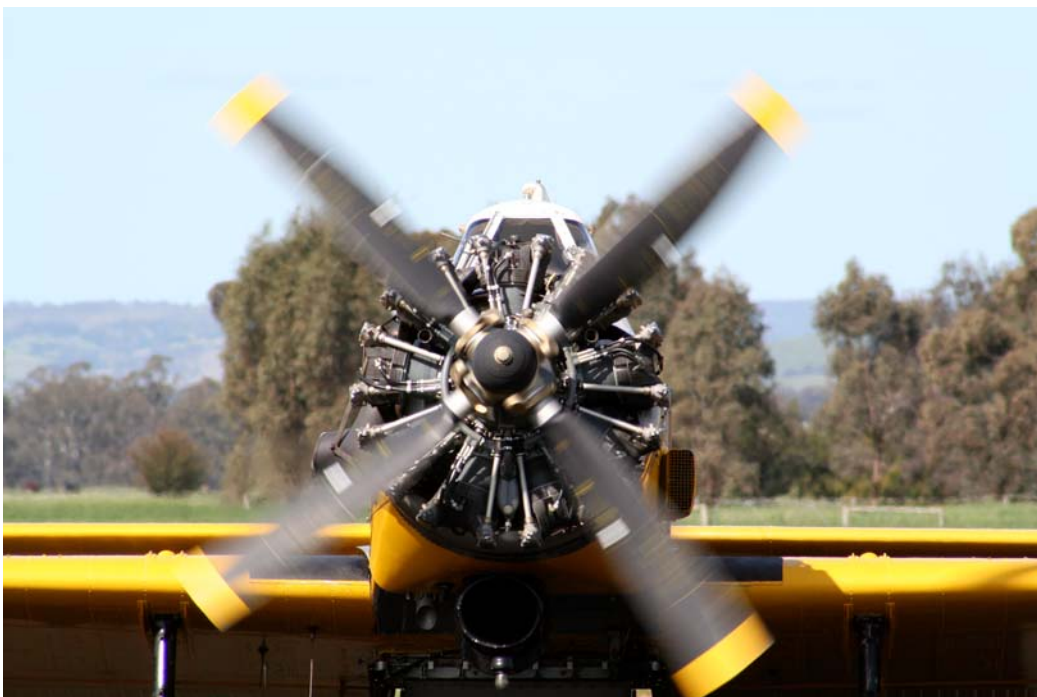




**STATE AIRCRAFT UNIT**  
**VICTORIA**

# **Annual Report**

## **2005/06**



30<sup>th</sup> September 2006



Our goal is to provide a “one stop shop” to clients for all aspects of coordination and management of aircraft and aircraft related resources and activities.

Our strategic priorities are:

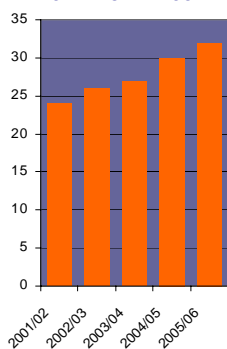
- \* Excellence in service delivery;
- \* Continuous performance improvement;
- \* Application of new and improved technologies; and
- \* Professional development of employees.

## 2005/06 Highlights

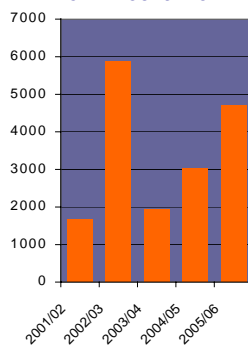
- \* 2005/06 was considered a particularly difficult fire season with an above average number of fires burning an above average area.
- \* Aircraft under contract increased to 32.
- \* The total aircraft flying hours was above average at 4,716 hours.
- \* There were 943 aircraft dispatches by the State Airdesk, the second highest in the last 10 years.
- \* At times during January more than 60 aircraft were simultaneously dispatched to fires and provided with on-going support through the State Airdesk.
- \* The client base continued to expand.
- \* There was extended support provided to Plague Locust control and management operations across the State.

- \* Continuous performance improvement of both the users and service providers was enhanced through expanded audit and review processes.
- \* The further development of training standards and competencies across Victoria and other Australian states was actively supported.
- \* Airborne data collection and distribution was further refined with the installation and operation of new infra red linescanning systems.
- \* Safety of operations improved with the installation and operation of new aviation bulk refuelling facilities and aerial incendiary devices.
- \* The distribution of aviation information through the expanding SAU web site has empowered the widest possible audience, including the community.
- \* The SAU continued to support the National Aerial Firefighting Centre (NAFC).
- \* The management of fire fighting aircraft during the Melbourne 2006 Commonwealth Games was in accord with Department of Transport and Regional services, AirServices Australia and the Department of Defence guidelines.

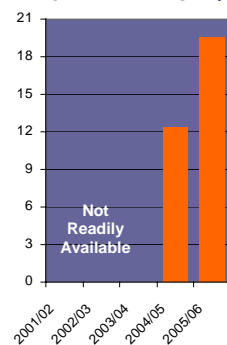
**AIRCRAFT UNDER CONTRACT**



**TOTAL HOURS FLOWN**



**TOTAL EXPENDITURE \$M**



## A Message from the Manager, State Aircraft Unit

The State Aircraft Unit (SAU) is a joint initiative of the Country Fire Authority (CFA) and the Department of Sustainability and Environment (DSE) providing specialist aviation resources for fire, land and emergency management.

2005/06 has seen the SAU continue to develop and improve the delivery of services. Our client base has continued to expand and near record numbers of aircraft were dispatched to incidents.

The emphasis given to the on-going development of standards and procedures, communication with users and the provision of training highlights the commitment of the SAU to safety for all aircraft operations.

On-going development of systems and the upgrade of equipment ensure the SAU remains at the forefront of new and improved technologies and their application.

As with many organisations, the establishment of appropriate staffing levels, the continued professional development of employees and the implementation of succession plans are significant issues for the SAU, particularly as the client base expands and the size and complexity of the aircraft fleet under management increases. Progress with some of these issues during 2005/06 was limited although it is hoped that a review of the SAU currently being undertaken by CFA and DSE will reaffirm the future direction of the unit and lead to many of these issues being appropriately addressed in a timely manner.

The SAU has developed considerably since its inception in 2001. The unit now administers a program on behalf of the State with annual expenditure of nearly \$20 million and with significant responsibility for the management of the risks associated with large scale air operations. The SAU provides support to a wide range of Victorian clients and a growing number of agencies in other States and Territories.

Looking ahead, I expect that the reliance on aircraft for fire suppression, emergencies and other land management operations will continue to increase. The size and complexity of the aircraft fleet will expand in line with client needs and new partnerships will be formed. It is therefore most important for the SAU to be well placed to carry out their important operational role into the future. I look forward to the challenges ahead.

I wish to take this opportunity to thank the SAU personnel who often work above and beyond their expectation to deliver a safe aviation program. They are supported by the dedicated career and volunteer personnel in the Regions, who must be congratulated for doing such a wonderful job in what is effectively a part time role. Of course our program would be nothing without the expert pilots and support crews who get us home at the end of the day.



Nick Ryan

# Contents

<b>2005/06 Highlights</b>	<b>3</b>
<b>A Message from the Manager, State Aircraft Unit</b>	<b>4</b>
<b>Service Delivery</b>	<b>6</b>
Readiness and Response	
◆ Standards and Procedures	6
◆ Advice	6
◆ Support to Aircraft Operators	7
◆ Procurements	7
◆ State Airdesk	9
▪ Operations Overview	9
▪ Type 1 Helicopters	10
▪ Type 2 and 3 Firebombing Helicopters	11
▪ Type 3 Helicopters	11
▪ Single Engine Air Tankers (SEATS)	12
▪ Specialist Aircraft	12
▪ Call When Needed Aircraft	13
▪ Plague Locust Management Assistance	13
▪ Commonwealth Games	13
▪ Airshows and Displays	14
Programs	
◆ Rappel and Hover Exit	14
◆ National Aerial Firefighting	14
◆ SAU Training Program	15
◆ Support to Agency Training	15
Partnerships	16
<b>Continuous Performance Improvement</b>	<b>17</b>
Audits	17
Aviation Occurrences and Fireline Incidents	17
Reports on Services and Operations	19
Bushfire CRC	20
<b>Application of New and Improved Technologies</b>	<b>21</b>
Research	21
Development and Maintenance	22
<b>SAU Business Management</b>	<b>23</b>
Governance	23
Functional Structure	23
Operational Structure	23
Report on Activities	24
Marketing	24
Financial Summary	25
<b>Appendices</b>	<b>26</b>

# Service Delivery

## Readiness and Response

### Standards and Procedures

The SAU has for many years been instrumental in the development of aviation related standards, protocols and procedures across Victoria. This activity has broadened and is now directed to the development of national standards and procedures.

