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**LARGE AIRTANKER SERVICE**

**SCENARIO 5 – ENGINE FAILURE**

**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 | |  |

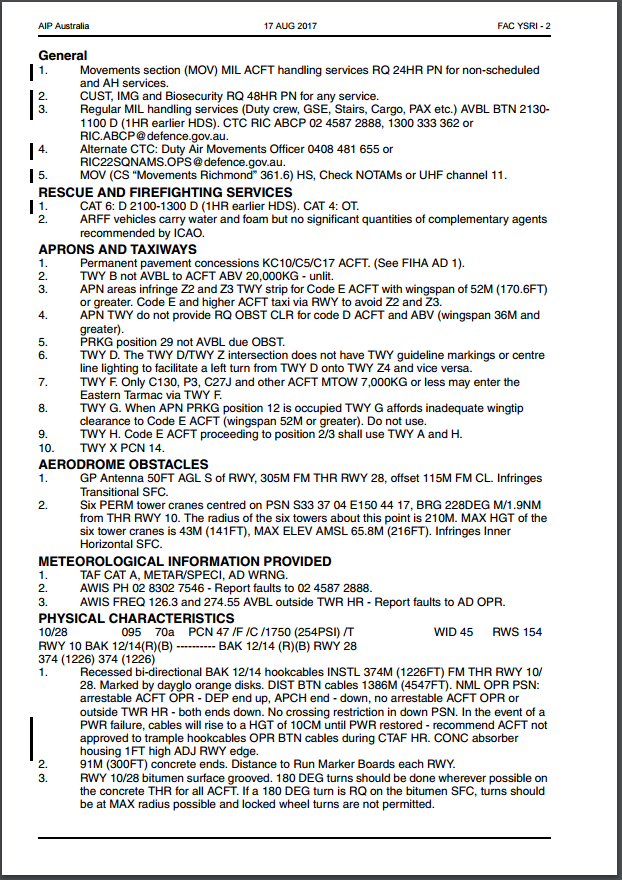
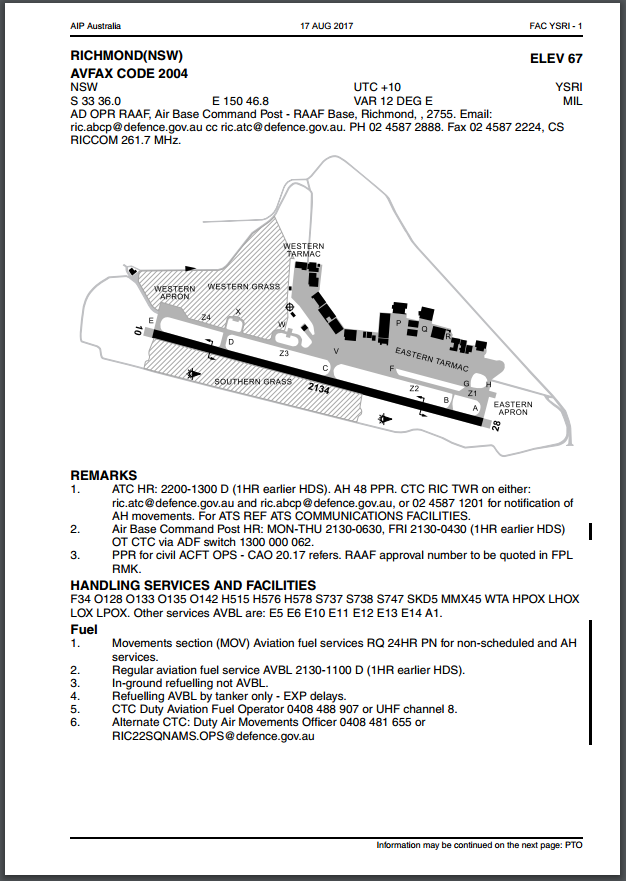
* Proposers are asked to enter the values the air crew would **actually use** when planning or conducting a mission such as described in the scenario. **Do not** enter best-case or sales brochure values. **Please use real data**. It is **strongly recommended** that the proposers Chief Pilot or Head of 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.

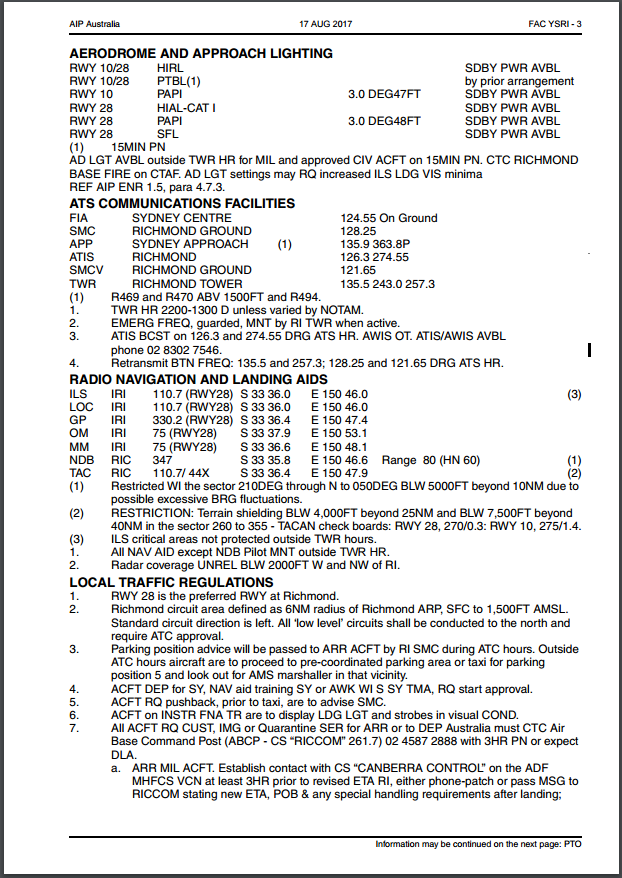
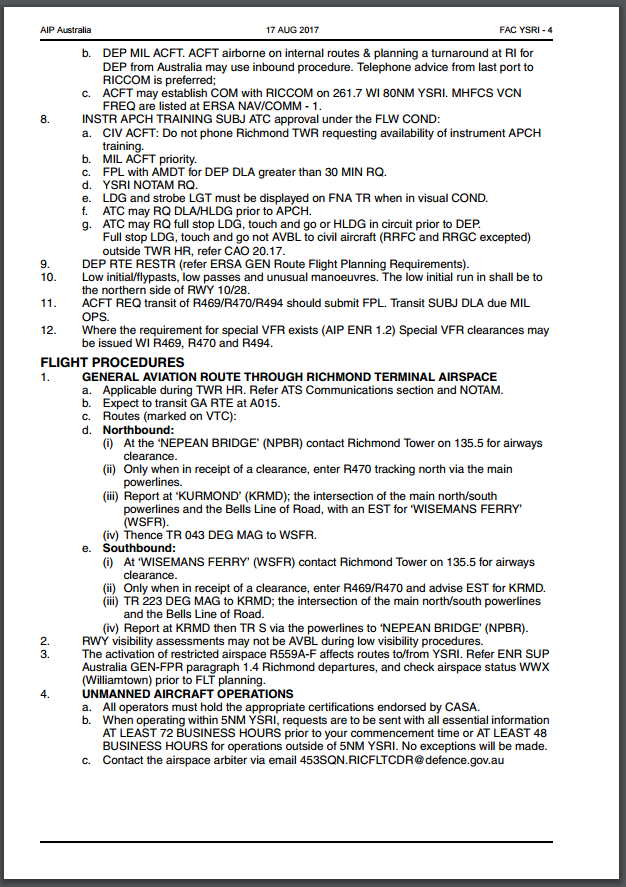
**AIRTANKER SCENARIO**

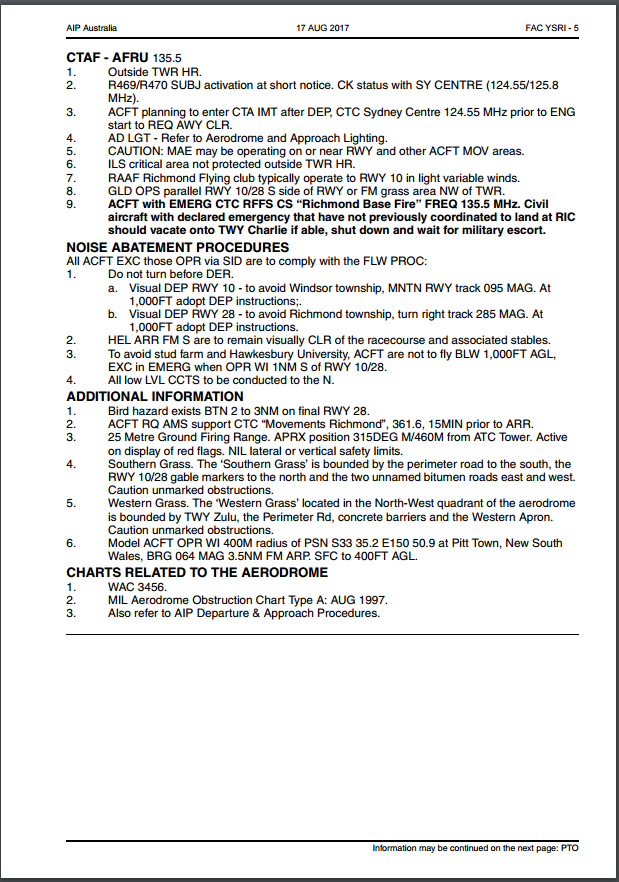
|  |  |
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| **Scenario 5** | |
| Name | Engine failure |
| Time and date | 14th December, 16:00 AEST (UTC+11:00) |
| Situation | The Budda Creek Fire & Terraborra Fire on the Womerah Range 20km West of St Albans started on the 10/12/15 caused by lightning strikes. These fires continue to burn. Incident controller has requested airtankers to support line building by ground crews  The airtankers are currently based at Richmond RAAF base NSW (YSRI). |
| Tasking | Deploy tanker aircraft and associated supervision aircraft from Richmond airbase to fire immediately.  Take full load of retardant  Take enough Fuel on board for 3 hours firefighting operations plus reserves |
| Scenario | Aircraft will plan to complete one sortie as per attached descriptions  Engine failure on departure |
| Assumptions | All operations to be conducted in accordance with Australian civil aviation regulations  Use Sydney Airport as alternate if required, assume it is VMC / CAVOK |
| Times | In scenario enter all times in departure time zone AEST (UTC+11:00). |
| Attachments | Airport documentation:  Richmond – YSRI |

