Office of Commercial Space Transportation (AST)

FAA AST / CCMC SWRC Partnering Activities

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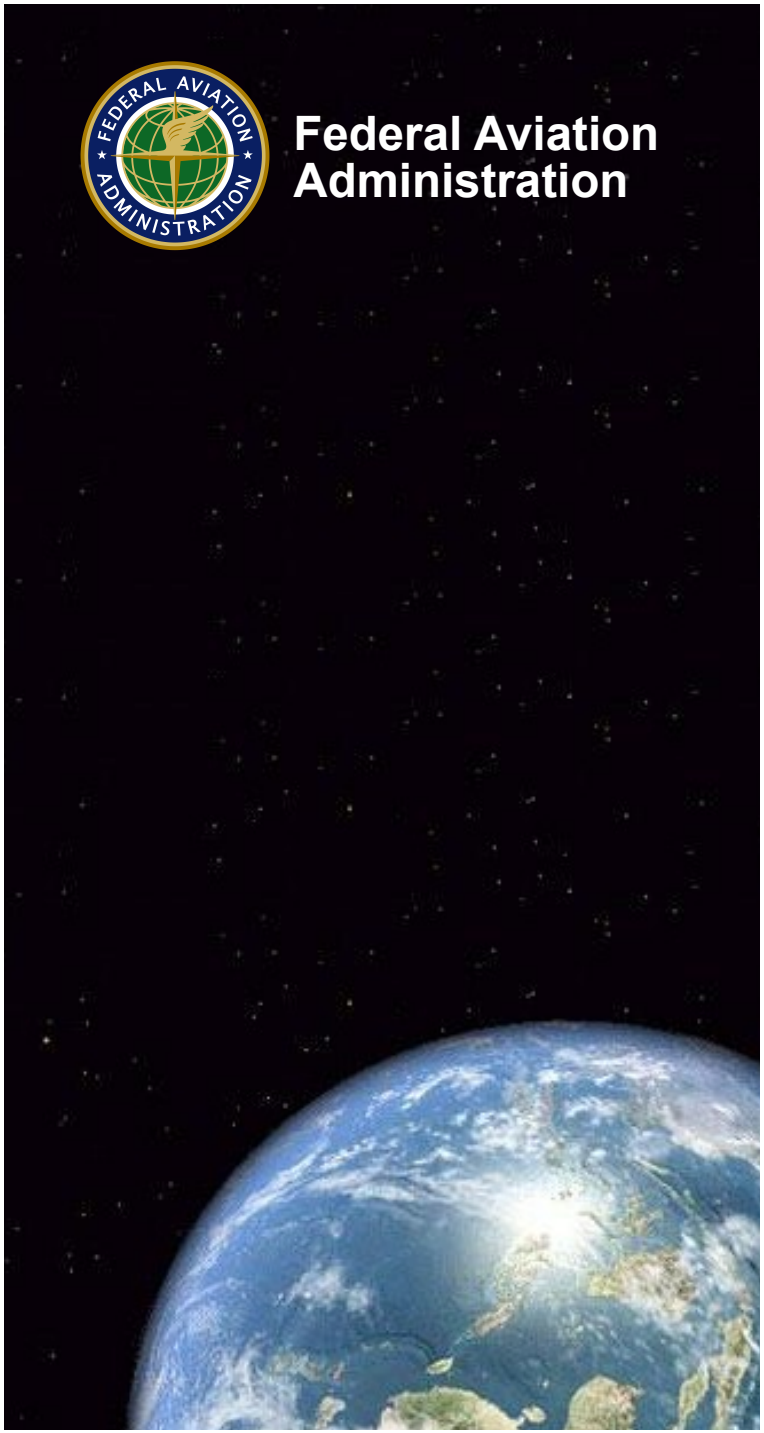


Agenda

- FAA/AST Mission
- Commercial Space Transportation (CST) Activity
- FAA Space Weather Needs
- Current and Future Partnering Activities

Mission

To ensure the protection of the public, property, and the national security and foreign policy interests of the United States during commercial launch and reentry activities, and to encourage, facilitate, and promote U.S. commercial space transportation.

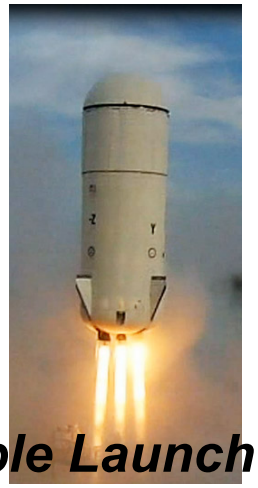
Examples of Licensed Commercial Space Activity

- Launch Site Licenses
- Launch/Reentry Licenses
- Experimental Permits
- Safety Approvals
- Launch Inspections

•*Sea Launch*

•*Launch Sites*

•*Expendable Launch Vehicles*



•*Reusable Launch Vehicles*

FAA Space Weather Needs

Increase safety of flight for suborbital & orbital flight operations

Suborbital vs Orbital Commercial space activities

- **Suborbital Reusable Launch Vehicle flights (on the order of min)**
- **Suborbital Balloon flights (on the order of hours)**
- **Orbital flights (on the order of days/weeks/months)**

Enabling new models and decision support tools to minimize space weather hazards with respect to:

- Crew/Spaceflight Participant
- Safety Critical Components
- Safety Critical Communication

Current Partnering Activities with CCMC/SWRC

- **Monthly space weather analysis group**
  - identify research models/tools/education & activities to benefit CST operators
- **Pursuing formal partnering activities via MOU**
- **Developing stronger ties with FAA/AST, FAA/CAMI & CCMC/SWRC**
  - install Radiation model (CARI 7.0) for V&V testing
- **Initiating Space weather educational activities**
  - Details
  - Space weather workshops for AST engineers
  - AST participation at CCMC/SWRC workshops, educational events

Future partnering activities???

- **Enabling new models and decision support tools to minimize space weather hazards with respect to Suborbital/Orbital regime & help initiate the R20 phase.**
  - Tools to determine projected total dose rates for Crew/Spaceflight Participants prior to a given mission
  - Tools that determine total dose rates for Crew/Spaceflight Participants in real time
  - Decision support tools for launch operator to determine SWx Go/No-Go conditions due to biological radiation, communication, navigation, or vehicle constraints
- **Improve models by providing real-time data sets for validation**
  - Flight opportunities program

Questions?