In 2005/06 the SAU provided expert advice through the:

- \* Australasian Fire Agencies Council (AFAC) for the development of national training competencies and accreditation;
- \* National Aerial Firefighting Centre (NAFC) for the development of national protocols and systems for aerial firefighting; and
- \* Bushfire CRC and the research designed to enhance the management of the bushfire risk to the community.

The review of the SAU Air Operations Manual continued through 2005/06, although there was limited opportunity to progress this due to the elevated level of aircraft operations during the year. It is intended to engage a contractor to manage, finalise and implement the project before the 2006/07 fire season.

The operations manual for the new Arlos Aerial Incendiary Machine was completed and will be applied in training courses during 2006/07.

The SAU was involved in preparing the draft form of the joint CFA/DSE Air Observer Training Manual.

### Advice

Given its origins, the SAU has since its inception provided expert advice to both CFA and DSE on a wide range of aviation and aviation related matters. This continued throughout 2005/06.

The SAU also provided advice to other stakeholders and clients on the potential application and use of aircraft in support of a wide range of land management and emergency management activities.

The parent agencies were represented by the SAU in a number of forums and provided input to:

- \* Australasian Fire Agencies Council (AFAC) through the Wildfire Aviation Technical Group (WATG);
- \* National Aerial Firefighting Centre (NAFC); and the
- \* Bushfire CRC.

The SAU continued to convene the Aviation Equipment Group and provide advice to clients.

The SAU continued to provide specialist aviation information to stakeholders and service users through various means including the SAU website.

New sections developed in 2005/06 included:

- \* "Hot Topics" - containing reports and information from other agencies such as the Australian Transport Safety Bureau (ATSB) that had some relevance to operations, such as the ATSB reports on "Locust Operations and Wire Strike Incidents".
- \* "Briefing Notes" - containing the briefing notes that SAU sent out during the year. They covered a wide range of topics relating to SAU operations in general and also to specific events, such as the Commonwealth Games.
- \* "Occurrences" - containing a list of incidents that occurred in relation to Aircraft Operations, investigation outcomes and any recommendations that arose from an incident.

## Service Delivery

### Support to Aircraft Operators

More than 15 companies provide aviation services through the SAU.

In 2005/06 the SAU conducted 2 pre-season pilot briefings that provided an overview of the coming fire season and the dispatch, operational and administrative procedures to apply. Considerable emphasis was placed on safety through the various established standards and procedures. Accident and emergency procedures were reinforced.

The current edition of the SAU Air Operations Manual was reprinted and distributed to aircraft operators.

The annual revisions of the Pilot Information and Cockpit Handbooks were completed and distributed to aircraft operators.

At the conclusion of the 2005/06 season the SAU completed 15 company debriefs, as summarised in Appendix 6.

The aim was primarily to ensure that the SAU, contractors and agency personnel continued to conduct aircraft operations safely and effectively.

At each debrief the SAU, on behalf of the agencies, reported on the quality of the service provided and the operations performed. Each debrief also provided an opportunity for contractors to have "their say" on any issues that arose during the service period including those related to the performance and support provided by the agencies.

### Procurements

As part of the 5-year Strategic Procurement Plan for Aviation Services, approval in 2005/06 was granted for the acquisition of:

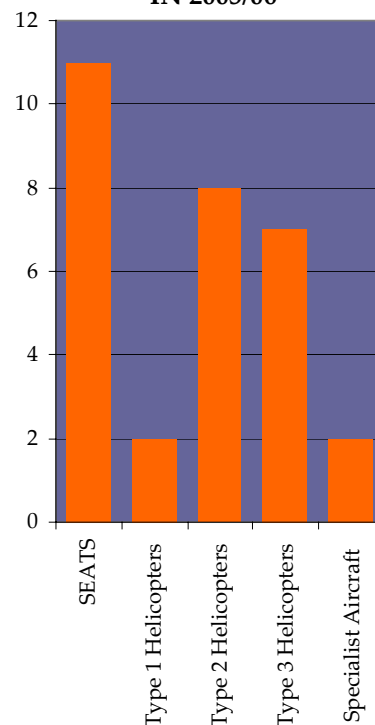
- \* 1 x Type 1 helicopter service (via NAFC);
- \* 2 x Type 2 helicopter services (via NAFC);
- \* 6 x Type 2 helicopter services (acquired following a public tender in 2004/05); and
- \* 7 x Type 3 helicopter services (acquired following a public tender in 2004/05).

The services acquired by public tender are subject to 3-year contracts with two further 1-year options. The services acquired via NAFC are subject to 2-year contracts.

At the completion of procurement processes the total number of aircraft under contract was 32 although only 30 aircraft contracts were activated in 2005/06, as detailed in Appendix 1.

In 2005/06 two Type 3 helicopter services were contracted to be available for the entire year.

**AIRCRAFT CONTRACTS ACTIVATED  
IN 2005/06**



## Service Delivery

The remaining 28 contract services activated in 2005/06 commenced their Service Periods incrementally from 30<sup>th</sup> November 2005. The 28 services had all completed their respective Service Periods prior to 24<sup>th</sup> May 2006. See Appendix 2 for details.

The chart below shows the availability of contract aircraft for the past 5 years.

In 2005/06 the daily standing costs for 29 contracted services were shared between CFA and DSE. The Melbourne Water Corporation fully funded the daily standing cost for one Type 2 helicopter. In the case of two Type 1 and two Type 2 helicopter services, the Commonwealth through NAFC contributed up to 50% of the daily standing costs.

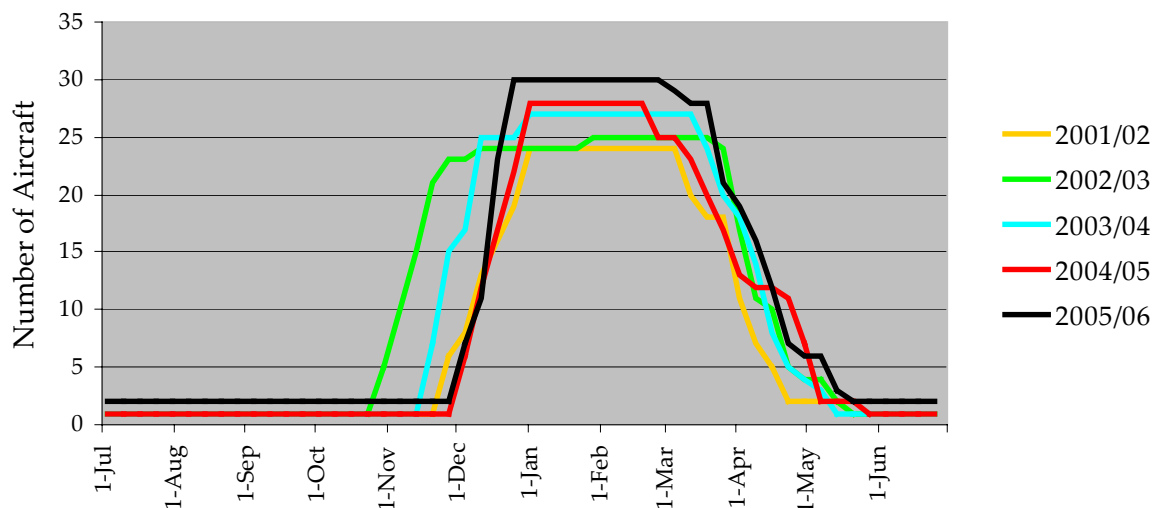
The SAU also coordinates a register of Call When Needed (CWN) and Regional aircraft that are available for DSE and CFA operations. In 2005/06 the CWN Register contained 141 fixed wing aircraft and 41 rotary wing aircraft.

The services of four tray trucks were acquired for the 2005/06 fire season and were used by DSE accredited crews to provide hot refuelling services to aircraft.

One 6,000-litre capacity Jet A1 refuelling tanker was acquired to reduce the dependence on aircraft fuel in drums. The tanker was operated by DSE accredited hot refuelling crews.