**ERSA**

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





**SORTIE 1: DESCRIPTION**

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| --- | --- |
| **Sortie 1** | |
| **Departure** |  |
| Airport | YSRI – Richmond RAAF base NSW |
| RWY - Length | 2134 metres |
| RWY - Heading | 10/28 (runway 28 is active runway) |
| Airspace - Class | Military Airspace- tower active |
| Conditions - Temp | ISA + 25 (= 40°C) |
| Conditions - Wind at departure | Nil wind |
| Conditions - IMC / VMC | IMC - Instrument departure required – low vis in smoke |
| Retardant load | Full load of retardant |
| Fuel | Aircraft has been requested to depart with 3 hrs fuel plus reserves.  If not possible with full load of retardant then carry max full possible. |
|  |  |
| **En route** |  |
| Distance | 25 nautical miles |
| Direction | 010 degrees |
| Conditions - IMC / VMC | IMC areas en route |
|  |  |
| **Return** |  |
| Airport | YSRI |
| Conditions - IMC / VMC | IMC - Instrument approach required – low vis in smoke |
| Alternate | YSSY – Kingsford Smith airport Sydney |
| Conditions - IMC / VMC | VMC |
|  |  |



**Sortie 1: Tanker performance – engine failure**

|  |  |  |
| --- | --- | --- |
| **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 crew with request** | | | **16:00** |
| **Will aircraft require refuelling before this flight?**  (Aircraft has been requested to depart with 3 hrs fuel plus reserves if possible)(this will depend on whether normal practice is to leave the aircraft partly fuelled) |  | **Yes / No** |  |
| **How long will refuelling take?** (assume no delay for refuelling services to arrive) |  | **minutes** |  |
| **Fuelling complete** | | |  |
| **Fuel on board at engine start** |  | **Litres** |  |
| **Engine start** | | |  |
| **Retardant load taken** |  | **Litres** |  |
| **Retardant loading complete** | | |  |
| **Time required from completion of retardant loading to take off** |  | **minutes** |  |

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| --- | --- | --- | --- |
| **Departure – as planned without failure** | | |  |
| **Planned take-off time** | | |  |
| **Aircraft weight at take off** |  | **Kilograms** |  |
| **Planned endurance at take-off** (assume endurance at loaded cruise speed and altitude) |  | **Minutes** |  |
| **Does the IMC departure limit the load carried?**  (compared with a VMC / VFR departure) |  | **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 is the take-off distance required?**  (use **TODA** calculation as per flight manual) |  | **Metres** |  |
| **Aircraft Takeoff speed – V1**  (calculation as per flight manual) |  | **Knots** |  |
| **Aircraft Takeoff speed – Vr**  (calculation as per flight manual) |  | **Knots** |  |
| **Aircraft Takeoff speed – V2**  (calculation as per flight manual) |  | **Knots** |  |
| **2nd Segment climb gradient**  (calculation as per flight manual) |  | **degrees** |  |
| **2nd Segment climb rate**  (calculation as per flight manual) |  | **ft / min** |  |
| **What are the limiting factors in determining runway length required?** |  | | |

**At the most critical point of the take-off run (after the opportunity to reject the take-off has passed) the most critical engine fails completely.**

|  |  |  |  |
| --- | --- | --- | --- |
| **Engine failure** | | |  |
| **Which engine failed?** |  | | |
| **Why is this the critical engine** |  | | |
| **At what point of the take-off did the failure occur?**  (V1, V2, Vr, etc) |  | | |
| **Why is this point of the take-off run the most critical?** |  | | |
| **Airspeed at the time of engine failure** |  | **Knots-TAS** |  |
| **1st segment climb gradient**  (after engine failure) |  | **Degrees** |  |
| **2nd segment climb gradient**  (after engine failure) |  | **Degrees** |  |
| **2nd segment climb rate**  (after engine failure) |  | **ft/min** |  |
| **Under what circumstances would the aircrew have to drop the retardant load to safely complete the take off?** |  | | |

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| --- | --- | --- | --- |
| **Return to land** | | |  |
| **Where would the aircraft land?**  (YSRI or YSSY) |  | | |
| **Why is this destination selected?** |  | | |
| **Under what circumstances would the aircrew have to drop the retardant load to safely return to land?** |  | | |
| **Would aircraft need to burn off, or dump, fuel before landing?** |  | **Yes / No** |  |
| **What is the allowed maximum landing weight** |  | **Kilograms** |  |

Use the narrative response form to supply any further information regarding airtanker performance following engine failure.