Purpose of the Checklists

The FAA Office of Commercial Space Transportation designed these checklists to assist experimental permit applicants in the application process and to outline permittee responsibilities after receiving a permit.

The checklists provide organizational guidance for applicants submitting a permit application package to the FAA. Prospective applicants should read, understand, and cross-reference the complete regulations when completing the application package. Some of the regulatory text has been rephrased in this checklist for the sake of brevity. Where checklist text differs from regulatory text, the regulatory text takes precedence. The regulations can be found at AST's website (http://ast.faa.gov).

Some application requirements include the submitting of information that may have been previously submitted to meet an earlier requirement. For simplicity, the applicant may reference the previously submitted information where applicable.

Checklist Sections

The Experimental Permit checklist has two parts: Application checklist and Permittee checklist.

Application checklist describes which sections of parts 413 and 437 you must demonstrate compliance with, as well as describes the parts that you must address in the application.

Permittee checklist describes the responsibilities of a permittee when launching or reentering a reusable suborbital rocket.

Other Tools

Use this checklist in conjunction with other tools, such as the Sample Experimental Permit Application, Advisory Circulars, and other guidance documents that the FAA Office of Commercial Space Transportation also provides.

APPLICATION CHECKLIST

14 CFR Parts 413 and 437
Application - Checklist

Item #	✓	Section Number	Applicant Requirement	Detailed Requirements
SECTION 1 - APPLICATION SUBMITTAL PROCESS				
1		413.5	Pre-application Consultation	A prospective applicant must consult with the FAA before submitting an application to discuss the application process and possible issues relevant to the FAA's licensing or permitting decision.
2		413.7(a)	Application Form	An application must be: ▪p In writingp ▪p In Englishp ▪p Filed in duplicate with the Federal Aviation Administration, Associate Administrator for Commercialp Space Transportation, Room 331, 800 Independencep Avenue, SW., Washington, DC 20591. Attention:p Application Review.p
3		413.7(b)	Application Identification	An application must identify the following: ▪p The name and address of the applicant; ▪p The name, address, and telephone number of any personp to whom inquiries and correspondence should be directed; and ▪p The type of license or permit for which the applicant isp applying.p
4		413.7(c)	Application Signature and Certification of Accuracy	An application must be legibly signed, dated, and certified as true, complete, and accurate by **one** of the following: ▪p For a *corporation*: An officer or other individual authorized to act for the corporation in licensing or permitting matters.p ▪p For a *partnership* or a *sole proprietorship*: A generalp partner or proprietor, respectively. ▪p For a *joint venture, association*, or *other entity*: Anp officer or other individual authorized to act for the jointp venture, association, or other entity in licensing orp permitting matters.
5		413.7(d) 437.21(c)	Application Safety Approval	If you propose to include an element for which the FAA issued a safety approval under 14 CFR §414 in the proposed license activity, you must – ▪p Identify the safety approval in the application and explain the proposed use of the element.p ▪p Show that the proposed use of the element is consistent with the designated scope specified in the safetyp approval. ▪p Certify that the element will be used according to any terms and conditions of the issued safety approval.p
6		413.7(e)	Application Measurement system consistency	For each analysis included in the application and permitting information, you must employ a consistent measurement system, whether English or metric.

Item #	✓	Section Number	Applicant Requirement	Detailed Requirements
7		413.9	Confidentiality	(a)eAny person furnishing information or data to the FAA maye request in writing that trade secrets or proprietary commercial or financial data be treated as confidential. The request must be madee at the time the information or data is submitted, and state thee period of time for which confidential treatment is desired.e (b)eInformation or data for which you request confidentiality muste be clearly marked with an identifying legend, such as "Proprietarye Information," "Proprietary Commercial Information," "Trade Secret," or "Confidential Treatment Requested." Where thise marking proves impracticable, a cover sheet with the identifyinge legend securely attached to the compilation of information or datae for which you request confidential treatment.e (c) If you request that previously submitted information or data bee treated confidentially, the FAA will do so to the extent practicablee in light of any prior distribution of the information or data.e (d)eInformation or data for which you request confidentiale treatment has been requested or information or data that qualifiese for exemption under section 552(b)(4) of Title 5, United Statese Code, will not be disclosed to the public unless the Associatee Administrator determines that the withholding of the informatione or data is contrary to the public or national interest.e
8		413.11	Acceptance of an Application	The FAA will initially screen an application to determine whethere it is **complete enough** for the FAA to start its review. Aftere completing the initial screening, the FAA will notify you ine writing of **one** of the following:e ▪ The FAA accepts the application and will initiate the reviews required to make a decision about the permit; or ▪ The application is so incomplete or indefinite that the FAA cannot start to evaluate it. The FAA will reject it and notify you, stating each reason for rejecting it and what action you must take for the FAA to accept the application. The FAA may return a rejected application to you or may hold it until you take the required actions.