### CONTRACT AIRCRAFT AVAILABILITY

Does not include "Call When Needed" and regional aircraft





# Service Delivery

## State Airdesk

The State Airdesk recorded 943 dispatches to 30 June 2006 inclusive. This included fire and other emergency incidents, prescribed burning operations, and other land management activities such as forest regeneration burning and seeding, and plague locust management. The State Airdesk organised a large number of charter aircraft for crew transport during January 2006. Notification by CFA and DSE Regions of deployments of light fixed wing reconnaissance and observation aircraft were also recorded and entered into the State Airdesk dispatch system.

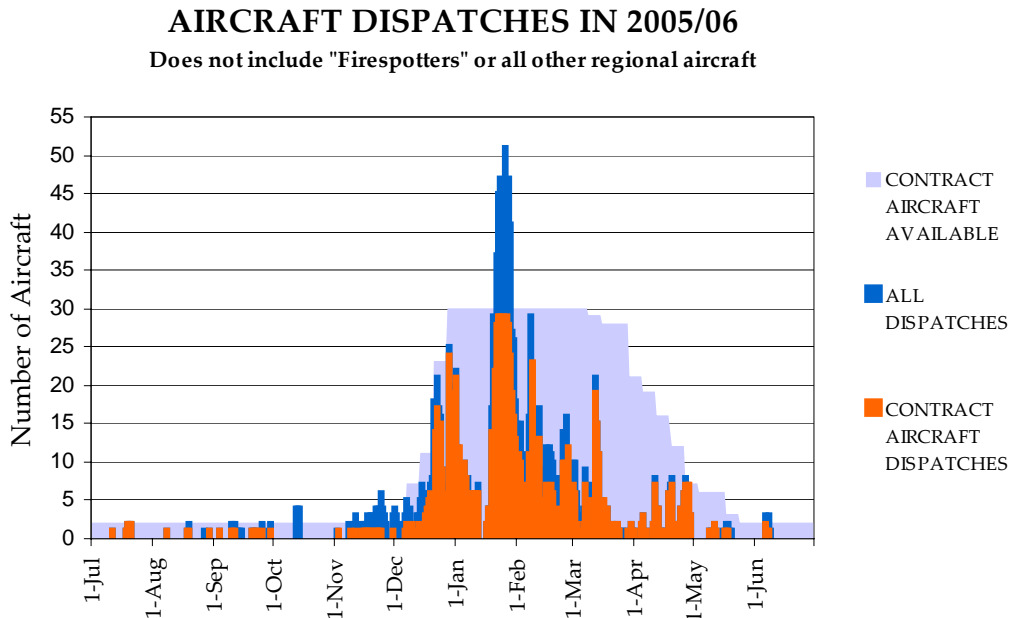
## Operations Overview

In 2005/06 the total aircraft flying time was 4,716 hours. This compares to the average over the past ten years of 2,930 hours.

2005/06 saw the significant use of non-contract aircraft during both peak periods and outside contract Service Periods to supplement available resources.

The dispatch of aircraft during 2005/06, excluding "Firespotters" and some regional aircraft, is indicated in the chart below.

CFA had its highest usage of aircraft in the past 10 years and DSE had its second highest.



<b>AGENCY FLYING TIMES</b>					
<b>Agency &amp; Operation</b>	<b>2005/06</b>	<b>2004/05</b>	<b>2003/04</b>	<b>2002/03</b>	<b>2001/02</b>
CFA – fire	609	187	207	462	262
CFA – training	1	5	23	9	27
Agreed joint agency operations	74	27	19	1	0
DSE – fire	2516	1717	968	4648	467
DSE - training	192	245	179	182	214
DSE – burning / other works	375	656	550	582	708
DPI – locusts	812				
VicForests – burning & seeding	137	168			
<b>Victoria Total hours</b>	<b>4716</b>	<b>3021</b>	<b>1945</b>	<b>5884</b>	<b>1677</b>
<b>CFA Total hours</b>	<b>648</b>	<b>206</b>	<b>240</b>	<b>471</b>	<b>288</b>
<b>DSE Total hours</b>	<b>3120</b>	<b>2631</b>	<b>1706</b>	<b>5412</b>	<b>1388</b>

## Service Delivery

The following fires were the incidents during 2005/06 with the highest recorded aircraft usage:

- DSE Mt Lubra, Grampians 695 hours
- DSE Moondarra 510 hours
- DSE Century Track, Anakie 279 hours
- DSE Kinglake - Burgan Tk. 183 hours
- CFA Region16, Deep Lead 170 hours
- DSE Portland Complex 90 hours
- DSE Griffin Track 87 hours
- CFA Region 15, Snake Valley 47 hours

Most of these fires occurred in January 2006. The dispatch of aircraft during this period is displayed diagrammatically in Appendix 3.

### Type 1 Helicopters

Two Type 1 helicopters were under contract on 15-minute response times:

- i. one Erickson Aircrane S64F (*Helitack 341*) based at Essendon for 12 weeks with an ability to deliver up to 9,500 litres of fire suppressant via a belly tank, with versatility, high performance, manoeuvrability and the capability of quick turn-arounds; and
- ii. one Sikorsky 61N (*Helitack 348*) based at Mansfield for 13 weeks with an ability to deliver up to 3,400 litres of fire suppressant via an underslung bucket and assist with the transportation of passengers and fire crews.

Type 1 helicopters flew a total of **195 hours**, picking up a total of **2,030 loads** and delivering a total of **9,781,898 litres** of water and water injected with foam concentrate. Details can be found in Appendix 4.



*Helitack 348, a Sikorsky 61N Type 1 firebombing helicopter, based at Mansfield*

## Service Delivery

### Type 2 and 3 Firebombing Helicopters

Eight Type 2 and Type 3 firebombing helicopters were under contract for between 13 and 20 weeks on 15-minute response times. All of these aircraft were fitted with fire bombing belly tanks and were based at various locations across the State.

The Bell 212 service funded by the Melbourne Water Corporation (*Helitack 345*), was based at Olinda for 15 weeks to provide a priority firebombing service for the protection of Melbourne's water supply catchments.

The two Bell 212 services partially funded by the Commonwealth (*Helitack 346* and *Helitack 347*) were based at Essendon for 13 weeks and provided the flexibility of being able to immediately deploy one to an incident anywhere in the state, whilst maintaining a firebombing capacity in the Melbourne area.

Three of the services (*Helitacks 331, 332 and 333*) are rappel capable aircraft and were dispatched and operated with DSE rappel crews on 28 occasions in 2005/06. *Helitack 335* is also rappel capable but is used only as a back-up aircraft and for crew training outside the Service Period.

In 2005/06 *Helitack 333 and Helitack 335* were utilised prior to the commencement of the fire season for rappel crew training at Point Cook and Mt. Buller.

The Type 2 and Type 3 firebombing helicopters flew a total of **955 hours** in operations during 2005/06. Details can be found in Appendix 4.

### Type 3 Helicopters

Seven Type 3 helicopters were under contract in 2005/06. Six of the services were on 15-minute response times - one service (*Firebird 306*) was on 150-minute response time with the facility to be elevated to 15-minutes.

Two services were available all year around on reduced response times. The remaining five services were available for between 19 and 23 weeks in 2005/06.

The primary role of *Firebird 307* was to provide a dedicated air attack supervision and coordination platform for *Helitack 341*.

The Type 3 helicopters flew a total of **1903 hours** in fire suppression and land management operations during 2005/06. Details can be found in Appendix 4.

The total hours flown in 2005/06 was greater than 2004/05, primarily due to fire suppression operations and additional land management operations assisting Department of Primary Industries (DPI), Parks Victoria and VicForests. Several of these aircraft were heavily utilised for reconnaissance and detection work for the Plague Locust Management operation, lead by DPI, whilst towards the end of the fire season, they were used for high intensity regeneration burns, aerial seeding and hazard reduction burns.

116 hours of Forward Looking Infra Red (FLIR) work was conducted for both CFA and DSE operations across the State in 2005/06.

## Service Delivery

### Single Engine Air Tankers (SEATS)

Eleven SEATS were under contract for between 12 and 21 weeks in 2005/06. Six of the services were on 15-minute response times, four were on 120-minute response and one was on 12-hour response. The last five services each had the facility to be elevated to 15-minutes.

As is generally the case, DSE was the main user of SEATS on wildfire incidents, where the aircraft were delivering either retardant or water mixed with foam concentrate. In 2005/06 nearly all the SEATS participated in combined agency air operations recurrency days, with a strong focus on the refuelling and reloading of firebombing aircraft.

