



DEPARTMENT OF THE AIR FORCE
45TH SPACE WING (AFSPC)



31 May 17

EI-26097

MEMORANDUM FOR SURFACE TRANSPORTATION BOARD
395 E STREET SW
WASHINGTON DC 20423-0001
ATTN: DAVE NAVECKY

FROM: 45 SW/XP
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SUBJECT: Review of Applicant's Feasibility Study of Potential CCAFS Rail Alternative
(STB Letter, 7 Apr 17)

1. We reviewed the Canaveral Port Authority's (CPA) 10 Jan 17 feasibility study of a potential rail route through Cape Canaveral Air Force Station (CCAFS), and provide the following comments, observations and relevant information as it pertains to the 45th Space Wing (45 SW) and its mission partners operating on CCAFS.
2. Our overall observation is the study does attempt to mitigate many of the substantial constraints raised in our 16 Oct 15 response to your request for information associated with the siting, construction and operation of a common rail line through CCAFS. If the study is taken at face value, the route might prove to be workable through further evaluation and study in the EIS process. But we note, as explained in more detail below, it currently relies on underlying facts and assumptions that are either incomplete or unproven, is void of certain costs that may call into questions the effectiveness of the route as currently assessed and cannot predict the acceptability of such a project to the ultimate decision-makers well above the 45 SW level. Finally, this observation is not an endorsement by the Air Force (AF), the 45 SW or its mission partners operating on CCAFS that this alignment alternative should be included in the EIS, nor is it a validation of the information contained within the study. We will attempt to address the topics raised in your 7 Apr 17 letter, as well as other factors we deem relevant to assist you in determining whether to include this alignment as an alternative in the Draft EIS.
3. Below are inputs in response to specific areas addressed in your letter.
 - a. **Impacts to CCAFS operations and missions:** Many impacts to our operations and missions may be avoided by placing the risk on the common rail carrier to cease construction and/or operations when such rail activity would have an impact on any aspect of our hazardous, launch preparatory, or launch operations. However, shifting operational risk for planned events will not address the following potential unplanned or uncontrolled events which could have significant impacts:

(1) A breach of employed security measures allowing explosive or other dangerous weapons of destruction, and/or one or more unauthorized individuals access to CCAFS via construction crew assimilation or train passage through CCAFS. Access by individuals with an intent to destroy critical launch infrastructure, launch vehicles or launch payloads could have devastating effects on our ability to deploy national security space assets and provide assured access to space for the nation. Such a breach could also have devastating national security impacts on our mission partners operating on CCAFS, including the Naval Ordnance Test Unit which supports Navy fleet ballistic missile testing in support of U.S. Strategic Command strategic deterrence requirements. Likewise, explosive devices or other self-detonating weapons could harm personnel on CCAFS or disrupt activities taking place on CCAFS.

(2) Mechanical failures of the train causing it to become stranded and blocking one of the proposed crossings of the southbound lane of Phillips Parkway. In addition to causing delays in movement of personnel and general hardware on CCAFS, some movements of high-value, space-related hardware require uninterrupted surface road passage once underway due to time-limited environmental climate controls necessary to maintain hardware viability. Delays caused by a stalled train at a crossing could create serious damage to this hardware.

b. Feasibility of location of rail route: Outside of the impacts stated above as it applies to the two rail crossings over the southbound lanes of Phillips Parkway, constructing and placement of the rail line along Phillips Parkway may appear feasible. Nevertheless, the following issues still need further examination:

(1) Critical support infrastructure exists below ground along Phillips Parkway. This includes main water, power, sewer, and communication lines. Construction and operation of the rail line would need to be accomplished in a manner that does not disturb the condition, use or integrity of this critical infrastructure.

(2) Environmental impacts and mitigation solutions might be workable, including the proposed relocation of part of the northbound lane of Phillips Parkway. However, these considerations will require further vetting before being deemed acceptable by the AF.

c. Reasonableness of launch estimates: In the past, with only DoD and NASA payloads to be concerned with, yearly launch estimations could be made with relative accuracy. However, with the introduction of new commercial space launch companies such as SpaceX and Blue Origin who are in the early stages of developing, testing and operationally launching new vehicles, estimates have become much more complicated and less predictable. With SpaceX now also launching from Kennedy Space Center (KSC), their increased launch tempo has put our launch estimate for 2017 to 29, making 50 launches per year by 2022 a reasonable estimate. Additionally, Blue Origin appears to be on track to launch from CCAFS by that time, and success for them would increase the number of launches as well. This number is merely an estimate, and continued success, reliability and technological advancements could easily increase the number of launches conducted within a year above and beyond that estimate.

