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**LARGE AIRTANKER SERVICE**

**SCENARIO 1 – REGIONAL FIRE**

**Before Completing this Form:**

* Please note, the forms in this document are designed to be completed electronically using *Microsoft Word* on a *Windows PC.*
* The scenario contained in this document describes a typical large airtanker mission comprising one or more sorties delivering fire retardant slurry to a fire, or a ferry to another airbase.
* Please use the instructions listed overleaf under *‘Completing the Large Airtanker Service Scenario Form’* to complete this document.
* Please read and understand all the instructions and scenario specifications contained in this document before entering any data.
* Proposers **must** complete a separate scenario document for each **different model** of airtanker being proposed (e.g. if two different types of aircraft are being proposed please complete this form twice).
* However, where a pair of **same model aircraft** is being proposed, and that have similar performance, please **select one** of the aircraft and complete the scenario document for this aircraft only.
* To save this document, please select **Save As** from the **File** menu prior to entering any data.
* Completed Documents are to be uploaded to the NAFC online tender service (Tenderlink) in the area specified. For information on how to upload your completed document, please refer to instructions found in the ***Request for Proposal*** document.
* In addition to the forms contained in this document, proposers are required to submit additional information via TenderLink in order to complete this RFP.
* As far as possible, proposers are asked to provide the information requested using the space provided in this document. If insufficient space is provided for a particular response, proposers may include further information in the main body of their proposal provided a clear note is made in the appropriate field of this form.

**Completing the Large Airtanker Service Scenario Form:**

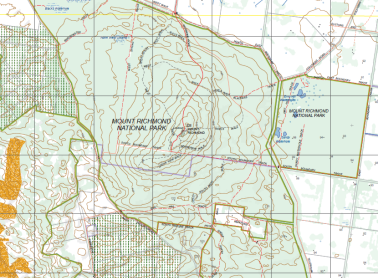
|  |  |  |  |
| --- | --- | --- | --- |
| * Proposers are asked to complete each of the forms contained in this document for **each different type** of airtanker being proposed. * Each form in this in this document is displayed on a pale blue background, as per the example opposite. * Proposers are asked to ender the appropriate text or value in each of the grey boxes contained in the forms as per the example below.  |  |  | | --- | --- | |  | < Example grey data entry box | |  |

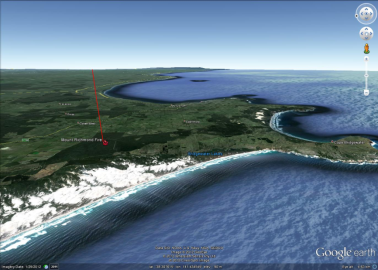
* Proposers are asked to enter the values the air crew would **actually use** when planning or conducting a mission such as described in the scenario. **Do not** enter best-case or sales brochure values. **Please use real data**. It is **strongly recommended** that the proposers Chief Pilot or Head of Flying Operations assist with the completion of this document.
* If the airtanker(s) being proposed would be restricted or limited in any way when performing this scenario, proposers are asked to enter the restricted or limited values in the appropriate field and then provide an explanation in the field labelled ***Any other information relevant…*** in that particular section.
* Please be careful when calculating the values requested in these forms as the information will be consistency checked, compared with known values for your aircraft type.
* Please note the information provided in this document will be used in NAFC airtanker value and productivity models and may be utilised and made available to members in a de-identified fashion. NAFC will endeavour to remove company and registration information before utilising information, however it may still be possible for readers to derive the identity of an aircraft or operator, particularly for less common makes and models of airtankers.