Item #	✓	Section Number	Applicant Requirement	Detailed Requirements
SECTION 2 – PROGRAM DESCRIPTION				
9		437.23(a)	Vehicle Specifications	Provide: ▪e Dimensioned 3-view drawings or photographs of thee reusable suborbital rockete ▪e Gross liftoff weight (GLOW)e ▪e Thrust Profile of the reusable suborbital rockete
10		437.23(b)(1)	Reusable suborbital rocket system descriptions	Describe all reusable suborbital rocket systems, including: ▪e Structuree ▪e Flight controle ▪e Thermale ▪ Pneumatic ▪e Hydraulice ▪e Propulsion ▪e Electricale ▪e Environmental controle ▪e Software and computing systemse ▪ Avionics ▪ Guidance systems
11		437.23(b)(2-5)	Other necessary descriptions of vehicle	Describe: ▪e Types and quantities of all **propellants** used in thee reusable suborbital rockete ▪e Types and quantities of any **hazardous materials** used ine the reusable suborbital rockete ▪e Purpose for which the reusable suborbital rocket is to bee flowne ▪e Each **payload** or payload class planned to be flowne
12		437.23(c)	Foreign Ownership	Identify any foreign ownership as follows: ▪e For a sole proprietorship or partnership, identify alle foreign ownershipe ▪e For a corporation, identify any foreign ownershipe interests of 10% or moree ▪e For a joint venture, association, or other entity, identifye any participating foreign entities
SECTION 3 – FLIGHT TEST PLAN				
13		437.25(a)	Flight Test Plan	Describe ~~any flight test program~~, including estimated number of flights and key flight safety events.
14		437.25(b-c)	Operating Area	Identify and describe the geographic coordinates of the boundaries of one or more proposed operating areas where it plans to perform its flights and that satisfy §437.57(b) of subpart C. (*The FAA may designate one or more exclusion areas in accordance with §437.57(c) of subpart C)e For each operating area, provide the planned maximum altitude of the reusable suborbital rocket
		437.57(b)	Operating area containment	An operating area must: ▪e Be large enough to contain each planned trajectory ande all expected vehicle dispersionse ▪e Contain enough unpopulated or sparsely populated areae to perform key flight-safety events as required bye §437.59e ▪e Not contain or be adjacent to a densely populated area ore large concentrations of members of the publice ▪e Not contain or be adjacent to significant automobilee traffic, railway traffic, or waterborne vessel traffice

Item #	✓	Section Number	Applicant Requirement	Detailed Requirements
15		437.57(c)a	Operating area containment continued	The FAA may prohibit a reusable suborbital rocket's instantaneous impact point from traversing certain areas within an operating area by designating one or more areas as exclusion areas, if necessary to protect public health and safety, safety of property, or foreign policy or national security interests of the U.S. An exclusion area may be confined to a specific phase of flight. *Exclusion areas: (space for you to make notes)* 1._____ 2.
SECTION 4 – OPERATIONAL SAFETY DOCUMENTATION				
16		437.27	Pre-flight and post-flight operations	Demonstrate how you will meet the requirements of §437.53(a-b) to establish a safety clear zone and verify that the public is outside that zone before and during hazardous operations.
17		437.53(a-b)	Pre/Post flight operations	You must protect the public from adverse effects of hazardous operations and systems in preparing a reusable suborbital rocket for flight at a launch site in the U.S. and returning the reusable suborbital rocket and any support equipment to a safe condition after flight. At a **minimum**, a permittee must: ▪a Establish a safety clear zone that will contain the adversea effects of each operation involving a hazarda ▪a Verify that the public is outside of the safety clear zonea before and during any hazardous operationa
18		437.29	Hazard analysis	You must: ▪a Perform a hazard analysis that complies with §437.55(a)a ▪a Provide to the FAA all results of each step of the hazarda analysis required by §437.29(a) of this sectiona
		437.55(a)(1)a	Hazard analysis – *Identifying Hazards*	Identify and characterize each of the hazards and assess the risk to public health and safety and the safety of property resulting from each permitted flight. This hazard analysis must: Identify and describe hazards including, but not limited to, each of those that result from: ▪ Component, subsystem, or system failures or faults ▪ Software errors ▪ Environmental conditions ▪ Human factors ▪ Design inadequacies ▪ Procedural deficiencies
		437.55(a)(2)	Hazard analysis – *Likelihood of Occurrence*	Hazard analysis must determine the likelihood of occurrence and consequences for each hazard before risk elimination or mitigation.
		437.55(a)(3)	Hazard analysis – *Risk Elimination and Mitigation*	Hazard analysis ensures that the likelihood and consequence of each hazard meet the following criteria through risk elimination and mitigation measures as follows: The likelihood of any hazardous condition that may cause death or serious injury to the public must be extremely remote. The likelihood of any hazardous condition that may cause the following must be remote: ▪a Major property damage to the publica ▪a Major safety critical system damage or reduced capabilitya ▪ A significant reduction in safety margins, or ▪ A significant increase in crew workload must be remote

