206, 218. *See also* 3
RAAF Hospital
- No 3 RAAF Hospital 73, 74, 86, 123. *See*
also No 3 Combat Support Hospital
dual role of 109
- No 321 Combat Support Squadron **109**,
214, 221
- No 322 Combat Support Squadron 108,
125, 129, 183, 193, 196, 211, 214, 221
- No 322 Combat Support Wing
disbandment of 211
formation of 108
- No 323 Combat Support Squadron **109**,
214
- No 324 Combat Support Squadron **109**,
157, 200, 226
- No 381 Expeditionary Combat Support
Squadron 107, 127, *131*, 175, 202,
226–228
- in East Timor 131, 132–136, 145
- in the Middle East 179
- No 382 Expeditionary Combat Support
Squadron 107, 127, 201, 220, 224,
226–228 130, 131, 142–143, 181, 189,
223
- in East Timor 130, 134, 135, 142–145,
223
- in the Middle East 181
- No 383 Expeditionary Combat Support
Squadron 145
- disbandment of 162
formation of 155
- No 386 Expeditionary Combat Support
Squadron 107, 127, 145, 199, 218, 223,
227–228
- disbandment of 214
in Lebanon 221–222
in the Middle East 181, 200
- No 395 Expeditionary Combat Support
Wing 109, 112, *115*, 116–119, **118**,
127, 128, 162, 200–201, 208, 214, 220
- formation of 107–109
- in East Timor 129–130, 133, 136–137
- in the Middle East 179, 180, 181
- in Honiara 203
- No 396 Combat Support Wing *104*, 211,
214
- formation of 108–109, 157–158
- No 396 Expeditionary Combat Support

- Wing 214, 228. *See also* No 396 Combat Support Wing
- other combat support units
 - Administrative Wing 38
 - Air Transportable Telecommunications Unit 69, 73–74, 76, 81, 94, 95, 96, 97, 98, 101, 104
 - Cambodia deployment 83–84
 - command arrangements 78
 - formation of 66
 - in Vietnam 69
 - re-titled 107, **124**
- Base Wing 38
- Base Squadron Amberley 67
- Base Squadron Butterworth 64, 73
- Base Squadron Darwin 67, 73, 129
- Base Squadron Edinburgh 67
- Base Squadron Momote 62
- Base Squadron Richmond 67, 73
- Base Squadron Ubon 65
- Base Squadron Williamtown 67
- No 1 Airfield Construction Squadron 49
- No 1 Medical Air Evacuation Transport Unit 42
- No 1 Operational Support Unit 69, 70, 73, 75, 80–82, 84–86, 85, 91, 94–95, **95**, 96, **97**, 99, 101
 - accounting of stores 98
 - chaplains of 72–73
 - command arrangements 78
 - disbandment of 73
 - in Vietnam 69, 69–70, 72, 73
 - formation of 69, 77
 - re-titled 107, **124**
- No 2 Airfield Construction Squadron 62, 63, 64
- No 3 Airfield Construction Squadron 45
- No 3 Bomb Disposal Unit 49
- No 4 RAAF Hospital 73
- No 5 Airfield Construction Squadron 56, 63, 65, 68
- No 5 Bomb Disposal Unit 45
- No 6 RAAF Hospital 148
- No 8 Airfield Construction Squadron 49
- No 24 Medical Clearing Station **54**
- No 25 Air Stores Park 40, **54**
- No 26 Medical Receiving Station 43
- No 27 Air Stores Park 43
- No 37 Operational Base Unit 43
- No 45 Operational Base Unit 41
- No 47 Operational Base Unit 38
- No 49 Operational Base Unit 43
- No 61 Airfield Construction Wing 38
- No 62 Airfield Construction Wing 38, 44
- No 73 Operational Base Unit 37
- No 323 Air Base Wing **92**, 95
- Nos 324–327 Contingency Air Base Wings 79, 93
- No 327 Contingency Air Base Wing 79, 86, 93
- No 378 Base Squadron 64
 - disbandment of 55
 - formation of 54
 - in the Mediterranean 61
- No 381 Base Squadron
 - formation of 54
 - in Bofu, Japan 55, 55–56
 - personnel of 56
- No 386 Base Squadron
 - disbandment of 55
 - formation of 54
- No 391 Base Squadron 58–60, 62
- Operational Support Wing 79, 83, 86, 94
- Security Guard Unit 38
- Service Police Unit 39
- Station Headquarters Sembawang 27–30
- Support Unit Butterworth 64, 95
- Support Unit Tengah 65
- other RAAF units
 - No 1 Air Ambulance Unit 24–25, 25
 - No 1 Aircraft Depot 8
 - No 1 Central Ammunition Depot 66
 - No 1 Flying Training School 8
 - No 1 Squadron 3, 4, 12, 13
 - in World War II 27, 30
 - role in AFC 5
 - No 2 Air Ambulance Unit 41
 - No 2 Aircraft Depot 14
 - No 2 Squadron 3, 4, 30
 - chaplains of 72–73
 - in Vietnam 68, 69, 71
 - role in AFC 5

