

## **COMSTAC Regulatory Working Group – International Dual Licensing**

1. **Task (from FAA/AST)** – Propose process improvements, policy decisions, and/or regulatory language for the FAA/AST to reduce potential duplication and burden on industry from dual-licensing with other countries during US launches and reentries outside the United States while maintaining safety. The deliverable will include ways to reduce AST costs (such as travel and staff time) of on-site inspection. The deliverable should be in the form of a narrative report.
2. **Background (from FAA/AST)**– Other countries that host US vehicles have (or will have) their own laws and regulations to comply with as they develop and phase-in domestic regulations and technical oversight capabilities. This creates the potential for duplication in dual-licensing with the FAA that may result in an additional burden on industry as well as potential conflicting requirements. At the same time, AST funding for travel outside the United States for inspections may be limited for launches and reentries and evaluated on a case-by-case basis.

The 2014 National Space Transportation Policy directs the Secretary of Transportation and other appropriate agencies to: “Advocate internationally for the adoption of United States Government safety regulations, standards, and licensing measures to enhance global interoperability and safety of international commercial space transportation activities.” The FAA currently does not regulate certain aspects of ground safety for launches outside the United States because a license “begins at ignition.”

There are inherent business risks in choosing to launch and/or reenter outside the United States because of dual-authorities. This task will enable FAA to evaluate issues in dual-licensing as US companies choose to launch and/or reenter outside the United States.

3. **Methodology**
  - a. Reviewed FAA AST international MOUs and AST International white papers
  - b. Interviews with FAA AST international and licensing staff, launch industry reps, and former gov official
4. **Lessons Learned from New Zealand / Rocket Lab Case**
  - a. Many “best case scenario” aspects
    - i. Benefited from positive relationship and mutual interest of operator and NZ in establishing new site
    - ii. Benefited from “blank slate” on NZ side coupled with NZ interest and FAA/AST response to work cooperatively on establishing non-US regulatory framework that limited dual licensing aspects
  - b. Nature and process of government to government efforts, in “best case,” can still be multiyear efforts
  - c. Required high level of FAA/AST resources, especially initially and including on-site presence of launches
  - d. FAA/AST has developed risk-based assessment to ensure safety with more limited travel to NZ; continuous evaluation process with ability to ramp up or down on-site resource requirements

**5. Draft POTENTIAL Recommendations – FOR ADDITIONAL INPUT** – While some recommendations apply to all circumstances, the applicability of certain recommendations depends on the maturity and specifics of the non-US regulatory regime at issue.

a. Broadly applicable

- i. **Endorse FAA/AST’s risk-based assessments of required on-site inspections at non-US launch sites** – AST has implemented a risk-based assessment process to determine the required onsite inspections for a particular launch. This process is being used for all launches, not just at non-US locations. In the New Zealand case, this process has determined AST on site inspectors are not required at all launches, with inspections and observations taking place virtually at Rocket Lab facilities in Los Angeles and potentially Wallops in the future. AST may still determine on-site inspections are required at some cadence of launches (every X launches) or as circumstances change.
- ii. **Recommend earlier in-depth gov to gov activity by FAA/AST and Department of State (“pre pre-application”)** – FAA AST maintains regular relationships and holds several conferences and dialogues with non-US counterparts. AST has also entered into MOU’s with non-US counterparts, including the UK. However, specific government to government negotiations for the rules that will govern an activity at a specific launch site is not triggered until a company submits a pre-application. As was seen in the New Zealand case, even in the best circumstances, the timeline for required government to government action can take much longer than the statutory application process. This includes both the trade agreements, but also a deeper assessment of the non-US regulatory framework by AST to establish the areas that will require dual licensing. Recommend AST develop a threshold by which it determines a US operator is “likely enough” to utilize a non-US launch site to begin detailed discussions. AST will notify State and other USG interagency actors to begin government to government work in this case. AST can develop a series of steps with the US operator so AST’s efforts can be stopped if the operator’s plans change.
  1. UK may be in this position now and could serve as a pilot.
- iii. **Recommend a USG FAA/AST Leader/Follower Model** – In some cases, for example, launches from particular areas of the ocean, a US operator may encounter additional USG regulations in addition to AST regulations and a non-US entity’s regulations. In this case, provide the US operator with the option for AST to serve as the “leader” to support the US operator in meeting the various USG requirements.
- iv. **Recommend Cross Waiver Education Support** – Recommend FAA AST and State help educate non-US governments on FAA AST required cross waivers, which are often in conflict with non-US entities typical agreements. AST and State could help relieve a burden that falls on launch operators for negotiating these terms with the government entities.
- v. **Explore FAA Aviation Lessons Learned** – Recommend FAA/AST seek lessons learned from FAA / DOT from its international activities and coordination on the aviation side.