Item #	✓	Section Number	Applicant Requirement	Detailed Requirements
		437.55(a)(4)a	Hazard analysis – *Description of Risk*	Hazard analysis must identify and describe the risk elimination and mitigation measures required to satisfy §437.55(a)(3). The measures must include one or more of the following: ▪ Designing for minimum riska ▪ Incorporating safety devicesa ▪ Providing warning devices, or ▪ Implementing procedures and traininga
		437.55(a)(5)	Hazard analysis – *Demonstration of Risk*	Hazard analysis must demonstrate that the risk elimination and mitigation measures achieve the risk levels of paràgraph §437.55(a)(3)(i) through validation and verification. Verificationa includes: ▪ Test dataa ▪ Inspection resultsa ▪ Analysisa
19		437.31(a)	Verification of Operating Area Containment	**Identify**, **describe**, and **provide verification** evidence of the methods and systems used to meet the requirement of §437.57(a) to contain its reusable suborbital rocket's instantaneous impact point within an operating area and outside any exclusion area. The description must include, at a **minimum**: ▪ Proof of physical limits on the ability of the reusablea suborbital rocket to leave the operating area, **or** ▪ Abort procedures and other safety measures derived froma a system safety engineering process
		437.57(a)	Operating Area Containment	During each permitted flight, a permittee must contain its reusable suborbital rocket's instantaneous impact point within an operating area determined in accordance with paragraph §437.57(b) and outside with any exclusion area defined by the FAA in accordance with paragraph §437.57(c) of this section.
20		437.31(b)	Verification of Key Flight-Safety Event Limitations	**Identify**, **describe**, and **provide verification** evidence of the methods and systems used to meet the requirements of §437.59 to conduct any key flight-safety event so that the reusable suborbital rocket's instantaneous impact point, including it's expected dispersions is: ▪ Over *unpopulated* or *sparsely populated* areas, anda ▪ Conduct each reusable suborbital rocket flight so that thea reentry impact point does not loiter over a populated areaa
		437.59(a)	Key Flight Safety Event Limitations	Conduct any key flight safety event so that the reusable suborbital rocket's instantaneous impact point, including its expected dispersion, is over an unpopulated or sparsely populated area. At a **minimum**, a key flight safety event includes: ▪ Ignition of any primary rocket enginea ▪ Any staging eventa ▪ Any envelope expansiona
		437.59(b)	Key Flight Safety Event Limitations	Conduct each reusable suborbital rocket flight so that the reentry impact point does not loiter over a populated area.
21		437.33	Landing and Impact Point	Demonstrate that each location for nominal landing or any contingency abort landing of the reusable suborbital rocket, and each location for any nominal or contingency impact or landing of a component of that rocket, satisfies §437.61.

Item #	✓	Section Number	Applicant Requirement	Detailed Requirements
		437.61	Landing and Impact Locations	For a nominal or any contingency abort landing of a reusable suborbital rocket, or for any nominal or contingency impact or landing of a component of that rocket, a permittee must use a location that is: ▪ Big enough to contain an impact, including debrise dispersion upon impact, ande ▪ At the time of landing or impact, does not contain anye members of the publice
22		437.35	Agreements	Enter into the agreements required by §437.63, and provide a copy to the FAA.
		437.63(a)	Agreements - *Other Entities Involved in a Launch or Reentry*	You must have an agreement in writing with a Federal launch range operator, a licensed launch site operator, or any other party that provides access to or use of property and services required to support the safe launch or reentry under a permit.
		437.63(b)	Agreements - *Other Entities Involved in a Launch or Reentry*	Unless otherwise addressed in agreements with a licensed launch site operator or a Federal launch range, you must have an agreement in writing with the following: ▪ For overflight of navigable water, a written agreemente between the applicant and the local U.S. **Coast Guard** district to establish procedures for issuing a Notice toe Mariners before a permitted flighte ▪ A written agreement between the applicant ande responsible **Air Traffic Control** authority havinge jurisdiction over the airspace through which a permittede launch or reentry is to take place, for measures necessary to ensure that safety of aircraft. The agreement must, at ae minimum, demonstrate satisfaction of §437.69(a) ande §437.71(d)e
23		437.37	Tracking	Identify and describe each method or system used to meet the tracking requirements of §437.67
		437.67	Tracking - *Data*	You must: ▪ Measure in real time the position and velocity of itse reusable suborbital rocket during a permitted flight, ande ▪ Provide position and velocity data to the FAA for post-flight usee
24		437.39	Flight rules	Provide flight rules as required by §437.71
		437.71(a)	*Flight rules*	Before initiating rocket-powered flight, you must confirm that all systems and operations necessary to ensure that **safety measures** derived from §§437.55, 437.57, 437.59, 437.61, 437.63, 437.65, 437.67, and 436.69 are within acceptable limits.
		437.71(b)	*Flight rules*	During all phases of flight, you must: ▪ Follow flight rules that ensure **compliance** withe §§437.55, 437.57, 437.59, and 437.61, ande ▪ Abort the flight if it would endanger the publice
		437.71(c)	*Flight rules*	Do not operate a reusable suborbital rocket in a **careless** or **reckless** manner that would endanger any member of the public during any phase of flight.
		437.71(d)	*Flight rules*	Do not **operate** a reusable suborbital rocket in areas designated in a Notice to Airmen under 14 CFR §§91.137, 91.138, 91.141, or 91.145, unless authorized by: ▪ Air Traffic Control ▪ A Flight Standards Certificate of Waiver or Authorization

