National Aeronautics and Space Administration

Armstrong Flight Research Center Microgravity Flight Services

Industry Day

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Scope of Services

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Scope of Services

- The Contractor shall provide:
  - **Facilities** such as hangar, ramp, and payload preparation areas;
  - **Personnel** such as pilots, ground crew, maintenance support, engineers, test directors, and aeromedical support;
  - **Equipment** such a configured aircraft, ground support equip, payload loading/unloading equipment, and specialized equipment for microgravity flight;
  - **And Tools** such as straps, clips, and fasteners to integrate microgravity experiments and equipment and maintain the aircraft,

  to accommodate NASA experiments and personnel, obtain airworthiness and safety certifications under Civil Aircraft status and NASA oversight, and prepare for and conduct flights to meet NASA's zero-gravity, partial-gravity, and hyper-gravity testing requirements.

Scope of Services

- Provide up to 20 Flight Weeks per year
  - Typical Flight Week consists of one day for payload integration and 4 days for flight, with de-integration occurring after the flight on the fourth flight day (5 days total).
  - Minimum Flight Week has one day for integration and two flight days (3 days total).
  - Schedule will be requested through a Task Order.

- Provide up to 60 Microgravity Maneuvers (parabolic trajectory or constant-bank turn) per flight.
  - NASA will not request less than 30 maneuvers per flight.
  - Payload and maneuver type and number will be requested through a Task Order.

Scope of Services

- Successfully accomplish the microgravity maneuvers within the specified accuracy, stability, and duration.
  - Zero-g for 12 seconds at +/- 0.01g
  - Partial-g for 20 – 30 seconds at +/- 0.02g
  - Hyper-g for 60 seconds at +/- 0.05g
  - Entry and completion excursions as specified

- Operate and maintain aircraft per FAA and NASA airworthiness and safety requirements

NASA