*Bomber 351 and Bomber 359* were utilised prior to the commencement of the fire season for two Air Attack Supervisor and Aircraft Officer training courses at Mangalore, conducted by the SAU. *Bomber 353* and *Birddog 366* attended joint training day between CFA, DSE and the Country Fire Service, SA at Mt Gambier in December.

The SEATS flew a total of **462.15 hours** in fire preparedness and suppression operations during 2005/06. Details can be found in Appendix 4.

### Specialist Aircraft

Two specialist aircraft were under contract in 2005/06:

- i. one Beechcraft 200 King Air (*Firescan 300*) was based at Essendon for 17 weeks and was used to carry the DSE infrared linescanning system; and
- ii. one Cessna 337 (*Birddog 366*) was based at Essendon for 15 weeks and was used to conduct reconnaissance, passenger transport and related operations for wildfire suppression.

2005/06 saw the culmination of a 2-year program to redesign, rebuild and streamline the DSE infrared linescanning system. This was the greatest advance since the department became involved with scanning in 1983. This year also saw the installation of the improved scanning system in the Beechcraft 200 King Air aircraft. The King Air provided improved endurance, speed and capability and enabled scanning to be performed from greater elevations. This proved invaluable this year, particularly during January 2006, when a large number of incidents were occurring simultaneously across the state. The aircraft was able to reach multiple incidents and deliver timely information through a network of 10 ground-based data down links.



*Bomber 359 firebombing at Mt King in far east Gippsland, delivering a load of retardant*

## Service Delivery

*Firescan 300* was deployed on 40 separate missions, scanned 60 incidents and a total of **78 hours** were flown, the second highest usage recorded ( the highest being the 2002/03 'Alpine Fires' season). The distance travelled by *Firescan 300* during missions in 2005/06 was approximately 15,520 nautical miles, equating to a return flight from Melbourne to Singapore....twice.

*Birdog 366* was utilised several times during the year to assist with Regional and State preparedness requirements, conducting almost 30 hours of flying with Air Attack Supervisors alone. It was used at several recurrency and familiarisation training events throughout the season, and transported passengers around the State for the Plague Locust incidents.

During the fire season *Birdog 366* repositioned to Mansfield to support Regional preparedness and assist with the effectiveness of *Helitack 348* located at Mansfield.

*Birdog 366* flew a total of **104 hours** in reconnaissance, passenger transport and wildfire suppression operations during 2005/06. Details can be found in Appendix 4.

### Call When Needed Aircraft

In 2005/06 the Call When Needed (CWN) Register managed by the SAU contained 141 fixed wing aircraft and 41 rotary wing aircraft.

A higher number of aircraft were engaged from the CWN Register in 2005/06, compared with the previous year, reflecting the increase in operations. The peak use occurred during January 2006 when 20 CWN aircraft were engaged to assist with fire operations, in a tactical or executive transport capacity. Two of these were National Fleet helicopters redeployed from other states through the NAFC.

The DPI Plague Locust operations utilised CWN helicopters and a fixed wing aircraft approved for aerial spraying, at sites surrounding Kerang and Swifts Creek. The

SAU also organised many passenger transport flights for this incident, as staff statewide assisted in management and operational roles.

Regionally based CWN light fixed wing aircraft were also engaged as part of preparedness arrangements by CFA and DSE, and participated in training courses and recurrency days.

### Plague Locust Management Assistance

At the start of November there was a requirement for the SAU to provide aircraft support to DPI to assist in the detection and management of the developing threat from Plague Locust. The locust plague threat originated in the Kerang area and then developed in the east of the State at Swifts Creek.

The support was initially for reconnaissance helicopters and observers to help in the detection of the locust. The program developed to a level where the SAU was providing a large number of reconnaissance helicopters and the provision of fixed wing and rotary wing spray aircraft support.

In addition the SAU was responsible for the coordination of fixed wing aircraft for passenger transport for members of the incident management teams and technical specialists.

During 2005/06 aircraft managed by the State Airdesk flew a total of **812 hours** in support of the plague locust management program.

### Commonwealth Games

There was an intense level of security in place during both the lead up period and during events of the Melbourne 2006 Commonwealth Games, held from 15<sup>th</sup> to 26<sup>th</sup> March 2006.

The SAU spent considerable time and effort planning and developing administrative processes to be applied during the Games period. This included the application of Temporary Restricted Airspace (TRA) zones implemented by AirServices Australia (ASA) and the Department of Defence (DoD) in response to any perceived or known public safety threat.

## Service Delivery

The aim of the restricted airspace was to minimise general air traffic within the Melbourne and metropolitan area during the Games period. The airspace restrictions had the ability to regulate but not totally restrict aerial fire fighting activities associated with preparedness and suppression activities conducted by CFA and DSE.

The SAU became an "Authorised Operator", subject to the provisions of the TRA, and all contract and, where necessary, CWN aircraft had to be registered and receive prior approval prior to gaining access to any TRA.

Fortunately, there were no tactical aircraft dispatches during the Games period or during the period the TRA zones applied.

### Airshows and Displays

State Fleet aircraft were involved in various airshows and displays across the state this year. Participation in these events was subject to the approval of the Civil Aviation Safety Authority (CASA).

It was planned for *Helitack 333* to attend the Heyfield Timber Festival & Field Days again this season to give a rappel and bombing display. However it was unable to participate due to the aircraft being dispatched to fire operations.

*Firebird 302, Helitack 332, Helitack 348, Bomber354*, the FLIR equipment and an Air Communications Van all attended the Mansfield Fire Expo in January 2006. Unfortunately, each aircraft was subsequently dispatched to fire operations across the state from this site, before making a significant contribution to the Expo.

*Helitack 331* provided a flying display at the Tyabb Airshow in February 2006.

## Programs

### Rappel and Hover Exit Programs

The SAU effectively manages the rappel and hover exit programs on behalf of DSE.

During the 2005/06 season there were 28 rappel deployments of rappel crews within Victoria.

Arguably this season was one of the most successful from a rappel perspective, with many of the fires attended being "typical" rappel fires ie. occurring in extremely inaccessible, difficult and remote terrain. Rapid deployment and suppression action by the crews saw some very successful outcomes.

Twelve of the rappel operations occurred over a 9-day period from 17 February to 26 February 2006. At one stage all four rappel crews were working simultaneously on separate fires to the north and east of Dargo within only a few kilometres of each other.

The international rappel exchange with British Columbia Rapattack program continued with Caleb Tomlinson joining the Ovens crew for the season.

### National Aerial Firefighting Program

The SAU continues to support the development and implementation of a national aerial firefighting program primarily through the National Aerial Firefighting Centre (NAFC).

Victoria has previously nominated one Director to the NAFC Board of Management and one Delegate to NAFC to represent the interests of the State. The SAU provides support to both the Director and the Delegate.

The SAU also provides various levels of support directly to NAFC management.

## Service Delivery

In 2005/06 the Commonwealth Government provided \$5.5 million to NAFC for firefighting aircraft for States and Territories. Victoria was allocated \$1,880,000 and a similar amount has been allocated for 2006/07. The funding is provided on a 50:50 cost-sharing basis. In 2005/06 Victoria was able to claim the full \$1,880,000 allocation from NAFC.

A significant component of the information gathered as part of the Aircraft Delivery Systems Program, referred to under "Application of New and Improved Technologies", contributes to the National Aerial Firefighting Program.

### SAU Training Program

In 2005/06 the SAU training program included the provision of various courses to a wide range of participants at Mangalore Airport, Point Cook Airfield, Mt Buller and the DSE North Altona depot.

A number of the aerial driptorch operators were also recredited via on-the-job assessments. A list of courses managed and conducted by the SAU on behalf of CFA and DSE is in Appendix 5.

Organisations represented at the training courses were:

- \* CFA
- \* DSE
- \* Department of Primary Industries, Victoria
- \* Parks Victoria
- \* VicForests
- \* Department of Environment & Heritage, South Australia
- \* National Parks Service, New South Wales; and
- \* Wellington City Council, New Zealand.

The SAU conducted 6 Regional pre-season briefings for CFA and DSE/DPI/PV personnel, attracting higher attendances than the previous year. The SAU presented updated information regarding procedures and the safe use of aircraft, whilst providing an opportunity for participants to raise any

emerging issues or learnings from past seasons.

In an attempt to improve attendance some changes were made to the location and timing of briefings. A number of evening sessions were planned to enable those with daytime commitments to attend. Evening sessions only occurred when sufficient numbers of attendees were confirmed.

See the table below for details.

State Fleet and regionally based light fixed wing aircraft, were also involved in the many regional recurrency days held this year at the following locations:

- \* Anglesea
- \* Ararat
- \* Avondale Firebombing Base
- \* Ballarat
- \* Bendigo
- \* Lake Bolac
- \* Mt Gambier
- \* Mt Hotham
- \* Stawell
- \* Victoria Valley Firebombing Base
- \* Wallaby Creek
- \* Wangaratta
- \* Yanakie

These training days provided an opportunity for accredited aviation personnel to maintain currency in safe aircraft practices, airbase management, radio communication procedures and tactical response operations in a controlled manner.

### Support to Agency Training Programs

In addition to delivering on the SAU managed training program, the SAU also provides assistance to training and accreditation courses conducted by both CFA and DSE. A number of aviation related training modules were delivered at agency training courses covering a wide range of fire based roles.

# Service Delivery

## Partnerships

The development of strong partnerships with our stakeholders, clients and the aviation industry, have allowed the SAU to strengthen Victoria's ability to utilise aircraft and their related resources in fire, emergency and land management operations.

### Stakeholders

The SAU is committed to successful service delivery and meeting stakeholders' expectations. We will continue to inform, consult and seek feedback from agencies and communities across Victoria, as part of our dedication to continuous improvement. The SAU prides itself on being at the forefront of aviation training, procurement and management of aviation services and the use of technology.

Key stakeholders in the SAU include:

- \* The Victorian Government, through the Minister for Environment and Minister for Police and Emergency Services, along with Members of Parliament.
- \* The Country Fire Authority and the Department of Sustainability and Environment.
- \* Victorian fire and land management agencies, including the Melbourne Fire and Emergency Services Board, Department of Primary Industries, Parks Victoria, VicForests and Melbourne Water.
- \* The Victorian community.
- \* The Office of the Emergency Services Commissioner.
- \* The National Aerial Firefighting Centre and the Australasian Fire Authorities Council.

In addition, the SAU liaises with, and provides support where appropriate to numerous organisations such as the Victorian Rural Air Ambulance, Victoria Police, search and rescue organisations, catchment management authorities, aviation industry governing bodies and national and international fire and land management organisations.

## Interstate Relationships

The SAU continues to foster strong relationships with interstate agencies, through the sharing of knowledge and information developed over the many years of aircraft management in Victoria. The SAU provided assistance with training programs, research and development, and input into the development of aircraft management procedures across several states.

Victoria is also a keen participant in the Wildfire Aviation Technical Group, a group of aviation specialists representing each State and Territory, brought together to discuss and enable continuous improvements to the management and use of aircraft nationally.

### International Relationships

During March 2006, the SAU hosted a study tour by two aviation specialists from the Bureau of Land Management, USA. Mark Bickham, National Program Manager for all SEAT operations based in Idaho, and Allen Edmonds, State Aviation Manager based in Montana, spent one week touring a number of the firebombing bases across the state and DSE's fire equipment and development cache at Altona. The study tour also included several meetings with current SEAT operators. Our visitors were briefed on the range of aviation issues that the SAU deals with, from contract management to developing and implementing standards for aircraft operations across the spectrum of fire, emergency and land management uses.



# Continuous Performance Improvement

## Audits

The SAU conducts audits of aircraft contractors to verify information provided in tenders and to ensure the ability of contractors to meet contract conditions. These comprehensive organisational audits are conducted with the assistance of an independent aviation auditor.

In addition, the SAU each year audits all contract aircraft at their nominated operational base as they commence their respective service periods. These aircraft audits are conducted to ensure each service complies with or exceeds the contract requirements.

In 2005/06, the following audits were completed:

- One organisational audit; and
- 30 aircraft compliance audits.

## Aviation Occurrences and Fireline Incidents

The SAU has in place mandatory reporting requirements, should aircraft and Agency personnel be involved in an accident or incident. Any aviation occurrence is to be reported to the State Airdesk as soon as possible, with the State Aircraft Coordinator responsible for determining the immediate action to be taken. The State Aircraft Coordinator will then make a recommendation to either the CFA or DSE State Coordinator (dependent upon who is the lead agency at the time) and decide whether an investigation is deemed necessary.

### Aviation Occurrences in 2005/06

#### Heavy Landing, Turbine Dromader

#### Victoria Valley Airfield, Victoria Australia 20<sup>th</sup> January 2006

During sustained firebombing operations on Friday 20<sup>th</sup> of January 2006, **Bomber 365** was attempting to land at a remote firebombing airstrip when the rear trailing undercarriage wheel collapsed. As a result, the lower rear tail section of Bomber 365 struck the ground and was dragged along the runway surface. Bomber 365 did not sustain any structural damage as a result of the awkward landing. The rear wheel was replaced by an engineer the next day and the aircraft continued to conduct firebombing operations at the fire.

## Continuous Performance Improvement

### **Inflight loss of control, AS350B2 Squirrel**

**Latrobe Valley Airfield, Victoria Australia**

**22<sup>nd</sup> January 2006**

On Sunday 22<sup>nd</sup> of January 2006, *Firebird 302* struck the ground whilst hover taxiing after hot refuelling. The incident resulted in substantial damage to the aircraft. The pilot, who was the only person on board at the time, was not seriously injured and was released after being held under observation for three hours in the Latrobe Valley Hospital. It appears that the response to the incident by DSE was timely and that existing procedures were followed.

### **Inflight loss of power, PZL M18A Dromader**

**Omeo area, Victoria Australia**

**24<sup>th</sup> February 2006**

During fire bombing operations in the Omeo area on Friday 24<sup>th</sup> of February 2006, *Bomber 355* suffered an in flight loss of power when the pilot experienced a mechanical failure due to the throttle cable braking. The pilot was forced to land in a paddock with minor damage being sustained to the undercarriage and small areas of the wing section. The pilot sustained no injuries. Recovery of the aircraft was difficult due to the remoteness of the landing site.

## **Fireline Incidents in 2005/06**

### **Static electricity discharge during aircraft refuelling operation**

**Bendigo Airport, Victoria Australia**

**9<sup>th</sup> March 2006**

On Thursday 9<sup>th</sup> of March 2006, a ground support crew was conducting a refuelling operation at Bendigo under the supervision of the pilot of *Bomber 351*, when the crewmembers experienced significant static electricity discharge. The ground support crews immediately ceased the operation and reviewed the procedure and the components used in the refuelling process, including the earth bonding requirements. The review indicated that the procedure employed by the ground crews was appropriate.

The ground support crew then supplemented the earth bonding process with additional earthing connections and completed the operation with reduced fuel flow through the refuelling pump and hose. An investigation by the ground support crewmembers revealed that the fuel dispensing hose connected to the refuelling pump was a non approved hose type for the refuelling of aircraft. The subject hose was replaced immediately by the pilot when the aircraft returned to the nominated operational base.

### **Drop zone safety Helitack (2 incidents)**

**Snake Valley, Victoria Australia**

**12<sup>th</sup> March 2006**

On Sunday 12<sup>th</sup> of March 2006, two fire fighters were operating on a fireline with a slip on unit when two loads of foam were dropped on them from two different helicopters. The fire fighters sustained no injuries as a result of the fireline incident. The SAU is still investigating this matter.

# Continuous Performance Improvement

## Reports on Services and Operations

### AAS Reports

Collection of mandatory reports from Air Attack Supervisors (AAS) continued for the third year. Pre-season briefings to aviation personnel stressed the importance of this information collection, both from a State perspective and as part of research for the Bushfire CRC.

Data collected displays the following trends:

- \* The average time taken by an AAS and aircraft from activation to departure on an extreme FDI day is 11 minutes. For days of lesser FDI, the average time is 44 minutes.
- \* The average time on task for an AAS deployment to a CFA fire is 50 minutes. The average time on task for an AAS deployment to a DSE fire is 36 minutes.
- \* 44% (105 operations) of air attack operations were considered by the AAS to be very effective, 32% (76) were rated quite effective and 16% (37) rated effective. 8% (20) were given effectiveness rating of partially or not effective.
- \* 66% of aircraft deployments to an incident where CFA was the lead agency occurred with an IMT operating. For incidents where DSE was the lead agency this was 84%.
- \* 7% of AAS activations occur between 1530 and 1630 hours.
- \* 70% of air attack operations involved only direct attack.

It should be noted that these trends have only reflected 3 years of aircraft operations. With more information gathered in the coming years, the SAU will gain a greater understanding of operational and safety issues, to be used in strategic decision making and aviation training courses.