Item #	✓	Section Number	Applicant Requirement	Detailed Requirements
		437.71(e)e	*Flight rules*	For any phase of flight where you operate a reusable suborbital rocket like an aircraft in the National Airspace System, you must comply with the provisions of 14 CFR §91 specified in the experimental permit issued.
25		437.41	Mishap response plan	Provide a mishap response plan that meets the requirements of §437.75(be
		437.75(b)(1)	Response Requirements	If a mishap occurs you must immediately: ▪ Ensure the consequences of the mishap are contained and minimized ▪e Ensure data and physical evidence are preservede
		437.75(b)(2)	Response Reports	If a mishap occurs you must report to and cooperate with FAA and National Transportation Safety Board (NTSB) investigations and designate one or more points of contact for the FAA or NTSB.
		437.75(b)(3)	Preventive Measures	Identify and adopt preventive measures for avoiding a recurrence of the event.
SECTION 5 - ENVIRONMENTAL				
26		437.21(b)(1)	Environmental	Provide enough information for the FAA to analyze the environmental impacts associated with proposed reusable suborbital rocket launches or reentries. The information provided must be sufficient to enable the FAA to comply with the requirements of the National Environmental Act (NEPA - 42 U.S.C. 4321 et seq.) and the Council on Environmental Quality Regulations for Implementing the Procedural Provisions of the NEPA, 40 CFR parts 1500-1508
SECTION 6 – FINANCIAL RESPONSIBILITY				
27		437.21(b)(2)	Financial Responsibility (part 440)	Provide the information required by part 3 of Appendix A of part 440 for the FAA to conduct a maximum probable loss (MPL) analysis
SECTION 7 – HUMAN SPACE FLIGHT				
28		437.21(b)(3)	Human Space Flight (part 460)	If you propose launch or reentry with flight crew or space flight participant(s) on board a reusable suborbital rocket you must demonstrate compliance with the following parts also found in the Human Space Flight checklist: ▪e §460.5e ▪e §460.7e ▪e §460.11e ▪e §460.13e ▪e §460.15e ▪e §460.17e ▪e §460.51e ▪e §460.53e
SECTION 8 – VEHICLE INSPECTION				
29		437.21(d)	Inspection Before Issuing a Permit	Before the FAA issues an experimental permit, you must make each reusable suborbital rocket planned to be flown available to the FAA for inspection. The FAA will determine whether each reusable suborbital rocket is built as represented in your application.

RESPONSIBILITES OF PERMITTEE CHECKLIST

14 CFR Part 437
Responsibilities of Permittee - Checklist

Item #	✓	Section Number	Permittee Requirement	Detailed Requirements
SECTION 1 – PRE-FLIGHT				
1		437.89(a)	Pre-flight reporting	Not later than **30** days before each flight or series of flights conducted under an experimental permit, you must provide the FAA with the following information: ▪e Any payload to be flown, including any payloade operations during the flighte ▪e When the flight or series of flights are plannede ▪e The operating area for each flighte ▪e The planned maximum altitude for each flighte
2		437.89(b)	Pre-flight reporting	Not later than **15** days before each permitted flight planned to reach greater than *150 km* altitude, you must provide the FAA your planned trajectory for a collision avoidance analysis.
3		437.65(a)	Collision Avoidance Analysis	For a permitted flight with a planned maximum altitude greater than ***150 km***, you must obtain a collision avoidance analysis from U.S. Strategic Command.
		437.65(b)	Collision Avoidance Analysis	The collision avoidance analysis must establish each period during which a permittee may not initiate flight to ensure that a permitted vehicle and any jettisoned components do not pass closer than *200 km* to a manned or mannable orbital object. A distance of less than *200 km* may be used if the distance provides an equivalent level of safety, and if the distance accounts for all uncertainties in the analysis.
4		437.69	Communications	You must: ▪e Be in communication with Air Traffic Control during alle phases of flight, ande ▪e Record communications affecting the safety of the flight
SECTION 2 – REST RULES				
5		437.51(a)	Rest Rules - *Vehicle Safety Operations Personnel*	You must ensure that all vehicle safety operations personnel adhere to the work and rest standards in this section during permitted activities. No vehicle safety operations personnel may work **more than**: ▪e 12 consecutive hourse ▪e 60 hours in the 7 days preceding a permitted activitye ▪e 14 consecutive work dayse
		437.51(b-c)	Rest Rules - *Vehicle Safety Operations Personnel*	All vehicle safety operations personnel must have at least **8 hours of rest** after 12 hours of work All vehicle safety operations personnel must receive a minimum **48 hour rest period** after 5 consecutive days of 12 hour shifts
SECTION 3 – HAZARD ANALYSIS & FLIGHT RULES				
6		437.55(5)(b-c)	Hazard analysis	You must carry out the risk elimination and mitigation measures derived from its hazard analysis, and ensure the continued accuracy and validity of your hazard analysis throughout the term of your permit

