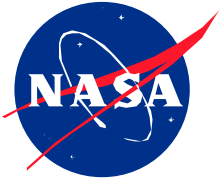


Article VI of the Outer Space Treaty Issues and Implementation

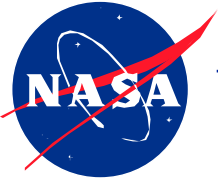
Margaret Roberts
Senior Attorney
National Aeronautics and
Space Administration



Outer Space Treaty

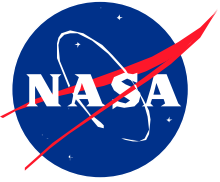
Article VI

- **State Parties bear international responsibility for national activities in outer space**
- **State Parties required to exercise authorization and continuing supervision of nongovernmental entities in outer space**



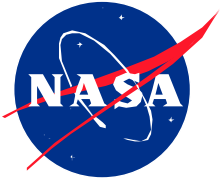
USG Authorization and Continuing Supervision

- **Commercial launches, reentries, launch sites, commercial human space flight – FAA**
- **Satellite Communications – FCC**
- **Remote Sensing Systems – NOAA**



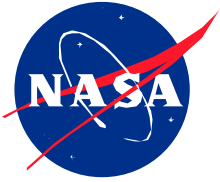
Human Space Flight

- **NASA authorized to acquire, construct, repair, operate and maintain aeronautical and space vehicles (USG launches)**
- **FAA regulates commercial human space flight for public health and safety, and the safety of property, through licenses and permits**



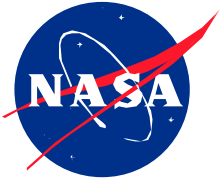
Human Space Flight FAA Authority

- **FAA regulation of human space flight:**
 - Directed to take a phased approach... regulatory standards to become more robust as industry matures
 - Encourage, facilitate and promote in a way that continuously improves safety
 - Neither stifle technology development nor expose people to avoidable risks



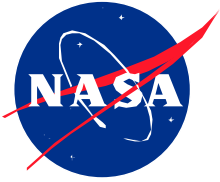
Human Space Flight FAA Authority

- **Launch Vehicle Operators responsible for safety-related training, establishing requirements for crew notification and medical qualifications. Also environmental control, life-support, integrated performance**
- **Pilots require proper training and satisfaction of medical standards**
- **Space Flight Participants require minimal training, security awareness, risk awareness (generally, and with particular vehicle), informed consent**



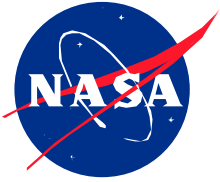
Human Space Flight ISS Program

- **ISS is a multinational program including: US, 12 European Countries through ESA, Canada, Japan, Russia**
 - Many countries cooperate and provide crew (6/2009)
- **Each Partner retains jurisdiction and control over**
 - **Modules it registers in accordance with Registration Convention**
 - **Personnel in or on ISS who are its national regardless of whether the individual is in a module belonging to another country**



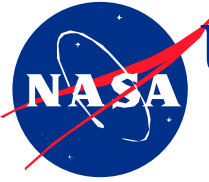
Human Space Flight ISS Program

- **While aboard, all crew members are bound by**
 - **ISS Crew Code of Conduct**
 - **ISS Flight Rules**
 - **Authority of the Commander**
 - **Commander, on behalf of the Partners, enforces safety procedures, physical, info security**
 - may use “reasonable and necessary means” to discharge his/her responsibilities



Human Space Flight ISS Program

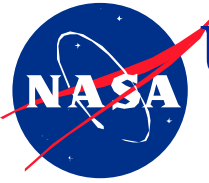
- **ISS Criminal Jurisdiction**
 - Primary basis for exercising jurisdiction is the nationality of the person
 - Partners may exercise criminal jurisdiction over personnel in or on any flight element who are their respective nationals
 - For SFPs from non-Partner States, jurisdiction is by the State exercising jurisdiction of the flight element where the crime occurs
 - Where the misconduct affects the life or safety of a national of another Partner, or occurs in or on, or causes damage to the flight element of another Partner, authority to exercise jurisdiction is extended to that other Partner(s).
 - U.S. relies on US Federal Statutory authority for national enforcement



USG Authorization and Continuing Supervision

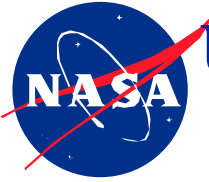
The Road Ahead

- **Global Exploration Strategy (Framework Doc)**
 - Vision for robotic and human space exploration within the solar system
 - Commercial expansion into space
 - Moon by 2020– building a lunar outpost for scientific inquiry, technological advancement, launching point for other missions, no permanent settlement
- **ISS, Ares I, Ares V, Orion, Altair, COTS**
 - COTS licensed by FAA/Bound by IGA once in close proximity to ISS/No on-orbit regulation



USG Authorization and Continuing Supervision The Road Ahead

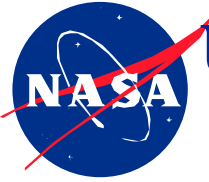
- **Commercial Flight Programs**
 - **Suborbital Passenger Flights**
 - Armadillo Aerospace, Blue Origin, Rocketplane Global, SpaceDev, Virgin Galactic, XCOR Aerospace
 - **Private Space Stations**
 - Bigelow inflatable modules have been in orbit since July 2006
Modules were launched from Baikonur. Platform/Hotel
 - DragonLab by Space X is a platform for on-orbit experiments
- **Legal Issues**
 - Regulatory issues involving visitors to private stations, hotels; on-orbit operations.



USG Authorization and Continuing Supervision

The Road Ahead

- **Robotic Rovers**
 - **Google Lunar X-Prize**
 - Challenge is to build a privately funded rover that lands on the Moon, roams the surface for 500 meters, and sends specific video, images and data back to Earth
 - Incentives provided for photos of Moon heritage sites
 - \$20 million grand prize until December 2014
 - 14 teams based in 6 countries
 - Armadillo recently won \$350K demonstrating back-to-back hops meant to simulate lunar liftoffs/landings



USG Authorization and Continuing Supervision The Road Ahead

- **Google Lunar X-Prize, Legal Issues**
 - Regulation of on-orbit activities
 - Authority to protect Moon heritage sites
 - Authority to enforce planetary protection rules
 - Possible claims to territory of the Moon (US flag was symbolic)
 - Claims to resources (extraction) of the Moon
 - Sharing of the Moon resources under OST
- **Means of Addressing Legal Issues**
 - New national laws, multilateral fora, new or amended multilateral treaties