**AIRTANKER SCENARIO**

|  |  |
| --- | --- |
| **Scenario 1** | |
| Name | Regional Fire |
| Time and date | 7th March, 13:30 AEDT (UTC+11:00) |
| Situation | A fire is burning in the Mount Richmond National Park in the ‘Far South West’ fire district of Victoria.  Mount Richmond is a 225 metres high extinct volcano surrounded by low, flat land. The volcano is covered with a layer of sand blown inland long ago from Discovery Bay. The predominant vegetation is coastal heath with pine plantations in the area.  Fire is currently burning under 15kt northerly wind. Multiple fingers of fire and short distance spotting with long lines of uncontained fire edge. Pyro-Cumulus cloud developing over active areas of the fire.  Three SEATS already operating with rotary wing Air Attack Supervisor above.  Incident controller has requested airtanker support to hold fire edge in difficult country on western side of the fire until ground crews can extend dozer lines and hand trails to contain the fire.  Airtanker(s) are based at Avalon Airport (YMAV) near Melbourne, Victoria.  Avalon airport under IMC conditions at time of dispatch request (13:30 AEDT) due to reduced visibility in smoke from other fires north of Melbourne. |
| Fire area | 569 Hectares |
| Fire behaviour | Active Fire – fragmented, short distance spotting, back burns. |
| Fire location | -38.27, 141.41 |
| Fire elevation | 225 metres (750 feet) AMSL |
| Initial tasking | Deploy tanker aircraft from Avalon airbase to fire without delay.  Take maximum load of retardant / suppressant  Expect tactical directions from local air attack supervisor on site (aka ATGS)  Expect one or more requests to reload and return to fire without delay |
| Scenario | In this scenario the airtanker will be requested to complete three sorties as per attached descriptions |
| Assumptions | Incident controller requests the use of long term fire retardant.  Avalon airport is nearest Multi Engine Airtanker reload facility.  Enough retardant delivery lines will be available at tanker base to fill all ports on one side of tanker with a maximum flow rate of 1800 litres per minute per line.  No retardant load on board tanker at time of initial request  Lead plane, if required, will be based with tankers at Avalon Airport.  Portland airport will have fuel available for lead plane.  Sortie number 1 is first for the day.  Crew has been required to be on duty from 0900.  All operations to be conducted in accordance with Australian civil aviation regulations  No air traffic control delays in clearance to taxi, take-off, climb, descend, or land.  Use Melbourne airport as alternate if required, assume it is CAVOK |
| Attachments | Sortie descriptions x3  Fire report & map  Airport documentation: Avalon – YMAV |