14 CFR Part 437
Responsibilities of Permittee - Checklist

Item #	✓	Section Number	Permittee Requirement	Detailed Requirements
7		437.71(a)	Flight rules	Before initiating rocket-powered flight, you must confirm that all systems and operations necessary to ensure that **safety measures** derived from §§437.55, 437.57, 437.59, 437.61, 437.63, 437.65, 437.67, and 436.69 are within acceptable limits.
		437.71(b)	*Flight rules*	During all phases of flight, you must: ▪ Follow flight rules that ensure **compliance** withe §§437.55, 437.57, 437.59, and 437.61, ande ▪ Abort the flight if it would endanger the publice
		437.71(c)	*Flight rules*	Do not operate a reusable suborbital rocket in a **careless** or **reckless** manner that would endanger any member of the public during any phase of flight.
		437.71(d)	*Flight rules*	Do not **operate** a reusable suborbital rocket in areas designated in a Notice to Airmen under 14 CFR §§91.137, 91.138, 91.141, or 91.145, unless authorized by: ▪ Air Traffic Controle ▪ A Flight Standards Certificate of Waiver or Authorizatione
		91.137(a)	Temporary Flight Restrictions - *Vicinity of Disaster/Hazard Areas*	The Administrator will issue a Notice to Airmen (NOTAM) designating an area within which temporary flight restrictions apply and specifying the hazard or condition requiring their imposition, whenever he determines it is necessary in order to: ▪ Protect persons and property on the surface or in the aire from a hazard associated with an incident on the surface;e ▪ Provide a safe environment for the operation of disastere relief aircraft; ore ▪ Prevent an unsafe congestion of sightseeing and othere aircraft above an incident or event which may generate ae high degree of public interest.e *(Space left for your notes)* Hazard identified: _____
		91.137(b)	Temporary Flight Restrictions - *Vicinity of Disaster/Hazard Areas*	The Notice to Airmen will specify the hazard or condition that requires the imposition of temporary flight restrictions. When a NOTAM has been issued under 91.137(a)(1), no person may operate an aircraft within the designated area unless that aircraft is: ▪ Participating in the hazard relief activities ande ▪ Being operated under the direction of the official ine charge of on scene emergency response activities.e *(Space left for your notes.)* NOTAM Identifier: _____

Item #	✓	Section Number	Permittee Requirement	Detailed Requirements
7		91.137(c)	Temporary Flight Restrictions - *Vicinity of Disaster/Hazard Areas*	When a NOTAM has been issued under 91.137(a)(2), no person may operate an aircraft within the designated area unless at least **one** of the following conditions are met: ▪ The aircraft is participating in hazard relief activities and is being operated under the direction of the official in charge of on scene emergency response activities.e ▪ The aircraft is carrying law enforcement officials.e ▪ The aircraft is operating under the ATC approved IFR flight plan.e ▪ The operation is conducted directly to or from an airporte within the area, or is necessitated by the impracticability of VFR flight above or around the area due to weather, ore terrain; notification is given to the Flight Service Statione (FSS) or ATC facility specified in the NOTAM to receivee advisories concerning disaster relief aircraft operations;e and the operation does not hamper or endanger relief activities and is not conducted for the purpose of observing the disaster.e ▪ The aircraft is carrying properly accredited newse representatives, and, prior to entering the area, a flight plan is filed with the appropriate FAA or ATC facility specified in the Notice to Airmen and the operation is conducted above the altitude used by the disaster relief aircraft, unless otherwise authorized by the official in charge of on scene emergency response activities.e
		91.137(d)	Temporary Flight Restrictions - *Vicinity of Disaster/Hazard Areas*	When a NOTAM has been issued under 91.137(a)(3), no persone may operate an aircraft within the designated area unless at least **one** of the following conditions is met: ▪ The operation is conducted directly to or from an airporte within the area, or is necessitated by the impracticabilitye of VFR flight above or around the area due to weather ore terrain, and the operation is not conducted for the purpose of observing the incident or event. ▪ The aircraft is operating under an ATC approved IFRe flight plan. ▪ The aircraft is carrying incident or event personnel, ore law enforcement officials.e ▪ The aircraft is carrying properly accredited news representatives and, prior to entering that area, a flighte plan is filed with the appropriate FSS or ATC facilitye specified in the NOTAM.e
		91.137(e)	Temporary Flight Restrictions - *Vicinity of Disaster/Hazard Areas*	**Flight plans** filed and notifications made with an FSS or ATC facility under this section shall include the following information: ▪ Aircraft identification, type and color.e ▪ Radio communications frequencies to be used.e ▪ Proposed times of entry of, and exit from, the designatede area. ▪ Name of news media or organization and purpose ofe flight. ▪ Any other information requested by ATC.e

