

LETTER OF INTENT FOR ESTABLISHMENT OF TFE731-2A-2A & J69-T-25A MULTI ENGINE TEST CELL

1. In this context, a technical and budgetary quotation is required for the METC which includes Data Acquisition System, engine dress kit, infrastructure like thrust frame adapters, engine preparation room, Fuel, Oil, Electrical and Fire Extinguishing system etc. Detailed specifications / requirements of subject METC are as follows: -

(a) **Turn Key Solution.** METC is required on turnkey basis for full parameter testing of TFE731-2A-2A and J69-T-25A engines. The required solution must be completely digitized, incorporated with new data acquisition system, sensors, transducers, signal control unit, engine vibration system, throttle system with electrical motor, cabling and CCTV system etc. All equipment shall be factory new.

(b) **Correlation.** Calibration and Correlation Certificate will be required.

(c) **Data Acquisition and Control System.** The Data Acquisition and Control System includes: -

(i) The control console is to include the necessary visualization and touch screens that are required to operate and control the engine in the test area as well as various elements of the test facility system.

(ii) Engine Specific Software that incorporates all customized testing sequence, calculation of engine performances, post-processing transients, dynamic alarms and reports in accordance with TFE731-2A-2A and J69-T-25A engines. System should have complete logging capabilities for all parameters both engines. Logging system should be able to ensure at least 8 hours of continuous recording.

(iii) DAS should have an integrated backup system that will be employed when main system is not responding.

(iv) DAS should have the ability for remote troubleshooting, diagnosis and maintenance by OEM.

(v) DAS should provide warning alarms for out of limit acquired or computed parameters.

(vi) Installation of new digital control throttle that should be fully compatible with the OEM test requirements.

(vii) The installed hardware should be commercial off the shelf (COTS) allowing local sourcing and self-maintenance, as required.

(viii) Availability of Uninterruptible Power Supply to power data acquisition system, control throttle, screens, video and intercom circuits.

(d) **Documentation.** Complete illustrated parts break down (IPBs), Technical drawings, Technical manuals, Maintenance Manuals, Inspection and calibration schedule and procedures, Trouble Shooting guide must be provided.

(e) **Training.** Training on operations, calibration, trouble shooting and replacement of components would be required for 07 personnel of MRF at OEM facilities.

(f) **Spare Support Package.** A spare support package based on high consumption / MTBF, inclusive of Sensors, transducers and cards would be required to avoid down time and to ensure smooth operation.

(g) **CCTV System.** Movable high quality complete CCTV system inclusive of cameras (minimum Qty 06), large LCDs (minimum Qty 04) and cabling support with on-site installation by OEM would be required.

(h) **Long Term spares and customer support.** The long term spares and customer support includes: -

(i) 03 years warranty of all parts and workmanship defects. (Cost of transportation of equipment and personnel will be responsibility of vendor during warranty period).

(ii) Long term spare support of at least 10 years after commissioning.

(iii) Establishing of local technical team by the vendor for rapid support.

(j) **Support Facilities:** All support facilities on turnkey basis are required, which includes fuel system, fire suppression system, electrical and backup electrical system, pneumatic system, engine preparation area, thrust frame adapter and infrastructure, hush panels etc.