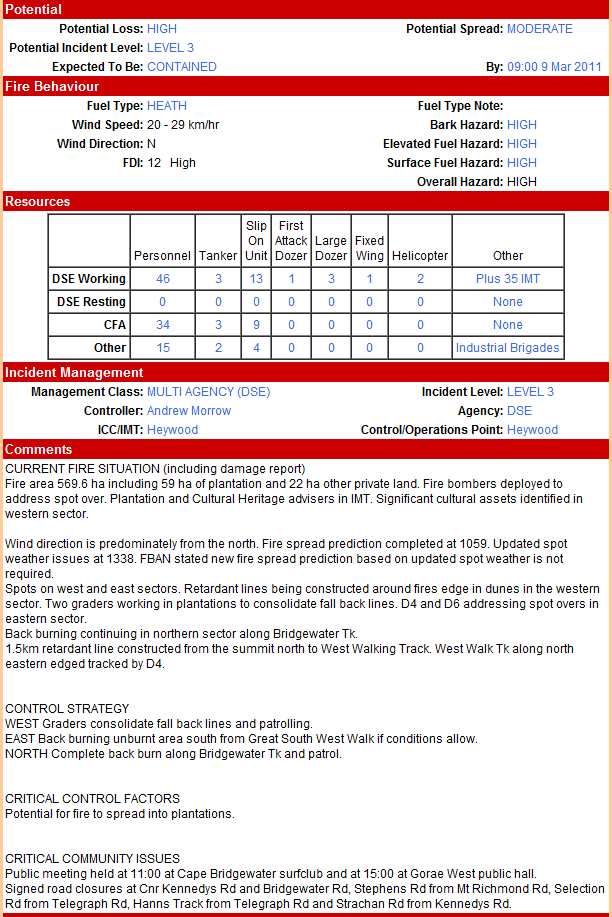
**AIRTANKER SCENARIO**



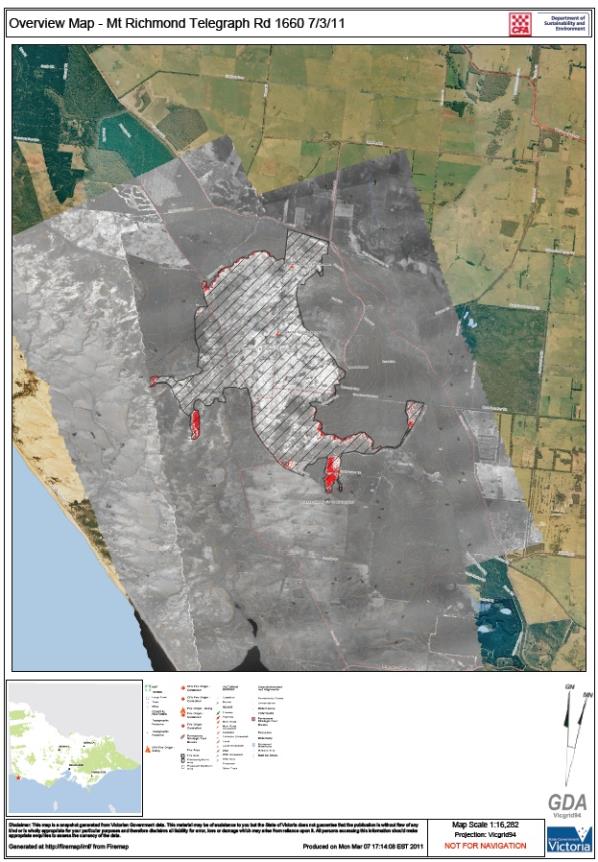




**FIRE REPORT:**

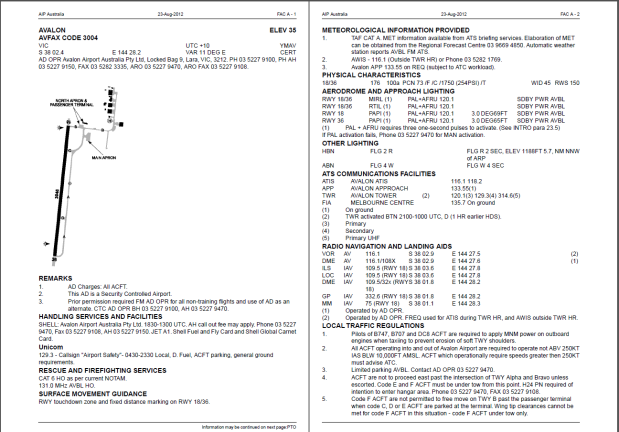


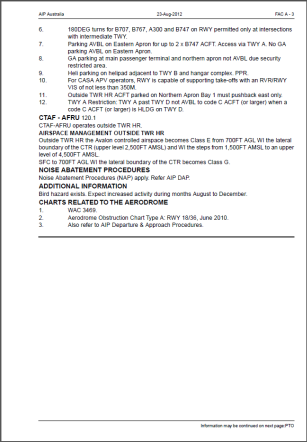
**FIRE MAP:**



**ERSA: YMAV AVALON:**

**Note:** For the purpose of this scenario assumetheAirtanker base is located at “MAIN APRON” as shown on diagram





**SORTIE 1: DESCRIPTION**

|  |  |
| --- | --- |
| **Sortie 1** | |
| **Departure** |  |
| Airport | YMAV – Avalon Airport Victoria |
| RWY - Length | 3048 metres |
| RWY - Heading | 18/36 |
| Airspace - Class | Class D - tower active |
| Conditions - Temp | ISA + 20 (= 35°C) |
| Conditions - Wind at departure | 20 knots, gusting 40 knots, 300 degrees |
| Conditions - IMC / VMC | IMC - Instrument departure required – low vis in smoke |
|  |  |
| **En route** |  |
| Distance | 150 nautical miles |
| Direction | 265 degrees |
| Conditions - IMC / VMC | VMC |
| Conditions - Turbulence | Moderate turbulence |
|  |  |
| **Fire** |  |
| Conditions - Visibility | 5000 metres visibility in smoke |
| Drop | Split load requested – two loads on ‘corner’ of fire |
| Coverage level requested | Coverage level 6 |
|  |  |
| **Return** |  |
| Airport | YMAV |
| Conditions - IMC / VMC | IMC - Instrument approach required – low vis in smoke |

Note: assume a request to reload and return without delay occurs after the drop in this sortie.  
Therefore expect a hot reload on return to airbase



**Sortie 1: Tanker performance – Loading and departure *Complete all grey boxes on this page*.**

|  |  |  |
| --- | --- | --- |
| **Service Information** | |  |
| **Proposer Organisation Name** |  | |
| **Airtanker registration mark** (As entered in your Proposal Service Summary spread sheet) |  | |