## Performance Management Program (AIRCHECK)

The performance management program (AIRCHECK) has been operating since 1995/96. The program is managed by the SAU and was introduced to provide feedback to the State and to aircraft contractors as to the service being delivered and the standard of that service.

At the conclusion of missions the lead agency representative involved in each operation completes an AIRCHECK report covering technical, service delivery and pilot performance.

The program also provides the basis for payment of a financial incentive to aircraft contractors to maintain the highest possible quality of service.

AIRCHECK is separate to the aircraft and contractor compliance checks conducted prior to and during each service period.

In 2005/06 the AIRCHECK program was reviewed and modified. Commencing in 2005/06 the program now requires the performance of each service to be assessed every day of each service period including any Requirement 2 Periods (shoulder periods).

In 2005/06 27 contract services achieved an average of 94.33% of the performance requirements under AIRCHECK. This was slightly less than the 5-year average of 95.11% for 25 services. This was considered to be acceptable given that 2005/06 saw a broadening of the reporting requirements over previous years and an increase in the services under contract.

## *Continuous Performance Improvement*

### **Post Season Contractor Debriefs**

At the conclusion of the 2005/06 season the SAU completed 15 company debriefs.

At each debrief the SAU reported on the quality of the service provided and the operations performed, on behalf of the agencies. The AIRCHECK reports provided valuable input to the process. Each debrief also provided an opportunity for contractors to have “their say” on any issues that arose during the service period including those related to the performance and support provided by the agencies.

Many of the outcomes from the debrief process have been incorporated into the various aviation training programs and subsequent industry and agency pre season briefings.

### **Bushfire CRC**

The SAU remains heavily involved in the Bushfire CRC Program A – Aerial and Ground Suppression Evaluation Project. Information continued to be gathered from the Air Attack Supervisor reports and provided to the research team, with aircraft usage statistics at particular fires attended by the team, supplied to complement data gathered by the researchers on site.

A significant component of the information gathered as part of the Aircraft Delivery Systems Program, referred to under “Application of New and Improved Technologies”, contributed to the Bushfire CRC.

The SAU is also in the early stages of working with Program C – Bushfire Economic Costs.

# Application of New and Improved Technologies

## Research on Emerging Technologies

### Aircraft Delivery Systems Program

Evaluations of three helicopter delivery systems and one fixed wing delivery system were conducted this year.

The ADSP had the ability to participate as a consultative and technical adviser in two projects associated with the development and enhancement of two new innovative delivery systems from Australia, one underslung self filling bucket and the other a unique expandable fixed belly tank.

The other two evaluations were conducted by the ADSP on behalf and in cooperation with the Country Fire Service, South Australia and NAFC. The systems were the Transland Longitudinal fixed wing aircraft delivery system and the Simplex 323 helicopter delivery system.

The ADSP also had the opportunity to undertake a primary study and evaluation into the aerial delivery of water injected with foam concentrate in eucalypt vegetation.

In addition the ADSP, in conjunction with representatives of the Bushfire CRC, Country Fire Service SA and Bureau of Land Management USA conducted supplementary field assessments, investigating the use of foam in Victoria and South Australia using both fixed wing and rotary wing aircraft in eucalypt and pine forests. The reports are currently in a draft format.

The ADSP also provided advice, assistance and training in the process of pilot endorsement to several aircraft operators.



*Sling Tank delivery system*



*Transland Longitudinal delivery system*



*Helitack FT1200B3 delivery system*



*Foam dispersal on the ground after drop from Bomber 359*

# *Application of New and Improved Technologies*

## **Development and Maintenance**

The following are several projects and items of equipment that have been managed and/or developed by the Aviation Equipment Group this year:

### **New Generation Aerial Incendiary Machines**

The SAU has an ongoing project to identify a replacement for the DSE aerial incendiary machines that have been in service for more than 25 years. During the year, two new types of aerial incendiary machines have been evaluated both on the bench and in the field. These were the Arlos machine from Arlos Engineering, Victoria and the Raindance R2 machine from Skyworx Aviation, WA. The project has involved not only the machines themselves, but encompassed certification, development of new aircraft mounting systems and meeting new airworthiness requirements for the operation and maintenance of these machines. The evaluation has found both machines share advantages over the other, so both will be trialed operationally during the 2006/07 season before a definitive selection is made.

### **State Aviation Refuelling Support**

The purchase and construction of a 6000lt Jet A1 refuelling tanker was completed in October 2005 and used during rappel training at Mt Buller. It was then positioned at Benalla for the fire season.

### **Firebombing Airbase Upgrades**

During the year the airbases at Linga, Victoria Valley, Snowy Range, Delegate and Benambra have been upgraded with eductor based retardant mixing systems. These systems minimise the manual handling of retardant powder and replace it with a high speed, high volume, closed-loop mixing system. The standard installation is capable of mixing around 7,000 litres of retardant in 12 minutes and also offers significant improvements in dust reduction and other Occupational Health and Safety issues.

Further base upgrades are planned for the 2006/07 year as well as implementing mobile versions of these systems.

The Snowy Range airbase received attention this year when the landing strip was levelled and resurfaced, and the upgrade of the SEAT loading facility and associated helipads at Bendigo Airport was also completed this financial year.

### **Linescan equipment**

Test flights to check the correct functioning of the new linescanning equipment and computers, were successfully completed in August 2005. These flights were also an opportunity to ensure that the new equipment was not causing interference to the operation of the aircraft.

Extensive work continued on the web based mission planning and request system. The web site was utilised heavily during the 2005/06 season with positive results. The site allows the requesting officer the ability to track the request through the approval stage and progress of the scanning mission, to finally accessing the scanned images, in various viewable formats, downloaded against their request. The equipment and systems upgrades now enable scanned intelligence to be widely available on the ground within 5 to 10 minutes of a fire being scanned.

# SAU Business Management

## Governance

The SAU is governed by:

**SAU Steering Committee**, comprising

- \* DSE Chief Officer, Fire & Emergency Management (Chair);
- \* CFA Chief Officer; and
- \* Emergency Services Commissioner.

and the

**SAU Implementation Committee**,

comprising

- \* CFA Manager State Operations (Chair);
- \* DSE Assistant Chief Officer, Operations Support; and
- \* Manager, State Aircraft Unit.

## Functional Structure

The SAU reports to the CFA Chief Officer and DSE Chief Officer, Fire and Emergency Management. The SAU is responsible for the operation of the State Airdesk, the aircraft fleet coordination and dispatch function of the unit.



## Operational Structure

In 2005/06 both CFA and DSE provided the staff for the SAU.

The Manager, SAU is responsible for the day-to-day operation of the SAU and the delivering against the SAU Strategic Plan and SAU Business Plan.

Staff within the SAU are delegated roles and responsibilities broadly in line with the objectives contained in the Strategic Plan and Business Plan

CFA and DSE provide administrative support to the relevant agency staff, as appropriate.



# SAU Business Management

## Report on Activities

During 2005/06 the SAU produced a number of ad hoc reports on activities and operations. The information contained in these reports was used, among a number of things, for procurements, equipment upgrades, budget submissions and to underpin advice to the agencies, stakeholders and service users.

The SAU continued to provide reports to DSE for inclusion in reports on the implementation of recommendations emanating from the Victorian Bushfire Inquiry.

## Marketing

During 2005/06 the SAU engaged a graphic designer to create a new logo, supporting livery and stationary for the unit. This was seen as an important step towards highlighting the independence of the SAU from the parent agencies, unifying publications etcetera into a single look and raising the profile of the SAU.

Considerable progress was also achieved with the development of the SAU website. In 2005/06 the developments were primarily aimed at improving the storage and distribution of relevant aviation and aviation related information to stakeholders and the users of services. Marketing the SAU through the website was a by-product of the improved distribution of information.

Progress on the development of a stand-alone web site for the SAU continued to be frustrated. The business case that was built previously was still met with resistance from within Government in 2005/06. While the SAU website remains within the DSE FireWeb system the SAU is restricted in the audience that can be reached as access is only available to those users with DSE FireWeb or CFA Brigades Online access.