d. **Mission critical days:** Based on the current estimate of 50 launches per year, the study's assessment of 70 red days is a realistic estimate for any given year, but not necessarily as a limit. Since our input to your office in our 16 Oct 15 letter, we have aggressively focused efforts to reduce our 'No-dig' day policy to help decrease the amount of time activities such as those associated with construction or operation of a rail line would be prohibited. We caution, however, that an increase in launches beyond the current estimate will increase the number of red days experienced by the rail carrier. We also note that the study doesn't address the risk associated with random and unpredictable real world security scenarios that could result in both long- and short-term preclusion of rail construction and operations. These concerns are further explained in our 16 Oct 15 response to you.

e. **Additional Studies:** Vibration concerns near certain critical facilities continues to be a major concern of the 45 SW and our mission partners. Although the feasibility study addressed this issue for some of our vibration-sensitive facilities by proposing the use of vibration minimizing construction techniques, further analysis is required using actual vibration attenuation data. Additionally, the proposed use of two security inspection portals with x-ray scanning technologies will require further study and analysis above the 45th Space Wing. To complete a concept of operations, a Government security manpower determination will be needed to capture the incurred cost from our operation of this capability. Furthermore, as mentioned earlier, more analysis and determinations will need to be conducted to better understand the environmental impact and mitigation needed to comply with Federal, State and Local laws. Since the AF is not presently requiring a rail, we make a special note that we cannot fund the costs of any of these additional studies.

f. **Quantity Safety Distance Arc Waivers:** At the present time, we cannot accurately characterize the probability of whether waivers by the Department of Defense Explosive Safety Board (DDESB) would be granted for the Explosive Quantity Safety Distance Arcs that exist along the proposed route. While the study accurately states the route passes through the same area where waivers currently exist for vehicular traffic, one distinction is that all vehicular traffic at CCAFS is in support of missions taking place on CCAFS. As there is no current requirement for a train line into CCAFS, the DDESB will be faced with providing waivers through these arcs for outside interests.

g. **Potential impacts not addressed in study:** We believe the following items not addressed are relevant for further consideration:

(1) In order for train cargo to enter and exit the port on its way through CCAFS, train movements across SR 401 will have to occur just outside our entrance to the south gate. These movements will block all traffic in both directions. The south gate is the only access for personnel, equipment and space hardware into and out of CCAFS. Depending on how the CPA and its common carrier intends to load and unload these rail cars at the port, to include the possibility of decoupling a larger train into a multitude of smaller ones, this activity would levy significant impact on the otherwise normal movement of traffic in and out of CCAFS. Previously, it was indicated the CPA was not considering or had the space for rail storage/staging and would need to move cars back and forth from the Florida East Coast mainline. Given that we have not been provided a rail yard operational plan, we note no portion of CCAFS property can be used for this purpose.

(2) The Naval Ordinance and Test Unit (NOTU) relies on the J-J rail bridge (leading from KSC to the mainland) for components critical to their operations and those needs are projected to increase in the coming years. As this bridge will be relied upon for increased rail traffic, further details on the CPA's plan to ensure the viability of the bridge will need to be evaluated.

(3) Although there is no mention concerning future maintenance and repair intervals, similar to rail operations, this activity would only be permitted on a non-interference basis scheduled through our 45 SW scheduling office and priority would be given to launch and mission partner operations.

(4) The cost associated with acquisition of the necessary AF property. As covered in our 16 Oct 15 response to your office, if the AF were to agree to this alignment, an Enhanced Use Lease (EUL) could become the avenue by which the AF would make the necessary real property available to the rail operator. EULs include fair market value compensation. Such potential cost, along with other cost incurred by the government should be evaluated in the total cost of constructing and operating this alignment.

4. We once again emphasize, any decision to approve a rail line through CCAFS has to be coordinated and approved at the Department of the Air Force and Department of Defense Secretariat level. As previously stated, the AF does not consider any CCAFS land to be in excess for railway operations, and any construction or operation of a rail line through CCAFS cannot disrupt the operations of our mission partners or the military, civil and commercial access to space from the busiest spaceport in the world.

5. We appreciate the opportunity to provide the requested information and hope it satisfies the needs of the Office of Environmental Analysis as it conducts its proceedings in this matter and stand ready to assist if additional information is required.



THOMAS A. EYE
Director, Plans and Programs

cc:
NASA KSC/AD