|  |  |  |  |
| --- | --- | --- | --- |
| **Start up and loading** | | | **Time** |
| **Dispatch calls tanker base with request** | | | **13:30** |
| **Will aircraft require refuelling before this sortie?** (this will depend on whether normal practice is to leave the aircraft partly or fully fuelled) |  | Yes / No |  |
| **How long will refuelling take** (assume no delay for refuelling services) |  | Minutes |  |
| **Can refuelling and retardant loading occur simultaneously** |  | Yes / No |  |
| **Fuel on board at engine start** |  | Litres |  |
| **Engine start** | | |  |
| **Retardant load taken** |  | Litres |  |
| **Minimum retardant loading time** |  | Minutes |  |
| **Retardant loading complete** | | |  |
| **What pre take off delays are required** (briefing, warm up, cool down, instrument alignment, checklists, taxi etc) |  | | |
| **Time required from completion of retardant loading to take off** |  | **Minutes** |  |

|  |  |  |  |
| --- | --- | --- | --- |
| **Departure** | | | **Time** |
| **Does the IMC departure limit the load carried?** |  | Yes / No |  |
| **Does this departure require a balanced field calculation?** |  | Yes / No |  |
| **What is the calculated take off run required?** |  | **Metres** |  |
| **What is the minimum runway length required?**  (use TORA calculation as per flight manual) |  | **Metres** |  |
| **What are the limiting factors in determining runway length required?** |  | | |
| **Aircraft weight at take off** |  | Kilograms |  |
| **Endurance at take-off** (assume endurance at loaded cruise speed and altitude) |  | Minutes |  |
| **Wheels off time** | | |  |
| **Any other information relevant to take off phase?** |  | | |

**Sortie 1: Tanker performance – cruise and at the fire *Complete all grey boxes on this page*.**

|  |  |  |  |
| --- | --- | --- | --- |
| **Cruise to fire** | | | **Time** |
| **Cruise Altitude** (as loaded, en route to fire) |  | Feet |  |
| **Can aircraft climb directly to cruise altitude?** |  | Yes / No |  |
| **Would aircraft be pressurised at cruise altitude en route to fire?** |  | Yes / No |  |
| **Top of climb** | | |  |
| **What cruise airspeed** (as loaded, en route to fire) |  | Knots-TAS |  |
| **Time taken from departure to arrival at fire** |  | Minutes |  |
| **Arrival at Fire** | | |  |
| **Any other information relevant to cruise phase?** |  | | |
| **What holding time is available on arrival at the fire** |  | Minutes |  |

|  |  |  |  |
| --- | --- | --- | --- |
| **Operations at Fire** | | | **Time** |
| **What is the manoeuvring speed in the fire pattern / circuit** |  | Knots-TAS |  |
| **What is the preferred drop speed in this scenario** |  | Knots-TAS |  |
| **What is the preferred drop height in this scenario** |  | Feet (AGL) |  |
| **What is the stalling speed in drop configuration** |  | Knots-TAS |  |
| **Estimated time in the fire area to conduct these drops**  (Include any dummy runs, system recharging, etc that you would normally perform) |  | Minutes |  |
| **Drop time** | | |  |
| **What length of retardant line would be produced** |  | Metres |  |
| **What width of retardant line would be produced** |  | Metres |  |
| **What is the tankers wake turbulence category?** |  | FAA |  |
| **What restrictions would this operation place on other aircraft operating in the fire area?** (eg wake turbulence clearance) |  | | |
| **How does the low visibility affect operations in the fire area** (5000m in smoke) |  | | |
| **Any other information relevant to drop phase?** |  | | |

**Sortie 1: Tanker performance – Return and reload *Complete all grey boxes on this page*.**

|  |  |  |  |
| --- | --- | --- | --- |
| **Return from Fire** | | | **Time** |
| **Cruise Altitude** (with no load) |  | Feet |  |
| **Would aircraft be pressurised at cruise altitude when returning?** |  | Yes / No |  |
| **What cruise airspeed** (with no load) |  | Knots-TAS |  |
| **Time taken from departing fire to landing back at airbase** |  | Minutes |  |
| **Arrival time back at the airbase** | | |  |
| **How does the instrument approach affect return?** (eg holding fuel required etc) |  | | |
| **Reload** | | | **Time** |
| **How much fuel would be remaining on arrival back at airbase** |  | Litres |  |
| **Remaining endurance on arrival back at airbase** |  | Minutes |  |
| **Will aircraft require refuelling before the next sortie?** |  | Yes / No |  |
| **How much fuel would be taken on** |  | Litres |  |
| **Can refuelling be conducted while retardant is being?** |  | Yes / No |  |
| **Can retardant be loaded with all engines running?** |  | Yes / No |  |
| **Retardant load taken** |  | Litres |  |
| **How long will reloading and refuelling take** |  | Minutes |  |
| **What other turn around delays might be expected before the next sortie.** (eg: cool down, crew change etc) |  | | |
| **Reload and refuel complete time** | | |  |
| **Any other information relevant to return and reload phase?** |  | | |