The screenshot shows the homepage of the State Aircraft Unit Victoria website. At the top left is the logo, which features a stylized aircraft and the text 'STATE AIRCRAFT UNIT VICTORIA'. Below the logo is a navigation menu with buttons for Home, About SAU, Airdesk, Current Dispatch, Resources, Useful Info, Contact, Links, ADSP, Hot Topics, Occurrences, and Briefing Notes. To the right of the logo is a photograph of a helicopter on a field. Below the navigation menu is a blue banner with the text 'State Aircraft Unit' and a welcome message: 'Welcome to the home of the State Aircraft Unit (SAU). An initiative of the Country Fire Authority (CFA) and the Department of Sustainability and Environment (DSE), the SAU provides specialist aviation resources to satisfy fire and land management objectives in the state of Victoria, Australia.' Below this is a section titled 'Latest News' with several news items, each accompanied by a small image: '10/07/2006 ATSB Wirestrike Report', '11/04/2006 Dromader NSW', '29/03/2006 Burning protocols 2006', '16/02/2006 ATSB Locust Report', '10/02/2006 State Fleet Aircraft Usage Statistics', and '21/12/2005 Site Update'. There is also a link for 'R112/2005 New forms available'.



# SAU Business Management

## Financial Summary

This financial summary covers the SAU as an entity of CFA and DSE.

	2005/06 \$'000	2004/05 \$'000
<b>Revenue</b>		
Revenue from Commonwealth Government	1,880	2,013
Recurrent Revenue from State Government	6,637	5,816
Revenue from other parties (Melbourne Water, VicForests, Parks Victoria)	512	430
Additional Revenue from State Government	11,960	
<b>Total funding</b>	<b>20,989</b>	<b>8,259</b>
<b>Expenditure</b>		
Aircraft Standing Charges		(8,804)
CFA	(3,569)	
DSE	(6,999)	
DPI	(92)	
PV	(17)	
VF	(30)	
Aircraft Operating Charges		(2,235)
CFA	(1,834)	
DSE	(4,591)	
DPI	(1,181)	
PV	(110)	
VF	(156)	
SAU Business and State Airdesk Operating Charges	(1,034)	(107)
Other Agency Operating Charges*	(1,376)	(1,186)
<b>Total expenditure</b>	<b>(20,989)</b>	<b>(12,332)</b>

\* includes aviation fuel, fuel truck hire, retardant and foam

## Appendix 1: State Fleet and National Fleet aircraft for 2005/06

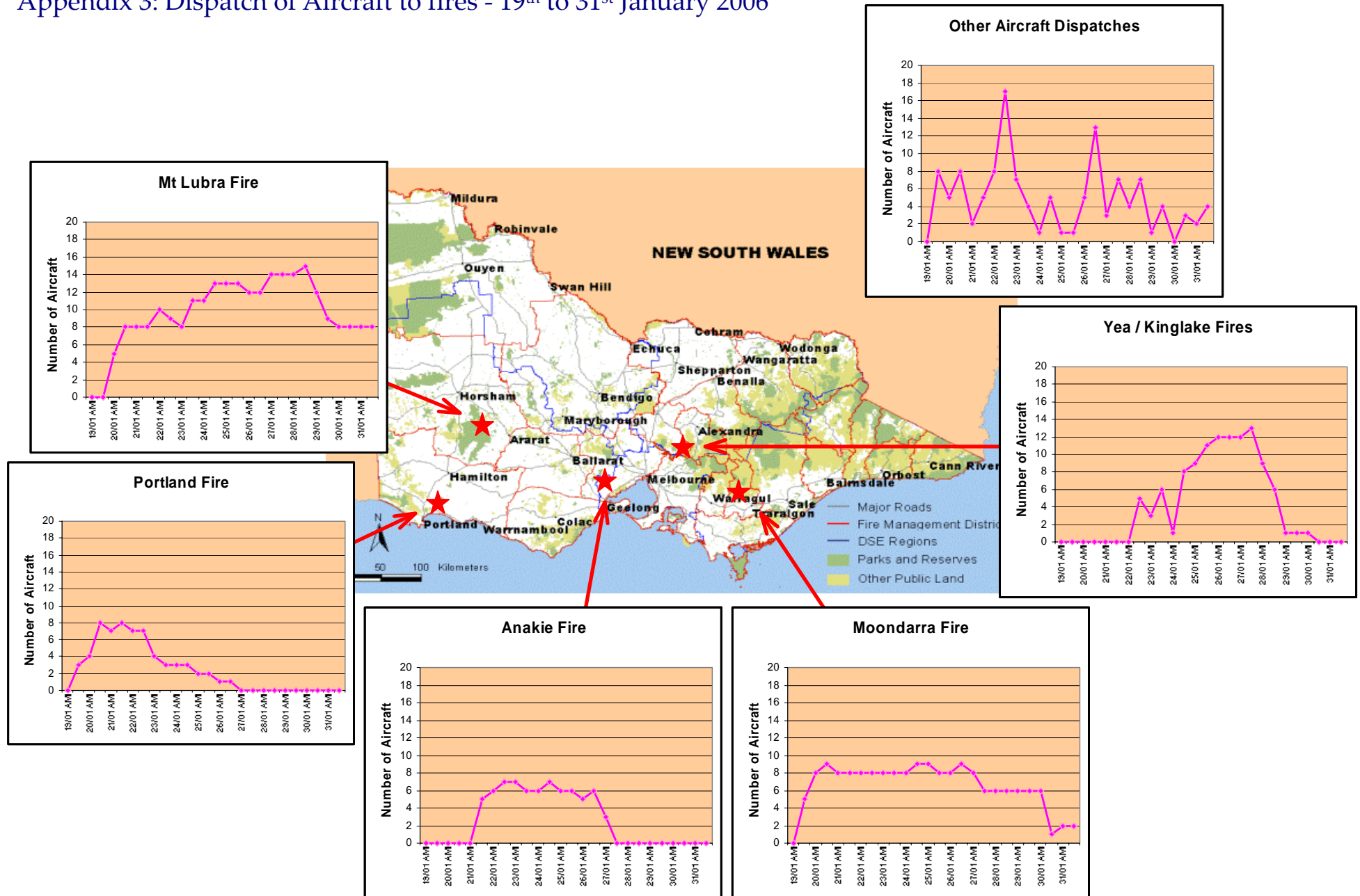
Aircraft Callsign	Type	Nominated Base	Firebombing system (Full capacity)
<b>Type 1 (Heavy) Helicopters</b>			
Helitack 341 *	Aircrane S64F	Essendon	9500 litre Belly Tank
Helitack 348 *	Sikorsky 61N	Mansfield	3400 litre Bucket
<b>Type 2 &amp; 3 (Medium) Firebombing Helicopters</b>			
Helitack 331	Bell 412	Moorabbin	1400 litre Belly Tank
Helitack 332	Bell 212	Benalla	1400 litre Belly Tank
Helitack 333	Bell 212	Heyfield	1400 litre Belly Tank
Helitack 334	BK117B2	Bacchus Marsh	1200 litre Belly Tank
Helitack 335	Bell 205	Colac/Essendon	1400 litre Belly Tank
Helitack 345	Bell 212	Olinda	1400 litre Belly Tank
Helitack 346 *	Bell 212	Essendon	1400 litre Belly Tank
Helitack 347 *	Bell 212	Essendon	1400 litre Belly Tank
<b>Type 3 (Light Helicopters)</b>			
Firebird 301	Bell 206B3 JetRanger	Horsham	410 litre Bucket
Firebird 302	AS350B2 Squirrel	Moorabbin	500 litre Bucket
Firebird 303	Bell 206B3 JetRanger	Ovens (Myrtleford)	410 litre Bucket
Firebird 304	AS350BA Squirrel	Bairnsdale	500 litre Bucket
Firebird 305	Bell 206B3 JetRanger	Bendigo	410 litre Bucket
Firebird 306	AS350BA Squirrel	Moorabbin	410 litre Bucket
Firebird 307	Bell 206L LongRanger	Essendon	500 litre Bucket
<b>SEATS (Fixed Wing Bombers)</b>			
Bomber 351	AT802F	Stawell	3200 litre Hopper
Bomber 352	PZL M18A Dromader	Portland	2500 litre Hopper
Bomber 353	PZL M18A Dromader	Hamilton	2500 litre Hopper
Bomber 354	AT802F	Albury	3200 litre Hopper
Bomber 355	PZL M18A Dromader	Bairnsdale	2500 litre Hopper
Bomber 357	PZL M18A Dromader	Deniliquin	2500 litre Hopper
Bomber 358	PZL M18A Dromader	Leongatha	2500 litre Hopper
Bomber 359	PZL M18A Dromader	Benambra	2500 litre Hopper
Bomber 360	AT802F	Stawell	3200 litre Hopper
Bomber 361	PZL M18A Dromader	Leongatha	2500 litre Hopper
Bomber 365	PZL M18A Turbine Dromader	Bendigo	3000 litre Hopper
<b>Specialist aircraft</b>			
Firescan 300	Beechcraft KingAir 200	Essendon	-NA-
Birddog 366	Cessna 337	Essendon	-NA-