- No 3 Aircraft Depot 66
- No 3 Squadron 3, 12, 15, 82
 - at Diego Garcia 178
 - in World War II 19–24
 - role in AFC 5
- No 4 Squadron 3, 4
 - role in AFC 5
- No 5 Squadron 3
- No 6 Squadron 3
 - in World War II 40
- No 7 Squadron 3
- No 8 Squadron 3
 - in World War II 27
- No 9 Squadron 68, 70
- No 10 Squadron 15, 17–19, 19
- No 13 Squadron 20
- No 21 Squadron 27
- No 22 Squadron 47
- No 23 Squadron 94
- No 24 Squadron
 - at Rabaul 32
- No 32 Squadron 40
- No 33 Squadron 178
 - in Kuwait 122
- No 35 Squadron 68, 73, 81
- No 36 Squadron 61, 74, 226
- No 38 Squadron 203
- No 41 Wing **81**, 193
- No 44 Wing 170, 184, 186, 200, 223
- No 75 Squadron
 - in Iraq 183
 - in World War II 40
- No 76 Squadron 40
- No 77 Squadron
 - at Diego Garcia 178
 - in Japan 56–57, 57
 - in Korea 58–61
- No 78 Wing 54, 61, 64
- No 79 Squadron 65
- No 81 Wing 54–55, 64
- No 82 Wing 55
- No 86 Wing 54, 86, 130, 181, 183, 194, 196, 200, 219, 220, 223
- No 90 Wing 64
- No 91 Wing 58
- No 92 Wing 175–176, 178–179
- No 114 Mobile Control and Reporting Unit (114MCRU) 81, **81**
- No 450 Squadron 19, 20, 21, 22, 23, 26
- No 451 Squadron 19, 20, 24
- No 453 Squadron 19, 20, 27
- Rabaul 32, 52, 62
- radio 6, 10. *See also* communications and information technology
- radio W.L.K.U. 61
- Radio Installation and Maintenance Unit (RIMU) 39, 242
- RAF Station Mount Batten 17–19, 19. *See also* Mount Batten
- Rathmines, RAAF Base 13
- Ratz, Andrew SQNLDR 98
- Rawlinson, Mike GPCAPT 82
- Ready Deployment Force 79, 81
- Ready Reserve Scheme 91, **91**, 94
- Red Baron, the. *See* von Richthofen, Baron Manfred
- Reddrop, FSGT 10
- Regional Assistance Mission to Solomon Islands (RAMSI) 203–207
- Reidlinger, Rob SQNLDR 147
- Remediation project *See* East Timor Remediation Project
- Review of Air Base Support (RABS) 91, 92, 101
- Reynolds, Bernie AVM 76
- Richards, Steve WGCDR **106**, 238
- Richmond, RAAF Base 10, 13, 17, 63, 66, 73, 74, 76, **92**, 95, 104, 107, 156, 162, 165, 175, 194, 196, 201, 207, 212, 215, 220
- Ripley, Geoffrey FLTLT 50
- Robinson, Dean SQNLDR **203**
- Robinson, Geoff WGCDR 200, 236
- Rockhampton 74, 90, 97, 119
- Roeburne 77
- Ross, Alan SQNLDR 125, 239
- Rowbottom, Lynne FLTLT 202
- Royal Air Force (RAF) 10, 15, 17–21, 25–29, 40, 59, 60, 61, 63, 81, 228
 - Coastal Command 15, 17–19
 - exchange and engagement with 81, 228, 230
 - first radio link 10
 - in Korea 59–61

