

Attachment 1
Statement of Work, Payload Processing Services
21 Jan 2010

This effort is for requirements for the environmental, operational and the logistical requirements for a payload processing facility (PPF) able to accomplish 5-meter Evolved Expendable Launch Vehicle (EELV) Payload Fairing (PLF) processing including hazardous and non-hazardous payload processing activities. The PPF Contractor shall support mission integration starting 12 months prior to launch of a given MUOS satellite and continue until one month after launch. This statement of work describes the scope of Basic Services required by the PPF Contractor in conjunction with the processing of each MUOS Spacecraft for at the PPF Contractor facilities. The specific Basic Services to be provided shall be as detailed in the Payload Processing Requirements Document, dated 21 Jan 2010 (attachment 3).

1.0 LAUNCH SITE PROCESSING FACILITY AND SERVICES

1.1 MUOS SPACECRAFT PROCESSING SERVICES

This paragraph describes the Basic Services to be provided by PPF Contractor for the processing of the MUOS Spacecraft at the PPF Contractor facilities.

1. Local Transportation. By means of commercially available ground transportation vehicles, PPF Contractor shall provide transportation and delivery of the crated payload or payload elements, spacecraft propellants, and ground support equipment, within the PPF Contractor facility and to and from the PPF Contractor facilities and designated facilities at the Kennedy Space Center (KSC) or Cape Canaveral Air Force Station (CCAFS).
2. Use of PPF Contractor Facilities. PPF Contractor shall provide use of the following portions of the applicable PPF Contractor facility for the duration stated:
 - (a) In Building 1: use of one high bay complex, consisting of the high bay, adjacent control room, and one contiguous office area, conference room, and program office area;
 - (b) In Buildings 3, 4 and 6: storage, on a shared space basis, of flight hardware elements, shipping containers, ground support equipment, etc;

- (c) Customer office area: use of office space for up to 40 members and conference room and shared use reception area;
 - (d) In Building 9: use of one satellite processing cell, associated garment change room, and adjacent control room for handling and loading of liquid propellants, spacecraft final testing and closeout operations, and shared use of the airlock.
3. Propellant and Ordnance Handling and Storage. PPF Contractor shall provide receiving, inspection, and storage of propellants, ordnance items, and bridge-wire checks.
 4. Communications. PPF Contractor shall provide a fiber-optic communications systems for spacecraft command/ telemetry communications, associated data circuits, and voice communications between the PPF Contractor facilities and KSC / CCAFS / SLC41, and between Building 1 and Building 9, in accordance with the defined PPF Contractor capabilities; closed-circuit television, with video recording capability, in and between Buildings 1, 5 and 9; and local and long distance telephone service. PPF Contractor shall accommodate data drops that can be connected to offsite communications circuits for data transmission back to the factory and an Internet access point in the Building 1 control room. Internet access shall be provided in all office and control room areas.
 5. Electrical Power. PPF Contractor shall provide 60Hz electrical power, as defined in the Facility Accommodation Handbook, for electrical ground support equipment. The power load is defined in the Payload Processing Requirements Document.
 6. USAF / NASA Coordination. PPF Contractor shall provide coordination with USAF and NASA / Kennedy Space Center for any services requiring U.S. Government support.
 7. Security. PPF Contractor shall provide 24 hour-a-day perimeter security at the PPF Contractor facilities; periodic security patrols shall be conducted throughout the PPF Contractor facilities during non-work hours; digital cypher locks on all internal and external doors leading into the payload processing areas; and 24 hours-a-day smoke / fire monitoring / detection for all buildings. Doors to all MUOS satellite contractor work areas shall have hasps to accommodate MUOS satellite contractor provided security seals.

8. Gases and Cleaning Agents. PPF Contractor shall provide gaseous nitrogen, liquid nitrogen, gaseous helium, isopropyl alcohol, deionized water, and other general purpose cleaning agents and solvents in support of the planned spacecraft processing operations.
9. Hazardous Waste Disposal. PPF Contractor shall provide disposal of hazardous materials, such as propellants and solvents, resulting from the payload processing activity in accordance with ASO contract terms and conditions
10. Sampling and Analysis. PPF Contractor shall provide sampling and analysis of up to ten (10) samples of gases, propellants, and cleaning materials.
11. Emergency Medical and Fire Protection. Emergency medical assistance and fire protection at the PPF Contractor facilities are provided on a 24-hour per day basis by Brevard County and the City of Titusville, Florida.
12. Test Equipment. PPF Contractor shall provide test equipment and tools, as available and on a non-interference basis.
13. Calibration. PPF Contractor shall provide standard equipment calibration services for up to ten (10) items of scientific equipment. PPF Contractor shall provide calibrated (Class F) (10,000 lbs maximum) weights for use during spacecraft fueling operations.
14. Personnel Protective Suits. PPF Contractor shall provide 10 air hose-type personnel protective suits, splash suits, and related training and support for up to five personnel for Payload propellant handling, transfer, and fueling operations. The suits shall be equivalent to ILC Dover model 6250/62.
15. Technical Shop Support. PPF Contractor shall provide unplanned shop support, as available and on a non-interference basis.
16. Telephone and Facsimile Service. PPF Contractor shall provide commercial local and long distance telephone service in all areas used, and shall provide facsimile machines in the Building 1 Office Area and Control Room, and the Building 5 Office Area.