\* Resource is supplied through the National Aerial Firefighting Centre

## Appendix 2: Start and finish dates for 2005/06 aircraft availability periods (Requirement 1 and 2)

<b>Aircraft Callsign</b>	<b>Start Date</b>	<b>Finish Date</b>
<b>Type 1 (Heavy) Helicopters</b>		
Helitack 341 *	21 Dec 2005	14 Mar 2006
Helitack 348 *	28 Dec 2005	28 Mar 2006
<b>Type 2 &amp; 3 (Medium) Firebombing Helicopters</b>		
Helitack 331	21 Dec 2005	11 Apr 2006
Helitack 332	14 Dec 2005	25 Apr 2006
Helitack 333	21 Dec 2005	25 Apr 2006
Helitack 334	21 Dec 2005	25 Apr 2006
Helitack 335	21 Dec 2005	18 Apr 2006
Helitack 345	21 Dec 2005	4 Apr 2006
Helitack 346 *	28 Dec 2005	28 Mar 2006
Helitack 347 *	28 Dec 2005	28 Mar 2006
<b>Type 3 (Light) Helicopters</b>		
Firebird 301	14 Dec 2005	16 May 2006
Firebird 302	21 Dec 2005	16 May 2006
Firebird 303	21 Dec 2005	16 May 2006
Firebird 304	21 Dec 2005	16 May 2006
Firebird 305	21 Dec 2005	2 May 2006
Firebird 306	21 Dec 2005	23 May 2006
Firebird 307	21 Dec 2005	11 Apr 2006
<b>SEATS (Fixed Wing Bombers)</b>		
Bomber 351	7 Dec 2005	4 Apr 2006
Bomber 352	28 Dec 2005	11 Apr 2006
Bomber 353	21 Dec 2005	28 Mar 2006
Bomber 354	21 Dec 2005	28 Mar 2006
Bomber 355	28 Dec 2005	18 Apr 2006
Bomber 357	7 Dec 2005	25 Apr 2006
Bomber 358	28 Dec 2005	18 Apr 2006
Bomber 359	21 Dec 2005	25 Apr 2006
Bomber 360	7 Dec 2005	18 Apr 2006
Bomber 361	28 Dec 2005	28 Mar 2006
Bomber 365	14 Dec 2005	7 Mar 2006
<b>Specialist aircraft</b>		
Firescan 300	14 Dec 2005	11 Apr 2006
Birddog 366	14 Dec 2005	28 Mar 2006

# Appendix 3: Dispatch of Aircraft to fires - 19<sup>th</sup> to 31<sup>st</sup> January 2006



## Appendix 4: Aircraft Usage 2005/06

### Type 1 Helicopters

Aircraft	Location	Hours	Hours by task (ferry time not included)	
			Firebombing	Passenger transport
Helitack 341	Essendon	96.25		n/a
Helitack 348	Mansfield	98.80		38
<b>Total</b>		<b>195.05</b>	<b>174.48</b>	
<b>CFA Total</b>		<b>38.51</b>		
<b>DSE Total</b>		<b>156.54</b>		

### Type 2 and 3 Firebombing Helicopters

Aircraft	Location	Hours	Hours by task (ferry time not included)			
			Firebombing	Rappelling	Firefighter transport	Training
Helitack 331	Moorabbin	92.21				
Helitack 332	Benalla	176.39				
Helitack 333	Heyfield	240.06				
Helitack 334	Bacchus Marsh	101.20				
Helitack 335	Colac/Essendon	87.7				
Helitack 345	Olinda	46.21				
Helitack 346	Essendon	106.20				
Helitack 347	Essendon	105.2				
<b>Total</b>		<b>955.17</b>	<b>615.53</b>	<b>148.42</b>	<b>36.55</b>	<b>12.45</b>
<b>CFA Total</b>		<b>219.14</b>				
<b>DSE Total</b>		<b>736.03</b>				

### Type 3 Helicopters

Aircraft	Location	Hours	Hours by task (ferry time not included)				
			Air Attack	Aerial Ignition	FLIR	Reconnaissance/ Detection	Training
Firebird 301	Horsham	276.70					
Firebird 302	Moorabbin	520.76					
Firebird 303	Ovens (Myrtleford)	162.76					
Firebird 304	Bairnsdale	306.28					
Firebird 305	Bendigo	159.60					
Firebird 306	Moorabbin	279.21					
Firebird 307	Essendon	198.10					
<b>Total</b>		<b>1903.41</b>	<b>466.07</b>	<b>161.74</b>	<b>116.17</b>	<b>479.79</b>	<b>16.26</b>
<b>CFA Total</b>		<b>247.35</b>					
<b>DSE Total</b>		<b>1,184.89</b>					

## Appendix 4: Aircraft Usage 2005/06

### Single Engine Air Tankers (SEATS)

Aircraft	Location	Hours	Hours by task (ferry time not included)	
			Firebombing	Training
Bomber 351	Stawell	83.42		
Bomber 352	Portland	27.31		
Bomber 353	Hamilton	22.50		
Bomber 354	Albury	41.37		
Bomber 355	Bairnsdale	74.13		
Bomber 357	Deniliquin	37.21		
Bomber 358	Leongatha	9.97		
Bomber 359	Benambra	82.17		
Bomber 360	Horsham	56.0		
Bomber 361	Leongatha	48.74		
Bomber 365	Bendigo	38.42		
<b>Total</b>		<b>521.21</b>	<b>402.29</b>	<b>14.46</b>
<b>CFA Total</b>		<b>44.03</b>		
<b>DSE Total</b>		<b>466.84</b>		

### Specialist Aircraft

Aircraft	Location	Hours	Hours by task (ferry time not included)				
			Infra red	Air Attack	Reconnaissance	Firefighter transport	Training
Firescan 300	Essendon	78.26	<b>76.81</b>				
<b>CFA Total</b>		<b>14.91</b>					
<b>DSE Total</b>		<b>63.35</b>					
Birddog 366	Essendon	103.80		<b>29.41</b>	<b>7.95</b>	<b>19.84</b>	<b>7.92</b>
<b>CFA Total</b>		<b>35.98</b>					
<b>DSE Total</b>		<b>61.98</b>					

## Appendix 5: Training Program courses

<b>Course</b>	<b>Participants</b>
Basic Wildfire Awareness - classroom	83
Basic Wildfire Awareness - online	16
Air Attack Supervisor	12
Aircraft Officer	10
Air Observer	12
Airbase Manager	12
Rappel	30
Rappel Dispatcher	6
Hover Exit	12
Hot refuelling	59
Aerial Driptorch Support Crew	14
Aerial Driptorch Operators	6
Incendiary Bombardier	21
Helipad Marshall	14
Air Operations Manager forum	11
Fly to Wire Environment training	16

## Appendix 6: Operator Debrief schedule

Service Provider	Services	Month	Location
AG Airwork Pty Ltd.	2x SEATs	May 2006	Deniliquin
Alpine Airwork	1x SEAT	June 2006	Benambra
Australasian Jet & Charter Pty Ltd	2x Type 3 Helicopters 1x Light Fixed Wing Reconnaissance Aircraft 1x Infra Red Linescanning Aircraft	June 2006	Melbourne
CHC Helicopters (Australia)	3x Type 2 Firebombing Helicopters	May 2006	Melbourne
Coulson Aircrane Ltd	1x Type 1 Helicopter 2x Type 2 Firebombing Helicopters	March 2006	Melbourne
Helicorp Pty Ltd	1x Type 2 Helicopter	May 2006	Melbourne
Helicorp Pty Ltd	1x Type 1 Helicopter 1x Type 3 Helicopter	March 2006	Melbourne
Heli-Serv Pty Ltd	3x Type 3 Helicopters	June 2006	Melbourne
Kestrel Aviation College Pty Ltd	2x Type 2 and 3 Firebombing Helicopters	June 2006	Melbourne
Pays Air Service Pty. Ltd.	1x SEAT	May 2006	Melbourne
Professional Helicopter Services Pty Ltd	1x Type 3 Helicopter	May 2006	Melbourne
R & M Aircraft Pty. Ltd.	1x SEAT	May 2006	Melbourne
Super Spread Aviation Australia	2x SEATs	May 2006	Deniliquin
Sydney Helicopters	1x Type 1 Helicopter	May 2006	Melbourne
Woorayl Air Services	4x SEATs	June 2006	Leongatha