- in Malta 64
- in the Far East 27–29
- in the Middle East 21, 22, 25–26
- Royal Australian Air Force
 - early achievements 11–12
 - formation of 1, 8
 - gift equipment for 8–10
 - post-war demobilisation 54–55
 - reshape and rebalance 209–210, 213
 - structure 37, 92, 161, 213
- Royal Australian Regiment, The
 - 2 RAR 137, 143
 - 4 RAR 127
 - 6 RAR 119
- Royal Flying Corps (RFC) 2, 3, 3
- Royal Malaysian Air Force 64, 227
- Royal New Zealand Air Force 124, 163, 203, 229
- Russenberg, Harold SGT 49
- Rwanda 84
- Ryan, Dr Alan 150

- Saigon 68–69
- Saker, Paul FLGOFF 134
- Sandakan 50
- Sanglah Hospital 194
- Sawade, Chris AIRCDRE 226, 235
- Scherger, F.R.W. ACM 36, 37, 63
- Scherger, RAAF Base 63, 79, 119, 125, 227
 - opening of 125–126, 126
- Schodel, SPR 192
- Schulz, Albert LAC 35
- Scott, Ernest WGCDCR 31
- Sedgman, Craig SQNLDR 220, 221, 228
- Sembawang 27–28, 28
- September 11 terrorist attacks 176–177
- shadow-posted system 79, 98, 101
- Shelton, John FLTLT 41
- Shepherd, Geoff AIRMSHL 186, 213
- Sherman, Tom 160
- Shinnick, Peter WGCDCR 127, 130, 236
- Shordan, Roger CPL 140
- Shortridge, Rob GPCAPT 178, 190
- Simons, Robert CPL 35
- Singapore 17, 27–29, 28, 61, 65
 - fall of 29
- Skinner, Marcus WGCDCR 199
- Skoda, Robert FLGOFF 219
- small arms ranges 167
- Smart, Tracy GPCAPT 148, 196, 197, 198, 222, 235
- Smith, Lt. 7
- Smith, Monty GPCAPT 106, 235
- Smith, Stanley AC 35
- Smith, Tony CPL 123
- Solomon Islands 30, 42, 84, 166, 174, 175, 203, 206, 224–225, 225
- Somalia 84
- South-East Asia Treaty Organisation (SEATO) 65
- South Pacific Peacekeeping Force (SPPKF) 85–86, 85
- Specialist Military Skills (SMS) 112, 112, 160
- Squadrons. *See* RAAF Wings and Units
- Station Headquarters
 - concept and role 12, 14, 37, 53, 64
 - first RAAF combat support unit overseas 27, 30
- Stephens, Dr Alan 14–15
- Stevens, LAC 49
- Stores Units 39
- Stratton, Brad LAC 193
- Strickland, Tim FLTLT 219
- Strike Reconnaissance Group 161
- Sugden, Chris SQNLDR 68
- Sumatra 30, 115, 199
- Surveillance and Response Group 161
- Swallow, LAC 192
- Swan, Andrew SQNLDR 33, 36
- Swift Eagle Exercises 82. *See also* Exercise Swift Eagle
- Sykes, Sharon SQNLDR 149

- Tactical Air Support Force 79
- Tactical Fighter Group 87, 161
- Tactical Transport Group 78–79, 79
- Tait, Geoffrey CPL 193
- Taliban 178
- Tan, Audrey FLTLT 219
- Tarakan 39, 46, 47–50, 47

