

10081-1 (SO Ftr Sys)
11500-82-2 / AETE 2014-024 (AFTEC 2)

4 December 2014

REQUEST FOR ESTIMATE

References: A. Flight Safety Hazard Report 136966, 15 Jan 2009 (RDIMS AEP# 1407922)
B. DTAES Technical Note 75-13-14, Expansion of CF188 Landing and Takeoff Charts for Snow Covered Runways, 16 September 2014 (RDIMS AEP# 1480960)
C. DND Flight Information Publication GPH204A Flight Planning and Procedures
D. A-GA-005-000/AG-002, AFTEC Directive, 5 August 2008

PROJECT IDENTIFICATION

1. The following will identify this project:
 - a. Project Title: CF188 Updated Takeoff Abort and Landing Charts;
 - b. Project Number: AETE 2014-024;
 - c. Project Priority: F; and
 - d. Security: Unclassified.

SITUATION/BACKGROUND

2. The range of runway conditions that the CF188 encounters on a regular basis ranges from dry to wet to snow covered. A flight safety hazard report (reference A) was raised to address deficiencies in CF188 Aircraft Operating Instructions (AOI) takeoff abort charts (Figures 4-4-5 & 4-4-6). More specifically, pilots were not provided with information that included Canadian Runway Friction Index (CRFI) values for snow covered runways. Since, CRFI impacts landing distance as well, the same deficiency exists with the CF188 AOI landing distance chart (Figure 4-10-2).

3. In order to address the deficiencies identified above, Bombardier Aerospace Engineering Services (BAES) was tasked to generate new takeoff abort and landing charts for a CRFI of 0.35 that could be incorporated in the CF188 AOI. BAES conducted the analysis and presented it to Director of Technical Airworthiness Engineering Services (DTAES) for review. Based on DTAES review, contained in reference B, flight testing is required to spot-check the new takeoff abort and landing charts generated by BAES prior to incorporating them into the CF188 AOI.

AIM

4. The aim of this project is to support incorporation of the BAES generated CRFI 0.35 takeoff abort and landing charts into the CF188 AOI.

IMPLEMENTATION

5. Objectives. The aim of this project will be met through the following objectives:

- a. Measure distance and ground speed data for both landings and aborted takeoffs in adverse runway conditions;
- b. Verify the accuracy of the BAES computer generated CRFI 0.35 CF188 charts for Landing Distance, Maximum Abort Speed with MIL Thrust and Maximum Abort Speed with MAX Thrust; and
- c. Confirm the applicability of the CRFI recommended landing distances chart presented in reference C (GPH204A) to CF188 operations for CRFI values to as low as 0.35.

Note: The underlined action-words used to define the objectives of this project were determined IAW reference D.

6. Scope. The following factors amplify the objectives and define the scope of this project:

- a. Incorporate the conclusions and recommendations of reference B analysis; and
- b. Although the BAES analysis and modelling utilized a clean configuration CF188, flight testing should consider various aircraft store configurations.

7. Constraints. The following constraints apply to this project:

- a. Testing to be conducted on an opportunity basis at locations routinely used by the CF188.

8. Method. As proposed by the Commanding Officer of AETE.

9. Deliverables. The following deliverables are required by the Sponsor:

- a. An abridged report consisting of an executive summary of the test program results with all pertinent conclusions and recommendations within 30 working days of test completion; and
- b. A disposition of T&E final report recommendations Annex IAW Annex G of reference D shall be included with the report.

10. Special Instructions. The following apply to this project:
- a. Although the Sponsor is not strictly opposed to dedicated flight test hours for this project, it is requested that, to as much of a degree as possible, takeoff and landing testing for this project should be conducted on an opportunity basis with other test flights or unit flying.

PROJECT SUPPORT

11. The Sponsor will provide financial support, contingent upon acceptance of the cost estimate.

COORDINATION

12. The points of contact for this project are as follows (refer to DIN for further contact information):

- a. Sponsor: Maj C. Mask, A/SSO Ftr;
- b. Technical OPI: Capt G. Givogue, DTAES 7-5-4;
- c. Technical OCI(s):
 - (1) LCol A. Dobrei, DAEPM(FT) 2;
 - (2) Maj J. Smith, DAEPM(FT) 2-3;
 - (3) Capt N. St-Amant, DAEPM(FT)) 2-3-2;
- d. 1 CAD HQ POC(s):
 - (1) Maj C. Mask, A/SSO Ftr;
 - (2) Capt T. West, Ftr Sys 2;
- e. WOpsO: Maj A. Macluskie, 4 Wing A/WOpsO;
- f. AFTEC POC: Maj N. Armstrong, AFTEC 2/DTAES 6-2;
- g. AETE POC: Maj J. Furlong, AETE PCO;
- h. FOTEF POC: Maj M. Remington, OC FOTEF; and
- i. FSET POC: Capt D. Blakie, FSET Gnd Trg O.