**SORTIE 2: DESCRIPTION**

|  |  |
| --- | --- |
| **Sortie 2** | |
| **Departure** |  |
| Airport | YMAV |
| RWY - Length | 3048 metres |
| RWY - Heading | 18/36 |
| Airspace - Class | Class D - tower active |
| Conditions - Temp | ISA + 20 (= 35°C) |
| Conditions - Wind at departure | 20 knots, gusting 40 knots, 300 degrees |
| Conditions - IMC / VMC | VMC |
|  |  |
| **En route** |  |
| Distance | 150 nautical miles |
| Direction | 265 degrees |
| Conditions - IMC / VMC | VMC |
| Conditions - Turbulence | Moderate turbulence |
|  |  |
| **Fire** |  |
| Conditions - Visibility | 10km metres visibility with some smoke haze |
| Drop | full load requested – extend one of the previous drops |
| Coverage level requested | Coverage level 6 |
|  |  |
| **Return** |  |
| Airport | YMAV |
| Conditions - IMC / VMC | VMC - CAVOK |

**Note**: changes from previous sortie shown in red text



**Sortie 2: Tanker performance – D*eparture and cruise* *Complete all grey boxes on this page*.**

|  |  |  |  |
| --- | --- | --- | --- |
| **Departure** | | | **Time** |
| **Does this VMC departure require a balanced field calculation?** |  | Yes / No |  |
| **What runway length is required** (use TODA calculation as per flight manual) |  | Metres |  |
| **Aircraft weight at take off** |  | Kilograms |  |
| **Endurance at take-off** (assume endurance at loaded cruise speed and altitude) |  | Minutes |  |
| **Wheels off time** | | |  |
| **Any other information relevant to take off phase?** |  | | |
| **Cruise to fire** | | | **Time** |
| **Cruise Altitude** (as loaded, en route to fire) |  | Feet |  |
| **Top of climb** | | |  |
| **What cruise airspeed** (as loaded, en route to fire) |  | Knots-TAS |  |
| **Time taken from departure to arrival at fire** |  | Minutes |  |
| **Arrival at Fire** | | |  |
| **Any other information relevant to cruise phase?** |  | | |

**Sortie 2: Tanker performance – At the fire *Complete all grey boxes on this page*.**

|  |  |  |  |
| --- | --- | --- | --- |
| **Operations at Fire** | | | **Time** |
| **What holding time is available on arrival at the fire** |  | Minutes |  |
| **What is the maneuvring speed in the fire pattern / circuit** |  | Knots-TAS |  |
| **What is the preferred drop speed in this scenario** |  | Knots-TAS |  |
| **What is the preferred drop height in this scenario** |  | Feet (AGL) |  |
| **What is the stalling speed in drop configuration** |  | Knots-TAS |  |
| **What is the estimated time in the fire area to conduct these drops** |  | Minutes |  |
| **Drop time** | | |  |
| **What length of retardant line would be produced** |  | Metres |  |
| **How much overlap with previous retardant line would be used** |  | Metres |  |
| **What width of retardant line would be produced** |  | Metres |  |
| **How does the low visibility affect operations in the fire area** (10km in smoke haze) |  | | |
| **Any other information relevant to drop phase?**  (eg Would you expect a reduction in time in the fire area on second and subsequent sorties?) |  | | |

**Sortie 2: Tanker performance – Return and reload *Complete all grey boxes on this page*.**

|  |  |  |  |
| --- | --- | --- | --- |
| **Return from Fire** | | | **Time** |
| **Cruise Altitude** (no load) |  | Feet |  |
| **What cruise airspeed** (no load) |  | Knots-TAS |  |
| **Time taken from departing fire to landing back at airbase** |  | Minutes |  |
| **Arrival time back at the airbase** | | |  |
| **Reload** | | | **Time** |
| **How much fuel would be remaining on arrival back at airbase** |  | Litres |  |
| **Remaining endurance on arrival back at airbase** |  | Minutes |  |
| **Will aircraft require refuelling before the next sortie?** |  | Yes / No |  |
| **How much fuel would be taken on** |  | Litres |  |
| **Retardant load taken** |  | Litres |  |
| **How long will reloading and refuelling take** |  | Minutes |  |
| **What other turn around delays might be expected before the next sortie.** (eg: cool down, crew change etc) |  | | |
| **Reload and refuel complete time** | | |  |
| **Any other information relevant to return and reload phase?** |  | | |

