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June 18, 2019

Clear EIS
C/o HDR Inc.
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RE: Missile Defense Agency Notice of Intent to Prepare an Environmental Impact Statement for the Long Range Discrimination Radar at Clear Air Force Station, Alaska

To Whom It May Concern:

The Aircraft Owners and Pilots Association (AOPA), the world's largest aviation membership association, submits the following comment in response to the Missile Defense Agency's Notice of Intent to prepare an Environmental Impact Statement (EIS) for the Long Range Discrimination Radar (LRDR) at Clear Air Force Station (CAFS), Alaska. Although AOPA strongly supports the Missile Defense Agency and understands the need for the LRDR, we are concerned about the location of this Restricted Area complex as it will have a significant adverse day-to-day impact on aviation in Alaska in terms of safety and efficiency. Arguably more than any other state, Alaska is aviation-dependent and uniquely reliant on small General Aviation for maintaining a basic quality of life.

After a thorough review of the airspace proposal, and after consultation with our thousands of Alaskan members and the government agencies involved, we believe several mitigations are necessary to ensure General Aviation can safely and efficiently fly in the vicinity of CAFS. We believe the airspace proponent must work with aviation stakeholders to modify the Restricted Area to ensure civil aviation can continue transiting the Parks Highway and Nenana River, and continue utilizing Clear Airport, Clear Sky Lodge Airport, and the frontier airstrips. We believe a collaborative solution can be found. As we outline below, those most affected by this airspace expansion will be the local aircraft operators and the community, so investigating the alternatives and mitigations we propose will be critical to finding a solution that will work long-term.

Alaska's reliance on aviation

Alaska relies on aviation more than any other state in the union. According to *The Economic Contribution of the Alaska Aviation Industry to Alaska's Economy*, the aviation industry in Alaska contributes $3.8 billion, or approximately 8%, of the gross state product. This 2019 report highlights the fact that this is almost 40% greater than the industry's role in the national economy. This figure demonstrates the importance of the aviation industry to Alaska's economy. An estimated 35,000 jobs are directly and indirectly related to aviation in the state of Alaska.

Aviation not only has a significant economic impact in Alaska, it is the only mode of transportation that provides access for many communities. On February 17, 2017, the FAA published a story in the *FAA Daily Broadcast* stating 82% of Alaska's communities are not accessible by road. Some communities may be accessible by barge; however, much of the year the waterways freeze over leaving only aviation to provide basic access, deliver health care, food, and to ensure these communities can send and receive mail on a year-round basis. The average number of enplanements per capita for off-road communities in Alaska is eight times more than people in other parts of the country. Alaskans tend to rely on air freight

39 times more than comparable communities, according to a 2009 study published by the Alaska Department of Transportation & Public Facilities.

Siting adversely impacts General Aviation flying VFR

The proposed LRDR is to be located at CAFS within the existing Restricted Area R-2206; however, because of high-intensity radiated field protection requirements, a much larger Restricted Area complex will be needed for this system. Unfortunately, the siting of the LRDR is along the most desirable General Aviation route to and from the Windy Pass. This is a strategically important mountain pass to aviation as it connects interior and southcentral Alaska, and specifically Fairbanks to Anchorage, the two most populous cities in the state. This pass offers one of the lowest terrain routes through the Alaska Range and is coincident with the Parks Highway and Nenana River. Pilots regularly navigate using the Parks Highway and Nenana River as their guide to traverse the mountain valley that has precipitous terrain on either side. These two major VFR corridors along the highway and the river offer options, depending on localized weather conditions that may necessitate using one VFR landmark over another.

Local airfields impacted

The siting of the LRDR places it into conflict with the Clear Sky Lodge Airport, the public-use Clear Airport, and at least four frontier airstrips. The maneuvering space, traffic patterns, and even their general utility as a desirable airport all become diminished by creating a Restricted Area overlying or immediately adjacent.

Clear Airport is used by many General Aviation pilots and operators including medevac and firefighting operators supporting the local community. The Civil Air Patrol also regularly uses the airport for staging operations and conducting glider flight training, most recently flying hundreds of sorties in a single week. There are many operations at this airport every month, despite its isolated location and limited services, as it serves a unique strategic purpose. Notably, as one of the few hard-surfaced runways in the area and one of the few airfields with lighting, flight instructors from the Fairbanks area use this location for cross-country training fights and night operations. It also serves as a diversion option should weather hamper Windy Pass or the Nenana airport. The Alaska Department of Transportation has made substantial investments into this airport over the years in support of the state's aviators who rely on it being available, and based on its location and condition.