Item #	✓	Section Number	Permittee Requirement	Detailed Requirements
7		91.138(a)	Temporary Flight Restrictions - *National Disaster Areas in the State of Hawaii*	When the Administrator has determined, pursuant to a request and justification provided by the Governor of the State of **Hawaii**, or the Governor's designee, that an inhabited area within a declared national disaster area in the State of Hawaii is in need of protection for humanitarian reasons, the Administrator will issue a Notice to Airmen (NOTAM) designating an area within which temporary flight restrictions apply. The Administrator will designate the extent and duration of the temporary flight restrictions necessary to provide for the protection of persons and property on the surface.
		91.138(b)	Temporary Flight Restrictions - *National Disaster Areas in the State of Hawaii*	When a NOTAM has been issued in accordance with §91.138, no person may operate an aircraft within the designated area unless at least **one** of the following conditions is met: ▪ That person has obtained authorization from the officiale in charge of associated emergency or disaster reliefe response activities, and is operating the aircraft under the conditions of that authorization.e ▪ The aircraft is carrying law enforcement officials.e ▪ The aircraft is carrying persons involved in an emergency or a legitimate scientific purpose. ▪ The aircraft is carrying properly accredited newspersons,e and that prior to entering the area, a flight plan is filede with the appropriate FAA or ATC facility specified in thee NOTAM and the operation is conducted in compliancee with the conditions and restrictions established by thee official in charge of on-scene emergency responsee activities. ▪ The aircraft is operating in accordance with an ATCe clearance or instruction.
		91.138(c)	Temporary Flight Restrictions - *National Disaster Areas in the State of Hawaii*	A NOTAM issued under §91.138 is effective for **90** days or until the national disaster area designation is terminated, whichever comes first, unless terminated by notice or extended by the Administrator at the request of the Governor of the State of Hawaii or the Governor's designee.
		91.141	Flight Restrictions in the Proximity of the Presidential and other parties	No person may operate an aircraft over or in the vicinity of any area to be visited or traveled by the President, the Vice President, or other public figures contrary to the restrictions established by the Administrator and published in a Notice to Airmen (NOTAM). *(Space left for your notes.)* Restriction: _____

Item #	✓	Section Number	Permittee Requirement	Detailed Requirements
7		91.145(a)	Management of Aircraft Operations - *Vicinity of Aerial Demonstrations and Major Sporting Events*	The FAA will issue a Notice to Airmen (NOTAM) designating an area of airspace in which a temporary flight restriction applies when it determines that a temporary flight restriction is necessary to protect persons or property on the surface or in the air, to maintain air safety and efficiency, or to prevent the unsafe congestion of aircraft in the vicinity of an aerial demonstration or major sporting event. These demonstrations and events may include: ▪ United States Naval Flight Demonstration Team (Bluea Angels); ▪ United States Air Force Air Demonstration Squadrona ▪ (Thunderbirds); ▪ United States Army Parachute Team (Golden Knights);a ▪ Summer/Winter Olympic Games;a ▪ Annual Tournament of Roses Football Game;a ▪ World Cup Soccer;a ▪ Major League Baseball All-Star Game;a ▪ World Series;a ▪ Kodak Albuquerque International Balloon Fiesta;a ▪ Sandia Classic Hang Gliding Competition;a ▪ Indianapolis 500 Mile Race;a ▪ Any other aerial demonstration or sporting event the FAAa determines to need a temporary flight restriction ina accordance with §91.145(b).a
		91.145(b)	Management of Aircraft Operations - *Vicinity of Aerial Demonstrations and Major Sporting Events*	In deciding whether a temporary flight restriction is necessary for an aerial demonstration or major sporting event not listed in §91.145(a), the FAA considers the following factors: ▪ Area where the event will be held.a ▪ Effect flight restrictions will have on known aircrafta operations. ▪ Any existing ATC airspace traffic managementa restrictions. ▪ Estimated duration of the event.a ▪ Degree of public interest.a ▪ Number of spectators.a ▪ Provisions for spectator safety.a ▪ Number and types of participating aircraft.a ▪ Use of mixed high and low performance aircraft.a ▪ Impact on non-participating aircraft.a ▪ Weather minimums. ▪ Emergency procedures that will be in effect.a
		91.145(c)	Management of Aircraft Operations - *Vicinity of Aerial Demonstrations and Major Sporting Events*	A NOTAM issued under §91.145 will state the name of the aerial demonstration or sporting event and specify the effective dates and times, the geographic features or coordinates, and any other restrictions or procedures governing flight operations in the designated airspace.

Item #	✓	Section Number	Permittee Requirement	Detailed Requirements
7		91.145(d)	Management of Aircraft Operations - *Vicinity of Aerial Demonstrations and Major Sporting Events*	When a NOTAM has been issued in accordance with §91.145, no person may operate an aircraft or device, or engage in any activity within the designated airspace area, except in accordance with the authorizations, terms, and conditions of the temporary flight restriction published in the NOTAM, unless otherwise authorized by: ▪ Air traffic control; ore ▪ A Flight Standards Certificate of Waiver or Authorizatione issued for the demonstration or event.e
		91.145(e)	Management of Aircraft Operations - *Vicinity of Aerial Demonstrations and Major Sporting Events*	For the purpose §91.145(e): ▪ Flight restricted airspace area for an **aerial demonstration** --The amount of airspace needed toe protect persons and property on the surface or in the air,e to maintain air safety and efficiency, or to prevent thee unsafe congestion of aircraft will vary depending on thee aerial demonstration and the factors listed in §91.145(b).e The restricted airspace area will normally be limited to ae 5 nautical mile radius from the center of thee demonstration and an altitude of 17000 above mean seae level (for high performance aircraft) or 13000 feet abovee the surface (for certain parachute operations), but will bee no greater than the minimum airspace necessary fore managing of aircraft operations in the vicinity of thee specified area.e ▪ Flight restricted area for a **major sporting event** --Thee amount of airspace needed to protect persons ande property on the surface or in the air, to maintain air safetye and efficiency, or to prevent the unsafe congestion ofe aircraft will vary depending on the size of the event ande the factors listed in §91.145(b). The restricted airspacee will normally be limited to a 3 nautical mile radius frome the center of the event and 2500 feet above the surfacee but will not be greater than the minimum airspacee necessary for the management of aircraft operations ine the vicinity of the specified area.e
		91.145(f)	Management of Aircraft Operations - *Vicinity of Aerial Demonstrations and Major Sporting Events*	A NOTAM issued under §91.145 will be issued at least **30** days in advance of an aerial demonstration or a major sporting event, unless the FAA finds good cause for a shorter period and explains this in the NOTAM.
		91.145(g)	Management of Aircraft Operations - *Vicinity of Aerial Demonstrations and Major Sporting Events*	When warranted, the FAA Administrator may exclude the following flights from the provisions of §91.145: ▪ Essential military.e ▪ Medical and rescue.e ▪ Presidential and Vice Presidential.e ▪ Visiting heads of state.e ▪ Law enforcement and security.e ▪ Public health and welfare.e
		437.71(e)	*Flight rules*	For any phase of flight where you operate a reusable suborbital rocket like an aircraft in the National Airspace System, you must comply with the provisions of 14 CFR §91.