- vi. **Explore FAA/AST Explore Multi-Site Environmental Assessments** – FAA AST explore the ability to grant operators Environmental Assessments that encompass multiple sites at a time, including both commercial spaceports, international airports, and military bases
- vii. **Explore statutory change on definition of “US Citizen”** – This will require additional study and Congressional effort. Recommendation could be to begin that study and Congressional work.
  1. Impact would be to limit US jurisdiction over international launches thereby eliminating dual licensing
  2. Potential to create greater uncertainty than status quo, especially with underdeveloped non-US regimes
  3. Potential impact on ability for US to positively influence space industry norms
  4. Raised potential US treaty obligation issues if no US licensing role over US launch providers
- viii. **Explore statutory or Executive Order change on applicability of US environmental regulation abroad** – This will require additional study and Administration (if via Executive Order) or Congressional effort (if via statutory change), with impacts likely beyond the launch industry. Recommendation could be to begin that study and Administration/Congressional work.
  1. Applicability of US environmental laws internationally arguably based on Executive Order versus statute, if so, could be changed via EO
  2. Statutory changes would be to broader NEPA framework and much larger issue than launch
- b. Non-US government without an existing regulatory framework
  - i. **Recommend MOU process** – In cases where the non-US government does not have comprehensive regulations in place, recommend FAA AST enters into an MOU that allows the FAA AST process to govern initial launch activities until the non-US entity establishes its framework. This will obviously be based on the non-US entity accepting this scenario, but recommendation would be for AST to make this effort.
    1. Requires active FAA and State Department activity to provide technical assistance to non-US entity to become comfortable with FAA AST framework
    2. Likely requires active State Department involvement to achieve agreement considering likely non-US entity desire to maintain level of oversight
  - ii. **Recommend Regulatory Templates** – Recommend FAA AST develop detailed templates of its regulatory structures to enhance technical assistance to non-US government without an existing regulatory framework. These templates would allow the non-US government to develop a regulatory framework that will limit dual licensing scenarios, as the new regulations will be based on AST’s framework and acceptable to AST.
    1. These could be used in conjunction with the MOU process. For example, the non-US entity could begin operations under the

MOU, then transition to its own, AST-like framework as its regulations are established.

2. Likely requires additional level of AST resources to implement, potentially drawing from higher priority activities
  3. A commercial entity or consultancy may be able to develop these templates on FAA AST's behalf with AST's support.
- iii. **Recommend MOU/Agreements Allowed** – For non-US government's without regulatory frameworks or developing their regulatory framework, recommend FAA AST advocate the non-US framework in development will allow the use of MOUs and mutual/partial agreements as discussed below.
- c. Non-US government with existing regulatory framework
- i. **Recommend Partial / Mutual Recognition Agreements** – Starting as soon as the “likely enough” threshold recommended above is met, indicated per recommendation above, AST and State should work to establish partial or mutual recognition agreements with non-US launch countries outline the specific aspects of the non-US regulatory framework AST will consider adequate for meeting AST licensing requirements. This will provide potential US operators with an assessment of the potential dual licensing burden and a baseline to work from in specific licensing. Telecom agreements are a potential model for this type of agreement.

## 6. Next Steps

- a. COMSTAC and public feedback on possible recommendations
- b. Completion of paper