If the Restricted Area was enacted, it would limit the growth of the airport and any opportunity to establish instrument approaches. The utility of the Clear Airport would be significantly reduced, if it wasn't forced to close. At a minimum, flying to this airport would require special training and put pilots at a high risk of an airspace violation. Avoiding the Restricted Area could potentially result in unsafe aggressive maneuvering and unstabilized arrivals and departures. Non-standard airport procedures can increase risk and should be avoided if there are alternatives. Establishing a Restricted Area this close to the airport may also affect the airport sponsors grant assurance obligations to keep the airport open and viable.

The private-use airports and airstrips in the proximity of the Restricted Area also warrant protection. These airfields are established by local residents and enable them to have access to the outside community. Given the nature of the pioneer roads, which are not publicly maintained and may not be traversable year-round, that connect the airstrips with the Parks Highway, flying is the only means for accessing supplies or medical care.

Coordinates for four known frontier airstrips:
64°16'39.31"N, 149°21'30.36"W
64°15'6.67"N, 149°21'7.12"W
64°15'45.09"N, 149°20'59.50"W
64°20'58.47"N, 149°10'33.76"W

Unsafe altitudes

The proposed shelf altitudes for the Restricted Area are not consistent with FAA regulations that govern pilots. In accordance with 14 CFR Part 91.119, pilots would not be able to fly under the 400-foot AGL shelf, nor would it be advisable or safe to do so. The river and highway are populated areas that necessitate pilots to fly at higher altitudes. A shelf of only 400 feet is dangerous and would not provide access for VFR General Aviation. Likewise, the outer shelf of 1,000 feet AGL is not of sufficient height to allow routine transiting operations and it would expose pilots to increased risk. Most pilots are flying in this airspace at higher altitudes to increase their reaction time and options should the aircraft encounter a problem, like a mechanical issue, as well for fuel efficiency. Requiring pilots to fly around the Restricted Area or below it at very low altitudes imposes safety and economic impacts that need to be documented and quantified so all alternatives are weighed.

Weather impacts

The close proximity to the Alaska Range generates mountain weather conditions, which at times include low ceilings and/or high winds that can change rapidly creating significant hazards for VFR pilots. In areas of high terrain surrounding Windy Pass and features including Rex Dome, it is important the Missile Defense Agency limit the artificial restrictions that could make maneuvering flight difficult for those pilots needing to remain VFR in challenging weather conditions. Restricting pilots to low altitudes and away from straightforward VFR landmarks, like the highway and the river, increases the risk of flying in this area. It is foreseeable that the weather a pilot encounters in this area will require the pilot to maneuver, so it is important safe options remain available to them.

Limiting options

The proposed Restricted Area would severely limit pilots' options for getting to and from Windy Pass. At the minimum, under solid VFR weather, this causes decreased efficiency by increasing the distance and complexity of circumnavigating this airspace structure. Forcing pilots into higher terrain and at very low altitudes, to remain under a shelf, is clearly inherently dangerous.

In summary, the proposed Restricted Area, in a location already constrained by terrain and existing airspace, will foreseeably create numerous safety hazards and inefficiencies for VFR pilots. In an area influenced by mountain weather which commonly limits ceilings and/or visibility, it is irresponsible to force pilots away from established corridors and down to much lower altitudes.

Negative impact on IFR aircraft

The proposed Restricted Area's large vertical and lateral area would require three existing airways and seven instrument flight procedures to be redesigned or relocated. Changing existing procedures can be impractical as it may require new communications systems, new surveillance sources, and changes to navigational aids. In some cases, relocating an airway is not possible due to navigational aid limitations. The Missile Defense Agency must consider the ramifications on local operators and communities if

existing airways and instrument approaches cannot be redesigned or relocated and cancellation is the only alternative.

The proposed expanded R–2206 complex would be located near an important IFR crossroads: the Nenana VOR and Ice Pool NDB. For aircraft to have access to Fairbanks from the west or south, IFR aircraft flying at altitudes that allow them to avoid the use of supplemental oxygen must use airways that go to these NAVAIDs. With an expanded R–2206 complex, these IFR routes to and from the Nenana area and Anchorage would no longer be available, affecting potentially thousands of flights. In a review of radar tracks in that area, we can see numerous flights taking place. A significant amount of aircraft traffic uses these routes connecting Fairbanks and northern Alaska with south-central communities. Impacting access to these routes will negatively impact air traffic efficiency and increase the cost for aircraft operators to fly in this area. All alternatives must be considered before affecting these flight routes that may not be able to be relocated.

Unlike operations in much of the lower 48, icing and mountainous terrain are the routine operating environment in Alaska, which necessitates an extensive route structure to accommodate non-radar operations and low operating altitudes. Many commercial and General Aviation operators rely on single-engine piston aircraft because of the small airfields spread out across the state. These aircraft need the airways to be available as they offer the lowest minimum enroute altitude. Due to performance issues, high terrain, and icing, it is likely more missions will need to be performed VFR if these routes are regularly unavailable. This will adversely impact safety and could lead to a higher accident rate as the benefits of the IFR support structure will not be available. Although over 21 years old, the National Transportation Safety Board's (NTSB) safety study of Alaska (see NTSB SS-95-03) still very much applies and it points out the continuation of issues long before identified. The report notes "an improved low altitude [IFR] system…would reduce the incidence of fatal accidents involving VFR flight into [IMC] in the State and result in a net safety improvement for Alaska aviation."