**SORTIE 3: DESCRIPTION**

|  |  |
| --- | --- |
| **Sortie 3** | |
| **Departure** |  |
| Airport | YMAV |
| RWY - Length | 3048 metres |
| RWY - Heading | 18/36 |
| Airspace - Class | Class D - tower active |
| Conditions - Temp | ISA + 25 (= 40°C) |
| Conditions - Wind at departure | 15 knots, gusting 25 knots, 270 degrees |
| Conditions - IMC / VMC | VMC |
|  |  |
| **En route** |  |
| Distance | 150 nautical miles |
| Direction | 265 degrees |
| Conditions - IMC / VMC | VMC |
| Conditions - Turbulence | Moderate turbulence |
|  |  |
| **Fire** |  |
| Conditions - Visibility | CAVOK |
| Drop | full load requested – prevent a finger of fire from reaching pine plantation |
| Coverage level requested | Coverage level 8 |
|  |  |
| **Return** |  |
| Airport | YMAV |
| Conditions - IMC / VMC | VMC - CAVOK |

**Note**: changes from previous sortie shown in red



**Sortie 2: Tanker performance – D*eparture and cruise* *Complete all grey boxes on this page*.**

|  |  |  |  |
| --- | --- | --- | --- |
| **Departure** | | | **Time** |
| **Does this departure require a balanced field calculation?** |  | Yes / No |  |
| **What runway length is required** (use TODA calculation as per flight manual) |  | Metres |  |
| **Aircraft weight at take off** |  | Kilograms |  |
| **Endurance at take-off** (assume endurance at loaded cruise speed and altitude) |  | Minutes |  |
| **Wheels off time** | | |  |
| **How does the cross wind affect airtanker performance?** |  | | |
| **Any other information relevant to take off phase?** |  | | |
| **Cruise to fire** | | | **Time** |
| **Cruise Altitude** (as loaded, en route to fire) |  | Feet |  |
| **Top of climb** | | |  |
| **What cruise airspeed** (as loaded, en route to fire) |  | Knots-TAS |  |
| **Time taken from departure to arrival at fire** |  | Minutes |  |
| **Arrival at Fire** | | |  |
| **Any other information relevant to cruise phase?** |  | | |

**Sortie 2: Tanker performance – At the fire and return *Complete all grey boxes on this page*.**

|  |  |  |  |
| --- | --- | --- | --- |
| **Operations at Fire** | | | **Time** |
| **What holding time is available on arrival at the fire** |  | Minutes |  |
| **What is the maneuvring speed in the fire pattern / circuit** |  | Knots-TAS |  |
| **What is the preferred drop speed in this scenario** |  | Knots-TAS |  |
| **What is the preferred drop height in this scenario** |  | Feet (AGL) |  |
| **What is the stalling speed in drop configuration** |  | Knots-TAS |  |
| **Estimated time in the fire area to conduct these drops** |  | Minutes |  |
| **Drop time** | | |  |
| **What length of retardant line would be produced** |  | Metres |  |
| **What width of retardant line would be produced** |  | Metres |  |
| **Any other information relevant to drop phase?** |  | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **Return from Fire** | | | **Time** |
| **Cruise Altitude** (no load) |  | Feet |  |
| **What cruise airspeed** (no load) |  | Knots-TAS |  |
| **Time taken from departing fire to landing back at airbase** |  | Minutes |  |
| **Arrival time back at the airbase** | | |  |
| **How much fuel would be remaining on arrival back at airbase** |  | Litres |  |
| **Remaining endurance on arrival back at airbase** |  | Minutes |  |
| **Any other information relevant to return phase?** |  | | |

|  |  |  |
| --- | --- | --- |
| **Lead Plane** | | |
| **Would normal practice be to use a lead plane for this scenario** |  | Yes / No |
| **What type of lead plane would you normally use in this scenario** |  | |
| **How long would your normal lead plane take to fly from Avalon airbase to the fire** |  | Minutes |
| **Would the transit speed of the lead plane potentially delay the airtankers first drop** |  | Yes / No |

|  |  |  |
| --- | --- | --- |
| **Scenario Totals** | | |
| **Drops** | **4** | Number |
| **Retardant delivered** |  | Litres |
| **Fuel used** |  | Litres |
| **Time from deployment call** (13:30) **to wheels stop** (estimate) |  | Minutes |