

Mr. Randy Repcheck
Office of Commercial Space Transportation
Federal Aviation Administration
800 Independence Avenue SW
Washington, DC 20591

August 16, 2019

Office of Management and Budget
Office of Information and Regulatory Affairs
Attn: Desk Officer for FAA
New Executive Office Building, Room 10202
725 17th Street NW
Washington, DC 20053

RE: Notice of Proposed Rulemaking (NPRM) - Streamlined Launch and Reentry Licensing Requirements [Docket ID: FAA-2019 -0229]

FAA's Regulatory Impact Analysis Overstates Savings, Omits Regulatory Costs, and Appears Inconsistent with President's Executive Order No. 13771 to Reduce Regulation and Control Regulatory Costs

Dear Mr. Repcheck:

The FAA has significantly overstated the projected net cost savings to industry and the Office of Space Transportation (AST) under the proposed rule. In its Preliminary Regulatory Impact Analysis¹, the FAA omits key elements of added cost burdens to industry, resulting from new regulations and requirements. It also omits new costs to the agency in staffing, contracted services, and implementation/compliance costs.

The FAA significantly understates the scope and impact of the new regulations on licensees, especially small entities, and its potential adverse impacts on U.S. competitiveness in this vital industry sector. FAA's designation of this rule as a "deregulatory action" under the Administration's regulatory reform agenda is not substantiated due to these deficiencies. FAA's impact assessment is narrowly focused and fails to address the broad scope of potential adverse impacts to both the industry and the U.S. economy. A detailed and accurate assessment of the impacts of the proposed rule on both industry and FAA AST will likely result in this proposal being re-designated as a regulatory action by the FAA that has a net cost impact on the regulated industry, instead of the net savings claimed in the preliminary assessment.

This proposed rule is economically significant for its potential adverse impacts on a \$784+ Million segment of the U.S. commercial launch industry that must depend on a predictable, efficient, and responsive regulatory structure in order to attract and retain investors, successfully compete for international customers, and safely serve the national interests.

¹ Dated March 21, 2019 and posted to Docket on April 14, 2019, this Analysis of regulatory costs and benefits is required to document how agency regulatory actions comply with EO 13771, as directed by President Trump.

FAA's net savings assessment of \$19 million, even without adjustment for the deficiencies noted here, would be quickly erased if these rules erode the industry's international competitiveness. Loss of a constellation of international satellites to a foreign competitor would cost the U.S. economy many millions more than has been addressed in this assessment. The costs to licensees for possible lost revenue from schedule impacts, from contract penalties, and from lost competitions must be considered, along with impacts to regions disproportionately impacted, such as Florida's Space Coast where most FAA-licensed orbital launches occur.

Key examples of serious deficiencies in FAA's analysis of regulatory impacts are summarized below:

1. FAA estimates about \$11 million in savings to licensees by not requiring a flight safety system on all launches, representing a majority (57.8%) of the claimed regulatory savings. Yet this is an action that is unlikely to be realized. Significant cost factors were not considered.²
 - The opportunity for any operator to realize this savings is dependent upon a flight safety risk analysis, using a new FAA-mandated analysis tool that is highly complex and unproven. The requirement to use that method as a means of determining whether an FSS will be required may be prohibitively costly, or even technically infeasible, to meet (see Blue Origin's and CSF's analysis) the exemption standard. This is especially burdensome to small entities seeking a launch license. Therefore, the "savings" are, in some of industry's viewpoint, not likely achievable. As such, they should not make up over half of FAA's projected industry savings. OMB should disallow this claim of "savings" due to the high degree of uncertainty that it will be available to operators.
 - The FAA's assessment of savings does not total up the time and resources required for operators to employ the skills to learn, or contract for, this risk analysis. It does not calculate the FAA cost in hiring in-house personnel or contractor skills to properly validate an operator's safety analysis used to justify no FSS for their flight vehicle. The FAA conclusion that this new "consequence risk" methodology aligns with current practices is wrong (see industry comments to the rule). Since FAA has the only known experience with a contracted firm to develop this methodology, it should have estimated costs in some detail and allowed industry to respond.³
 - The FAA's assumes there will be at least one new RLV and one new ELV designed and flown in remote areas where risks are low enough to not require an FSS, with a resultant "savings" of \$2.6 million over the next 5 years. This is a very speculative assumption by FAA "subject matter experts" that does not state whether such vehicles would fly from existing or new licensed or private launch sites, and does not consider the offsetting costs of environmental reviews and analysis the FAA will require for those new vehicles and sites. The uncertainties of this becoming a reality in the next five years represents an over-statement of projected savings.
2. FAA's estimates savings of about \$8 million to commercial launch/reentry providers by allowing certain personnel of neighboring operators to remain at work during adjacent or nearby licensed launch or reentry operations. This represents another 42% of the claimed regulatory savings over the next five years. But FAA does not compare this restricted marginal improvement in productivity with adverse schedule and competitiveness losses that will likely result if the FAA fails to adopt alternative