Item #	✓	Section Number	Permittee Requirement	Detailed Requirements
8		437.77	Additional Safety Requirements	The FAA may impose **additional safety requirements** on an applicant or permittee proposing an activity with a hazard not otherwise addressed in this part. This may include a toxic hazard or the use of solid propellants. The FAA may also require the permittee to conduct **additional analyses** of the cause of any anomaly and corrective actions. Additional requirements: *(Space left for your notes.)* 1. 2.
SECTION 4 – MISHAP				
9		437.73	Anomaly recording, reporting and implementation of corrective actions	You must: ▪e Record each anomaly that affects a safety-critical system,e subsystem, process, facility, or support equipmente ▪e Identify all root causes of each anomaly, and implemente all corrective actions for each anomalye ▪e Report to the FAA any anomaly of any system that ise necessary for complying with §§437.55(a)(3), 437.57,e and 437.59, and must report the corrective action for eache reported anomalye ▪e Implement each corrective action before the next flighte
10		437.75(a)(1)	Reporting – Mishaps that are: ▪e Accidente ▪e Incidente ▪e Involve ae Fatality ore Serious Injurye	**Immediately** notify the FAA Washington Operations Center if there is a launch or reentry accident or incident or a mishap that involves a fatality or serious injury, as defined in 49 CFR 830.2
11		437.75(a)(2)	Reporting - All Other Mishaps	Notify the FAA's Office of Commercial Space Transportation (AST) within **24** hours if there is a mishap that does not involve a fatality or serious injury, as defined in 49 CFR §830.2
		830.2	Definition – *Aircraft Accident*	Aircraft accident means an occurrence associated with the operation of an aircraft which takes place between the time any person boards the aircraft with the intention of flight and all such persons have disembarked, and in which any person suffers death or serious injury, or in which the aircraft receives substantial damage.
		830.2	Definition – *Civil Aircraft*	Civil aircraft means any aircraft other than a public aircraft.
		830.2	Definition – *Fatal Injury*	Fatal injury means any injury which results in death within 30 days of the accident. Incident means an occurrence other than an accident, associated with the operation of an aircraft, which affects or could affect the safety of operations.
		830.2	Definition - *Operator*	Operator means any person who causes or authorizes the operation of an aircraft, such as the owner, lessee, or bailee of an aircraft.

Item #	✓	Section Number	Permittee Requirement	Detailed Requirements
		830.2	Definition – *Public Aircraft*	Public aircraft means an aircraft used only for the United States Government, or an aircraft owned and operated (except for commercial purposes) or exclusively leased for at least 90 continuous days by a government other than the United States Government, including a State, the District of Columbia, a territory or possession of the United States, or a political subdivision of that government. ``Public aircraft'' does not include a government-owned aircraft transporting property for commercial purposes and does not include a government-owned aircraft transporting passengers other than: transporting (for other than commercial purposes) crewmembers or other persons aboard the aircraft whose presence is required to perform, or is associated with the performance of, a governmental function such as firefighting, search and rescue, law enforcement, aeronautical research, or biological or geological resource management; or transporting (for other than commercial purposes) persons aboard the aircraft if the aircraft is operated by the Armed Forces or an intelligence agency of the United States. Notwithstanding any limitation relating to use of the aircraft for commercial purposes, an aircraft shall be considered to be a public aircraft without regard to whether it is operated by a unit of government on behalf of another unit of government pursuant to a cost reimbursement agreement, if the unit of government on whose behalf the operation is conducted certifies to the Administrator of the Federal Aviation Administration that the operation was necessary to respond to a significant and imminent threat to life or property (including natural resources) and that no service by a private operator was reasonably available to meet the threat.
		830.2	Definition – *Serious Injury*	Serious injury means any injury which: ▪ Requires hospitalization for more than 48 hours,e commencing within 7 days from the date of the injurye was received ▪ Results in a fracture of any bone (except simple fracturese of fingers, toes, or nose) ▪ Causes severe hemorrhages, nerve, muscle, or tendon damage ▪ Involves any internal organe ▪ Involves second- or third-degree burns, or any burns affecting more than 5 percent of the body surface.e
		830.2	Definitions – *Substantial Damage*	Substantial damage means damage or failure which adversely affects the structural strength, performance, or flight characteristics of the aircraft, and which would normally require major repair or replacement of the affected component. Engine failure or damage limited to an engine if only one engine fails or is damaged, bent fairings or cowling, dented skin, small punctured holes in the skin or fabric, ground damage to rotor or propeller blades, and damage to landing gear, wheels, tires, flaps, engine accessories, brakes, or wingtips are not considered ``substantial damage'' for the purpose of this part.