17. Photocopiers. PPF Contractor shall provide copy machines and paper supplies in the Building 1 Office Area and Control Room, and the Building 5 Office Area (shared asset).
18. Document Destruction. PPF Contractor shall provide a means of destruction or safe disposal of sensitive and classified paper documentation (e.g., industrial shredding services for company proprietary information and a compliant shredder).
20. Weather Reports. PPF Contractor shall provide weather warning information, as appropriate, during all times of the MUOS Spacecraft Occupancy Period.
21. Facility Access. Personnel supporting the MUOS program shall be granted access to all authorized work areas on a 24-hour basis throughout the Occupancy Period. PMW 146 and the launch service providers shall provide PPF Contractor with access lists as appropriate.
22. Facility Crane Support / Operator Familiarization Training.
 - a. PPF Contractor will perform facility crane maintenance and proof load per PPF Contractor maintenance schedule. PPF Contractor will provide evidence of latest certification documentation at the start of processing;
 - b. PPF Contractor will provide hands-on familiarization training for designated crane operators. This training will cover PPF cranes and will include emergency procedures as required.
23. Integration Support. PPF Contractor shall support the integration / documentation effort. Meeting support will include PPF Contractor's attendance (in person or via teleconference).

1.2 ATLAS V LAUNCH VEHICLE PROCESSING SERVICES

This paragraph describes the Basic Services to be provided by PPF Contractor to the Atlas V launch services provider for the processing of the Atlas V payload fairing and Payload encapsulation activity associated with the MUOS Spacecraft at the PPF Contractor facilities.

1. Arrival and Departure Assistance. PPF Contractor shall assist with loading and off-loading of Atlas V payload fairing components and the associated support equipment at

the PPF Contractor facilities. PPF Contractor will provide labor, as required to assist ULA Atlas personnel during the equipment transfer between buildings at PPF Contractor and deliver and return equipment from CCAFS.

2. Transportation of Base Module and Encapsulated Payload. PPF Contractor shall arrange for and obtain the necessary permits and licenses (Wide Load, HazMat, etc.) as required by the State of Florida Department of Transportation for transport of the encapsulated Payload from the PPF Contractor facilities to Space Launch Complex – 41 at CCAFS.
3. Use of PPF Contractor Facilities. PPF Contractor shall provide use of the following portions of the applicable PPF Contractor facilities for the duration stated:
 - (a) In Buildings 3, 4 and 6: storage, on a shared space basis, of flight hardware elements, shipping containers, ground support equipment, etc.;
 - (b) In Building 7: use of Atlas Technical Support / Break Area for the duration of the mission Occupancy Period for the MUOS Spacecraft; and
 - (d) In Building 9: for fairing processing, use for up to four weeks of the Conditioned Storage Area, Encapsulation Bay, and outside paved storage for PLF shipping containers. PPF Contractor will provide the facility data necessary to certify the specified work areas for use, to include: temperature, relative humidity, particle counts (from airborne particle counters), non-volatile residue (NVR) and crane proof load / inspection data;
 - (e) In Building 1: for office accommodations, the D4 Office Area (or equivalent) from PLF arrival through launch plus one week.
4. Communications. PPF Contractor shall provide local and long distance telephone service.
5. Electrical Power. PPF Contractor shall provide 60Hz electrical power, as defined in the Facility Accommodation Handbook, in Building 9 for electrical ground support equipment.

6. USAF / NASA Coordination. PPF Contractor shall provide coordination with USAF and NASA / Kennedy Space Center for any services requiring U.S. Government support.
7. Security. PPF Contractor shall provide 24 hour-a-day perimeter security at the PPF Contractor facilities; digital cypher locks are on all internal and external doors leading into the Payload processing areas; and all buildings are electronically monitored 24 hours-a-day for smoke / fire detection.
8. Solvents and Gases. PPF Contractor shall provide gaseous nitrogen, isopropyl alcohol, de-ionized water, and other general purpose cleaning agents and solvents in support of the planned payload fairing / payload adapter processing and spacecraft encapsulation operations. PPF Contractor will provide the certification data on the gaseous nitrogen (GN2) supply used to purge the payload fairing.
9. Hazardous Waste Disposal. PPF Contractor shall provide disposal of hazardous materials, such as propellants and solvents, resulting from the payload fairing preparation and encapsulation activities.
10. Emergency Medical and Fire Protection. Emergency medical assistance and fire protection at PPF Contractor facilities are provided by Brevard County and the City of Titusville, Florida.
11. Technical Shop Support. PPF Contractor shall provide unplanned shop support, as available and on a non-interference basis.
12. Facility Orientation. PPF Contractor shall provide the necessary facility orientation and heavy equipment familiarization training to the Atlas V launch services provider personnel required for unescorted access to the PPF Contractor facilities and for unsupervised use of PPF Contractor heavy equipment (i.e., bridge cranes and forklifts).