² OMB Circular A-4 and OMB's Memo of April 5, 2017 providing Guidance Implementing EO 13771 would appear to disallow a "savings" of questionable achievability as a cost savings for purposes of total incremental cost allowance, even if a net savings appears to remain after adjustments for unaccounted for costs

³ Pg.31 of FAA's Preliminary Regulatory Impact Analysis; See docket comments on this topic by Blue Origin, Sierra Nevada, and Commercial Spaceflight Federation

approaches to neighboring, concurrent operations. Also, the significant savings FAA estimates may not actually be realized because the labor categories used to calculate savings (engineers and technicians) do not align with the restricted categories of work functions allowed to remain (i.e. personnel required for safety, security, or critical tasks.)

- This is an example of an area where FAA's Regulatory Impact Analysis viewed impacts as beneficial but did not consider the alternative benefits of other approaches, such as those proposed by the ARC and by CSF. Alternatives would offer far more regulatory relief in support of increasing launch frequency and requirements for concurrent operations by neighboring licensees and operations by the same licensee for separate programs.
 - The proposed rule fails to resolve this productivity problem with enough flexibility at Florida's Cape Canaveral Spaceport and other locations that host multiple users and operations. It therefore poses a risk, not identified by FAA, to adversely impact commercial launch schedules and customer commitments, ultimately reducing availability of launch access to all users, reducing competitiveness, and deterring growth in the sector.
 - Loss of a single orbital mission by a U.S. provider to a foreign competitor because of schedule unpredictability will more than exceed the entire FAA projected savings of \$19 million, even if that value is not adjusted downward by the other noted deficiencies in this review.
 - Key uncertainties (Table 41) attributed to this topic are inappropriately shown by FAA to underestimate the cost savings, when it should be considered an over-estimate and an adverse impact when compared to alternatives which would allow greater flexibility and support for concurrent operations without jeopardizing the safety and welfare of the public.
3. The FAA has not analyzed the cost to every licensee to perform the risk assessment on each FAA-identified critical asset to be incorporated into a flight safety risk analysis; the FAA has not analyzed the cost for identifying critical assets to be evaluated as a property at risk; the FAA has not analyzed the operator or agency time required to process waivers that will be required for an operator's own critical assets, or for an asset that may be at risk for a particular licensed activity that is itself critical to national defense or to a national priority mission.
- There is only brief mention of this entirely new FAA requirement in its Preliminary Regulatory Impact Analysis and no costs identified that are associated with its implementation as proposed. This new regulation is proposed to be imposed on all licensed launches and reentries wherever they may occur at any site in the United States. Yet in its Baseline Analysis of the cost impacts and cost savings of proposed §450.101 the FAA claims no cost impact for a new requirement that clearly will add cost burden to every licensee as well as to the FAA-AST itself.
 - It is important to consider that there are already standards for protection of critical assets established by both the USAF and NASA, and that the FAA proposal will duplicate and not eliminate the rules by these other Federal jurisdictions. The cost to licensees of this duplication should be captured in FAA's analysis, in addition to the omitted costs mentioned above.
4. The FAA has not analyzed the potentially major adverse cost impacts on industry investment, operations, innovation, and competitiveness that would result from FAA imposition of unknown requirements, practices, or policies as a result of future technical innovations and operational approaches developed by industry (§450.177). There are potentially enormous cost implications, and no conceivable cost savings, from the FAA having discretion to impose a new requirement, new practice, or new policy on an "as need" basis.

