

Forward Looking Infra Red (FLIR) Replacement Project

Introduction

In response to Recommendation 20 of the 2009 Victorian Bushfires Royal Commission, the Department of Sustainability and Environment (DSE) was funded to replace their two aging FLIR 2000 systems with new state of the art FLIR systems designed to enhance the agencies Type 3 helicopter capability.

The State Aircraft Unit (SAU) established a project team, comprising personnel from DSE, Country Fire Authority (CFA) and Parks Victoria (PV), to develop system requirements and technical specifications and to conduct a public tender to acquire the new FLIR systems.

The Project to Date

In late 2010, the project team convened a workshop comprising experienced FLIR operators and operational personnel from DSE, CFA and PV, to explore the future FLIR capability and requirements of the various agencies.

The workshop focused on the following activities:

- Fire and Emergency Response
- Land Management
- Surveillance

Some of the key requirements that came out of the workshop were

- Increase Safety of FLIR Operation
- Target Location – knowing the location of what you are looking at
- Simple to operate – one handed operation
- Mapping System Integration
- Must be able to use existing aircraft mounting system
- Ability to capture video and images
- Target Locking
- Easy to transport

The outcomes from the workshop were used to develop the technical specifications to be used in the public tender.

Camera System Selection

After an extensive tender evaluation process the project team recommended that two Wescam MX10 camera systems be acquired.



Plate 1 Wescam MX10 Camera

The recommended Wescam MX10 camera systems will have the following capabilities:

- IR Sensor optimised for fire use
- High Definition Colour Camera
- Low Light Camera
- Geo Target Location
- Laser Rangefinder for increased targeting accuracy
- Built in GPS
- Mapping System Interface
- Hand Controller Unit



Plate 2 IR Imagery taken using Wescam MX10



Plate 3 Colour Imagery taken using a Wescam MX10

Project Delivery - Phase 1

Phase one of the Project will integrate the MX10 camera systems into the State Fleet Type 3 helicopters, providing an enhanced operational capability and the ability to digitally record missions.

Camera Delivery

Both cameras will be operational during the 2011/12 fire season. The first camera is due to be delivered in mid November 2011 with the second due in early 2012.

The existing FLIR 2000 cameras will still be available for operational use during the 2011/12 season to ensure FLIR capability during the changeover period.

Aircraft Configuration

On delivery of the first camera, the highest priority will be to gain all necessary approvals and to install the systems into the State Fleet AS350 type helicopters commencing with the Firebird 307 and Firebird 302 services.

The remainder of the State Fleet AS350 type helicopters will be configured for the new FLIR systems throughout the 2011/12 season as seasonal conditions allow.

Work to install the new FLIR systems in the State Fleet Bell 206 Jetranger and Longranger helicopters will take longer than with the AS350 helicopters due to engineering requirements of the mounting system.



Plate 4 MX10 Fitted to AS350 Squirrel

Training

Agency operator training will be conducted once the systems are installed into Firebird 307. It is anticipated that training will commence in late November or early December.

Training will be for existing accredited FLIR operators and will focus on the operation of the MX10 camera systems using the current operating procedures.

Project Delivery - Phase 2

During 2012, the FLIR upgrade project will continue to work to enhance the MX10 camera systems capability.

Review of Installation

A review of the FLIR systems installation will be undertaken to ensure that the installation and cockpit configuration of the systems are performing as expected.

Mapping System Integration

Investigations will commence into the procurement or development of an onboard mapping system to be used in conjunction with the MX10 camera systems. The investigation will look at the suitability of currently available products, based on the outcomes from the FLIR workshop.

Review of Current FLIR Practices

A review will be undertaken to look at current FLIR operational practices to identify possible improvements to practices, to create a safer and more efficient operating environment, leveraging off the capabilities of the MX10 camera systems.

Further Information

Adam Damen

Technical Systems Coordinator

State Aircraft Unit

Phone: (03) 9412 4888

Email: adam.damen@dse.vic.gov.au