- Tarin Kowt 191–193, 191
Task Force Troy 189
Tasker, Geoff GPCAPT 235
Taylor, R. FLTLT 46
Telecommunications Units 39, 242
Tengah 27, 65
Tetbury 5
Thackeray, SQNLDR 239
The Defence of Australia 1987. *See* White Paper (1987)
Thomas, Frederick GPCAPT 41
Thomas, Perry WOFF 189
Thomas, Ray WGCDCR **106**, 157
Timor-Leste 149–150, 223–224. *See also* East Timor
Tindal, RAAF Base 63, 89–90, **92**, 94, 103–104, **107**, 107–109, 119, 130, 144, 149, 158, 174, 183, 196, 201, 211
 flood assistance 125, 211
Tindal, Archibald WGCDCR 33
TNI-AU (Indonesian Air Force) 138
Tobruk 24
Tonga **86**, **203**
Townsville, RAAF Base 63, 77, 84, **92**, 95, 98–100, 104, **107**, 108, **109**, 144, 157, 198, 215
Transportable Tactical Landing System (TTLS) **170**
Truce Monitoring Group 121
tsunami 196, 198–201, 124 199, 224
Ubon 65, 65–66, 178
United Kingdom *See* British, World War II
United Nations
 UNAMET 129
 UNAMIR 84
 UNEF **74**
 UNITAF 84
 UNMIS 226
 UNMISSET 149
 UNMOGIP **74**
 UNMOVIC 189
 UNOSOM 84
 UNSCOM **189**
 UNTAC 83
 UNTAET 145, 148
United States forces 17, 58, 176, 230
 operating with 40, 44–45, 58–60, 65, 68, 70–71, 73, 180–189, 215
 supported by 43, 60, 68–69, 122, 178, 180
 training with 74, 81, 82, 216, 228–229
 1st Cavalry Division 46
 Fifth Air Force 59–60
 18th Aeromedical Evacuation Squadron **216**
 379th Engineer Battalion 189
 902nd Aeromedical Evacuation Squadron 73
 6418th Air Base Group 60
Usaga, Wilson WOFF **188**
Vanuatu **86**, 121, 207
Vietnam 60, 65, 66, 165, 231
 combat support for RAAF in 68–72
 evacuation of Embassy staff 73
Viggers, Peter GPCAPT 235, 237
von Richthofen Baron Manfred 7
Vung Tau 67, 68–70
Wadsworth, Ross SQNLDR **84**, 146, **146**, **216**
Wagga, RAAF Base **211**, 214, 215
Wakeham, Steve WOFF 191, 191
Walker, Laurence LAC 31
Walker, Michele WGCDCR 224, 225, 236
Ward, John GPCAPT 125
Wardle, Scott WGCDCR 185, **185**, 237
Warmington, LAC 192
Warneford, Walter Lt. 7
Wartime Restructure Project 92
Watson, Guy SQNLDR 97, 146
Weapon System Plan 169
weapons **22**, 30–31, 33, 36, 48, 53, 139
 SLR L1A1 97
 F88 Austeyr 97
Weapons Training Simulation System (WTSS) 167
Webb, Ken WGCDCR 98, 100
Weekes, Greg GPCAPT 86, **86**, 87, 104, 113, **114**, 235, 239
Wells, Kim CPL 160
Whalen, Greg SQNLDR 146

- White, Captain T.W. (Tommy) 2
White, LAC 192
White Paper (1987) 89
 recommendations 90
Williams, RAAF Base **211**, 214, 215. *See also*
 Laverton, Point Cook
Williams, Richard AIRMSHL 4, 11, 13
Williamtown, RAAF Base 19, 67, **92**, **107**,
 195, 196, 197, 215
Wilson, Gareck FLTLT 129
Wilson, Greg SQNLDR 194
Winchester, Scott WGCDR **185**, 235, 236
Winders, Lewis WOFF 147
Windorah 78
Wood, Bruce AIRCDRE 105, 106, 146, 149,
 174, 232, 235
Woodman, A.P. LAC 141
Woolan, Eden SGT **188**
Woomera 63
World War I 3, 5, 6, 8, 10, 22
World War II
 Australian theatre 32–37
 Far East theatre 27–31
 Middle East theatre 19–24
 some lessons from 36, 50–52
 South West Pacific theatre 32, 39–50
 specialist support units 37–39, 53, 241–243
 support concepts 37–38
 UK theatre 17–19
Wrigley, Alan K. 90
Wrigley, H.N. AVM 26
Wrigley Review 89–91

Yeates, Symon SGT 219

