CONTRACT/REIMBURSABLE AIRCRAFT/UAS SCIENCE/OPERATOR INVESTIGATOR QUESTIONNAIRE

- Please respond to each item. If an item does not apply or is yet to be determined, indicate so with "Not Applicable (N/A)" or "To Be Determined (TBD)".
- Please provide a separate questionnaire for each instrument.
- Please provide a new or updated questionnaire for each recurring installation.
- If information is provided in a "CONOPS" or "Test Plan" please reference document name, page, and section numbers.

I. GENERAL INFORMATION

1. Experiment Description

Mission/Program:
Experiment Name and Acronym:
Instrument:
Measurements:
Measurement Technique(s):

2. Points of Contact

NASA HQ Sponsor Name (if any):
Phone:
E-mail:

Principal Investigator Name:
Organization:
Citizenship:
Address:
Phone:
Fax:
E-mail:

Lead Technical POC Name:
Organization:
Citizenship:
Address:
Phone:
Fax:
E-mail:

II. HAZARDOUS MATERIALS/EQUIPMENT (list information for each item for aircraft/UAS and/or ground use)

1. Lasers

Laser type:
Laser class:
Laser wavelength:
Output power/energy:
Output power/energy pulse width:
Output power/energy rep rate:
Shielding requirements:
If owned by NASA do you have NASA approval to operate inside or outside the United State? (Please provide proof):
Do you have FAA authorization to operate inside the United States? (Please provide proof):
Do you have the deployment sites' federal aviation authority (EASA, Transport Canada, etc.) authorization to operate outside the United States? (Please provide proof):
Note: Attach MSDS's for laser dyes, etc. used in flight or on the ground.

2. Radio Frequency Emitters

Description:
RF Power:
Frequency Range:
Operational constraints:
Installation constraints:
If owned by NASA do you have NASA approval to operate inside or outside the United State? (Please provide proof):
Do you have FCC authorization to operate inside the United States? (Please provide proof):
Do you have the deployment sites' federal aviation authority (EASA, Transport Canada, etc.) authorization to operate outside the United States? (Please provide proof):

3. Compressed Gasses

Gas description (mixture/concentration):
Cylinder internal volume:
Cylinder pressure:
Number of cylinders required:
Location on aircraft/UAS:

How often changed:
Comments:
Note: Attach MSDS's for each type of gas used in flight or on the ground.

4. Chemicals (solids & liquids):

Description (name, concentration):
Total quantity on aircraft/UAS and in integration area:
Usage/Access (ground only, flight only, ground & flight):
Container description:
Purpose:
Note: Attach MSDS's for each chemical used in flight or on the ground.

5. Radioactive Materials

Source:
Half-life:
Quantity:
Note: Attach MSDS's for each material used in flight or on the ground.

6. Cryogens

Material description:
Container description:
Quantity required on flight days:
Quantity required on non-flight days:
Usage/Access (ground only, flight only, ground & flight):
Operational constraints:
Installation constraints:
Note: Attach MSDS's for each cryogen used in flight or on the ground.

7. Batteries/UPS

Battery& UPS description (manufacturer name & model number):
Battery type:
Note: Attach MSDS's for each battery used in flight or on the ground.

8. Pressure Vessels (containment vessels, compressor tanks)

Description (purpose, contents, manufactured material):
Internal volume:
Vessel pressure:
Installation constraints:

9. Motors/Pumps

Description:
Manufacturer name/model number:
Motor type (capacitor start, brush less, explosion proof):

10. Heaters

Description (system components, location):
Manufacturer name/model number:
Maximum temperatures:
Comments:

11. Power Distribution Equipment (non-aircraft/UAS outlets, power converters)

Description:
Manufacturer name/model number:

III. AIRCRAFT/UAS INSTALLATION

1. Seats & Operators – Manned aircraft only

Total number of seats required during experimenter check-out flights:
Total number of seats required during transit flights:
Total number of seats required during science flights:

2. Experimenter/Equipment Racks and Floor Mounted Equipment – Manned aircraft only

Number & type of racks required:
Estimated weights of cabin racks:
Name, size, and weight of floor mounted equipment (excluding racks):
Special installation constraints:

3. Storage Boxes – Manned aircraft only

Provide estimate of storage volume and weight for transport on the aircraft/UAS:
In-flight access requirements for boxes:
Special installation constraints:

4. Probes, Sensors, Antenna, View Ports, Radiometers, Etc.

Design support required:
Fabrication support required:
What aircraft/UAS has this instrument flow on before (provide mission name, aircraft/UAS name, and date)?
Have there been any changes since last flown?

Were any discrepancies noted at the last installation or during the last flight? Were all noted discrepancies resolved?

a. Probe(s)

Description (size, weight, picture):
Location on the aircraft/UAS:
Sampling Direction (fwd. or aft):
Probe alignment (with aircraft/UAS or with free stream):
Equipment to be installed with probe:
Maximum allowable distance from rack:
Special installation constraints:

b. Optical Window(s)

Optical window size:
Location on the aircraft/UAS:
Optical pass-band:
Material and coating:
Window cleaning requirements:
Special installation constraints:

c. Exhaust Port(s)

Description (size, weight, picture):
Preferred location on the aircraft/UAS:
Contents of exhaust:
Special installation constraints:

d. Antenna(s)

Description (size, weight, picture):
Location on the aircraft/UAS:
Maximum distance from rack:
Antenna orientation:
RF power:
RF frequency:
Special installation constraints:

e. Radiometer(s)

Description (size, weight, picture):
Location on the aircraft/UAS:
Maximum distance from rack:
Operational requirements:
Special installation constraints:

f. Equipment Covering/Shields

Description:
Operational requirements:
Special installation constraints:

g. Special Equipment

List any other equipment required:

5. Aircraft/UAS Power Requirements – Answer for each item listed in Section II and III that require power

Power (Volts, phase, cycles, Amps, Watts):
Load name:
Start current:
Run current:
Regulation:
Type of circuit protection provided between experimenter equipment and aircraft/UAS power source?

IV. <u>OPERATIONS</u> (state desired, acceptable, or unacceptable levels)

1. Aircraft/UAS Interior Environmental Conditions (where applicable)

Temperature range:
Humidity range:
Undesirable conditions:
Maximum vibration:

2. Aircraft/UAS Access – Main airfield only (MARS UAS runway support should be coordinated through MARS)

Pre-flight time required at aircraft/UAS:
In-flight warm up time required:
Post-flight power/button-up time required:
No fly-day time required at aircraft/UAS:
Ground support equipment required:

3. Aircraft/UAS Maneuvers

Describe in-flight calibration maneuvers:
Describe flight attitudes (pitch/roll limits):
Describe airspeed/Mach regime:

Describe required flight altitudes:
Describe airspeed/Mach limitations:
Undesirable flight conditions: