

# Spaceport Management and Integration



*Spaceport Management and Integration coordinates flight hardware movement, like the arrival of the core stage for Artemis I in April of 2021.*

NASA's Kennedy Space Center is the world's preeminent multi-user spaceport, providing facilities and launch capabilities to the agency, NASA's commercial partners, and other government agencies. In order to be successful, the center works to ensure an environment in which the agency's programs and other users can safely and effectively carry out their operations.

The Spaceport Integration and Services directorate has the overall responsibility to plan and coordinate center processing activities and to execute other center services, helping ensure Kennedy is the premier spaceport to do business. The directorate works with Center Planning and Development (CPD), the Chief Financial Officer, and the Chief Legal Counsel to efficiently and effectively support the needs of its partners.

Within the directorate is the Spaceport Management and Integration division, which includes the Customer

Services and Integration branch and the Spaceport Future Projects branch. This division supports CPD in the creation of agreements and partnerships. It ensures the center can support commercial launches and landings with the least amount of risk to the workforce, the partner, and the center's programs and facilities. A concept of operations is created for each partner to ensure they have what is needed to meet their requirements.

After partner agreements are signed, the directorate assigns a customer advocate to serve as the single point of contact for any interactions and support requests during the partnership. The customer advocate works with the partner to collect and develop requirements for KSC services and process those requests to ensure delivery of products and services to meet the partner's needs. Kennedy has unique capabilities and services that support processing of space vehicles and can supply specialized commodities used in launches.

The directorate's Spaceport Integration Center is a one-stop service center that supports advanced planning, scheduling, and the dissemination of operational information to all spaceport users. They assist in resolving potential schedule and operational conflicts. Besides launch dates and other major operations, they help coordinate flight hardware moves, infrastructure and facility issues and their repairs, prescribed burn operations, significant weather advisories, and more.

The division also integrates the high-level milestones of multiple customers and partners to assist in avoiding conflicting activities. Their goals include:

- Preventing one customer's operations from affecting the personnel safety or operations of another customer
- Providing planning products to spaceport users related to the use of shared NASA resources
- Minimizing operation conflicts and supporting efficient planning
- Enabling the spaceport to protect customers' critical operations from unintended ripple effects
- Promoting situational awareness of spaceport operations

The directorate worked with the Federal Aviation Authority and other agencies to streamline interactions and eliminate duplicate requirements to ensure more efficient and effective operations for its commercial and government partners. Kennedy has the responsibility to ensure it is in a posture to support commercial launch or landing, and that the risk posed to personnel and NASA critical assets is acceptable.

The center requires the following from all launch partners:

- Risk analysis to determine the probability of impact to Kennedy critical facilities in the event of a failure
- Risk analysis to determine the estimated casualty expectancy calculated for each populated area within the impact dispersion area
- Contingency Plan/Communication Plan

Once the partner provides this information, NASA conducts a Support Readiness Review to evaluate NASA's risks and the readiness of the center to support the partner. As with all launches at Kennedy and Cape Canaveral Space Force Station, Kennedy assembles an Emergency Operations Center to manage the risks to the center during launch and provide a coordinated response in the event of an anomaly.

As a multi-user spaceport, Kennedy Space Center ensures that access to space is easier and safer than ever for its government and commercial partners.

National Aeronautics and Space Administration

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*Above: The increasing number of launch providers using Kennedy Space Center means there are more activities for Spaceport Integration and Management to deconflict for all to have a successful mission. Blue Origin continues to expand its presence on Florida's Space Coast.*



*Left: Spaceport Management and Integration supports commercial partners' launches at Kennedy, like Commercial Crew's SpaceX Demo-2 mission in May of 2020.*

*Below: Risk analysis is reviewed for launches. Here the Boeing CST-100 Starliner is guided into position above a United Launch Alliance Atlas V rocket at the Vertical Integration Facility at Space Launch Complex 41 in November 2019.*