Item #	✓	Section Number	Permittee Requirement	Detailed Requirements
12		437.75(a)(3)	Reporting ▪ Accident ▪ Incidente	Submit within **5** days of the event a written preliminary report to the FAA/AST if there is a launch or reentry accident or incident during a permitted flight Report must **identify the event** as a launch or reentry accident or incident and must include: ▪ The date and time of occurrencee ▪ A description of the event and sequence of eventse leading to the launch or reentry accident, or launch ore reentry incident, to the extent known ▪ The intended and actual location of launch or reentry,e including landing or impact on Earthe ▪ A description of any payloade ▪ The number and general description of any fatalities ande injuries ▪ Property damage, if any, and an estimate of its valuee ▪ A description of any hazardous materials involved in thee event, whether on the reusable suborbital rocket or one the grounde ▪ Action taken by any person to contain the consequencese of the evente ▪ Weather conditions at the time of the evente
13		437.75(b)(1)	Response	Immediately ensure the consequences of a mishap are contained and minimized and ensure data and physical evidence are preserved.
		437.75(b)(2)	Response	Report to and cooperate with FAA and National Transportation Safety Board (NTSB) investigations and designate one or more points of contact for the FAA or NTSB.
		437.75(b)(3)	Response	Identify and adopt preventive measures for avoiding a recurrence of the event.
14		437.75(c)	Investigation	You must: ▪ Investigate the root cause of an event described in 437.75(a) ▪ Report investigation results to the FAA upon completione ▪ Identify responsibilities, including reportinge responsibilities, for personnel assigned to conducte investigations and for any unrelated persons that thee permittee retains to conduct or participate in investigations
SECTION 5 – MODIFICATIONS				
15		437.85(b)	Allowable Designe Changes	Except for design changes made under §437.85(a), you must ask the FAA to modify the experimental permit if: ▪ It proposes to conduct permitted activities in a manner not authorized by the permit ▪ Any representation in your permit application that ise material to public health and safety or the safety of e property is no longer accurate or completee
16		437.85(a)	Allowable design changes; modification of an experimental permit	The FAA will identify in the experimental permit the type of changes that you may make to the reusable suborbital rocket design without invalidating the permit

14 CFR Part 437
Responsibilities of Permittee - Checklist

Item #	✓	Section Number	Permittee Requirement	Detailed Requirements
17		437.85(c)	Modification of an Experimental Permit	Prepare an application to modify your experimental permit and submit it in accordance with 14 CFR §413. If requested during the application process, the FAA may approve an alternate method for requesting permit modifications. You must indicate any part of your permit that would be changed or affected by a proposed modification.
18		437.85(d)	Modification of an Experimental Permit	When you propose a modification, the FAA reviews the determinations made on the experimental permit to decide whether they remain valid.
		437.85(e)	Modification of an Experimental Permit	When the FAA approves a modification, it issue you either a written approval or a permit order modifying the permit if a stated term or condition of the permit is changed, added, or deleted. An approval has the full force and effect of a permit order and is part of the permit record.
SECTION 6 - RECORDS				
19		437.87(a)	Records – *Nominal Operations*	Except as required by §437.87(b), you must maintain for **3 years** all records, data, and other material necessary to verify that you conducted your launch or reentry in accordance with your permit.
20		437.87(b)	Records ▪ Accident ▪ Incident	If there is a launch or reentry accident or incident, you must preserve all records related to the event. Keep the records until after any Federal investigation and the FAA advises that you may dispose of them.
21		437.87(c)	Records - *Availability*	Make all records that you must maintain under this section available to Federal officials for inspection and copying
SECTION 7 - OTHER				
22		437.91	For-Hire Protection	No permittee may carry any property or human being for compensation or hire on a reusable suborbital rocket
23		437.81	Public Safety Responsibility	Ensure that a launch or reentry conducted under your experimental permit is safe, and must protect public health and safety and the safety of property.
24		437.83	Compliance with Experimental Permit	Conduct any launch or reentry under an experimental permit in accordance with representations made in your permit application, with subparts C and D of part 437, and with terms and conditions contained in the permit.
25		437.93	Compliance Monitoring	Allow access by, and cooperate with, federal officers or employees or other individuals authorized by the FAA to observe any activities, or of your contractors or subcontractors, associated with the conduct of permitted activities.
26		437.95	Inspection of Additional Reusable Suborbital Rockets	You may launch or reenter additional reusable suborbital rockets of the same design under the permit after the FAA inspects each additional reusable suborbital rocket