- The degree of regulatory uncertainty to the development of new innovative systems, or technology improvements in existing systems, cannot be monetized because nobody knows how FAA will employ this discretion in the future.
 - Such an unbounded potential impact threatens U.S. competitiveness, and the availability of future innovations, as private sector investment in such an uncertain regulatory environment will be deterred to an extent that may never be identified.
 - On page 77 of the FAA assessment, the benefits of continuing development of commercial technology are highlighted, yet there is no discussion of potential adverse impact on licensees from this rule, said to be needed because of that future innovation.⁴ The FAA errors in not identifying this as a new requirement on their Baseline Analysis Table (pg. 118) as its wording and scope are very different from existing regulation in Part 417.
 - The unquantified costs to licensees from future FAA requirements imposed under this provision could exceed all the claimed savings of \$19 million attributed to this rule.
5. The FAA has not identified or analyzed the significant AST staffing costs, or contractor support costs, to perform safety and risk analyses, validation of licensee submittals, and compliance monitoring tasks associated with FAA's many new prescriptive requirements, undefined performance-based assessments, and new definitions of public and critical assets.
- The FAA's impact assessment of agency cost savings offset by agency costs ignores the findings of the GAO report regarding the FAA current and future workforce needs. This is especially true regarding new regulations that require new competencies.⁵
 - In light of the GAO's findings that FAA really doesn't know what skills it needs to address the growth and technical diversity of the commercial launch and reentry industry, this FAA assessment of regulatory impacts should be revised to address the impacts of new personnel, re-trained personnel, contracted specialists, and other agency workforce impacts to implement the new rule, as required by OMB guidance.⁶
6. The FAA has not analyzed the cost to launch operators or to launch site operators for additional or redundant environmental reviews that it will likely require of an operator under the new rule in order for an operator to obtain a single license covering multiple launch or reentry sites, or multiple vehicle configurations and flight operations.
- FAA's re-write of environmental review requirements is more than a simple "consolidation" as reported in the Impact Assessment, and has unquantified cost impacts on licensees, including state and local launch site license applicants, for the additive costs of repetitive and/or redundant environmental reviews.
 - The option for companies to obtain a single launch or reentry license covering multiple sites can be viewed as a positive but must be offset by the costs that FAA will incur, both by imposition on the licensee, and internally, to comply with environmental reviews and assessments before those sites are added to a license.
 - There is significant cost risk to licensees that even previously studied and permitted sites will be required to redo environmental analysis for the same activities previously covered. For example, Space Florida was required for its LSOL for horizontal launch at the former Shuttle Landing

⁴ NPRM Preamble, Pg. 15374, Federal Register/Vol. 84, No. 72

⁵ GAO-19-437, "Commercial Space Transportation – Improvements to FAA's Workforce Planning Needed to Prepare for the Industry's Anticipated Growth," Pg. 43

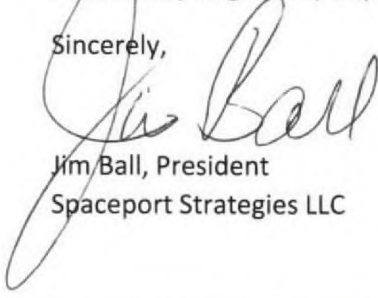
⁶ OMB Memo of April 5, 2017, Pg. 9 answer regarding the resourced used by Federal agencies to accomplish their goals

Facility to spend nearly \$239,000 for another Environmental Assessment (EA) when NASA had performed two previous EAs on the same facility, for the same purposes, and with essentially the same impacts. Another \$121,000 will be required to obtain a reentry license for the same facility that served as NASA primary reentry site for the U.S. Space Shuttle for 30 years.⁷

- FAA has listed the licensed spaceports in this Impact Assessment (pg. 115) and identifies on pg. 121 the changes in the proposed rule that effect Part 420 – License to Operate a Launch Site. These include the new environmental review regulations derived not from the agency’s NEPA procedural document (1040.1F) but from practices and policies now being codified into rules. FAA has not considered addressing these or any of the proposed rule as potential Federalism issues (EO 13132) with the state and local jurisdictions that operate nearly all Part 420-licensed sites. They also have not considered that some, if not all, of the local and state authorities are small governmental entities for purposes of the Regulatory Flexibility Act.
 - FAA errors in showing no costs, either quantified or not quantified, for the codification into Part 420 of costs that now become regulatory costs, as compared to costs of a policy that is not required by law and can be changed or modified outside of rulemaking. The same is true for its codification of these regulatory costs for all license applicants in proposed §450.47 and revisions to Parts 433 and 437.
7. The FAA fails to identify any costs, and claims no cost benefit, from duplicative, conflicting, and overlapping rule sets on federal ranges/installations. Elimination or avoidance of these costly impacts on licensees should have been a key element of a “streamlining” de-regulatory action. FAA both claims that duplication of its launch and reentry licensing requirements does not exist (see Regulatory Flexibility Determination Pg. 15408 of Federal Register/Vol. 84, No. 72) and acknowledges that it does. (Pg. 15305 of same source). The FAA has not analyzed the potential adverse impacts on competitiveness, jobs, unrealized innovations, reduced access to space, and increased cost of space access for all users.
- Various industry commenters, and the CSF trade organization, have expressed concerns that the new rule not only fails to address rules that duplicate, overlap, and conflict with FAA’s launch and reentry licensing requirements, the new rules will likely make those issues worse. There is no analysis of that risk as an unquantified cost to licensees, or even as a possibility.
 - The impacts of this economically-significant rule have been too narrowly assessed by the FAA and a more robust and thorough analysis is needed to determine actual likely impacts on the industry, the national economy and localized/regional economies like Florida’s Space Coast, as well as the implications for U.S. leadership in space commerce and technology.

Please feel free to contact me if you wish to discuss any of these review findings and comments related to FAA’s Preliminary Regulatory Impact Analysis.

Sincerely,


Jim Ball, President
Spaceport Strategies LLC

⁷ Data provided by Space Florida’s Environmental Management staff