AOPA proposed mitigations and alternatives

In support of finding a workable solution for General Aviation now that an alternative siting of the radar is not possible, we offer the following recommendations:

<u>Restricted Area – Lower Tier</u>

The proposed 400 feet AGL shelf is not flyable and would be dangerous. We propose the minimum shelf height would be 800 feet AGL as it would allow operators to fly legally and safely at 500 feet AGL and would provide a cushion between themselves and the Restricted Area's floor should weather and wind necessitate maneuvering. This lower shelf should not extend over any airports or airstrips, or the Parks Highway. Ensuring flight over the highway is available at higher altitudes is critical as the Nenana River would be within this lower shelf. A higher altitude would be beneficial for safety and efficiency.

<u>Restricted Area – Upper Tier</u>

The proposal shows a 1,000-foot AGL outer shelf that would not be practical for allowing routine transiting of the area. Leaving the floor at this altitude would lead to pilots having to fly around the airspace, which means exposure to risk given the VFR landmarks would be much further away while also incurring additional costs to the pilot. We propose the outer shelf's floor altitude should not be less than 2,000 feet AGL, and that there should be an additional shelf of 3,000 feet AGL. These altitudes would allow pilots to deconflict themselves vertically from each other (i.e., one aircraft at 1,500 feet and another

at 1,000 feet AGL) while allowing a safe margin for maneuvering. This altitude would also allow pilots to fly the river on a regular basis. A higher altitude would be beneficial for safety and efficiency.

Restricted Area – Lateral Boundary

The lateral boundary of the proposed Restricted Area comes within feet of the runway at Clear Airport and would overlie the Parks Highway. As these areas are on the eastern periphery of the Restricted Area, we contend that the Missile Defense Agency must consider the alternative of limiting the lateral boundary in this area to facilitate safe and efficient aviation operations. We believe the Restricted Area must be a minimum of 1 NM west of the Parks Highway so it can continue to be utilized as a VFR corridor. The highway is important as the river would no longer be usable as a route except at very low altitudes.

It is also important for safety to ensure pilots can make straight-in arrivals to Runway 19 and straight-out departures on Runway 1 at Clear Airport, as well as utilize the traffic pattern. The established FAA policy of a Restricted Area excluding the airspace 1,500 feet AGL and below within a 3 NM radius of airports available for public-use should be respected. Limiting the Restricted Area in the vicinity of Clear Airport would allow the traffic pattern to be available and the airport accessible.

The lateral and vertical boundaries of the Restricted Area should also be modified based on the inputs from air traffic control regarding the feasibility of moving IFR airways and procedures so as to minimally impact civil aviation users. Modifications of the airspace should be made to ensure IFR operators continue to have a means to travel at lower altitudes in this area.

FAA airspace policy must be respected

In acknowledgement that the LRDR is important to national security, we believe it is important to offer mitigations and opportunities to reduce the adverse impact of the now necessary Restricted Area. However, the Missile Defense Agency must respect the FAA's role, their airspace policies, and the public comment process. As we and other aviation organizations noted in our May 31, 2019, letter to the EIS, we are concerned that the Missile Defense Agency is proposing airspace that may not be consistent with FAA policy. Further, we are concerned that the Missile Defense Agency is not following the aeronautical and environmental process outlined in the FAA/DOD Memorandum of Understanding concerning Special Use Airspace.

The FAA has an established process that ensures a fair and consistent application of airspace in the National Airspace System. We do not support waivers or exceptions to those policies that were established to maintain a safe navigable airspace system for all. AOPA also does not support the interim use of Temporary Flight Restrictions as the FAA's rulemaking process proceeds. Unilateral impositions of Temporary Flight Restrictions undermines the transparent environmental and aeronautical process that this situation calls for. Restricting civil aviation before the completion of the environmental process would also not be consistent with environmental requirements. We respect the environmental process and emphasize the importance that all alternatives and mitigations be considered, in line with FAA policies and statutory requirements, and that the process be completed before any action is taken to restrict airspace.

Conclusion

AOPA recognizes and fully supports the need for the LRDR at CAFS, but we believe the Restricted Area as proposed is demonstrably hazardous to civil aviation and would significantly disrupt aviation in Alaska. As proposed, the Restricted Area would cause numerous issues that would make this area

unflyable. We believe there are several changes to the shelve altitudes and lateral dimensions that would mitigate the safety and efficiency impacts, and we look forward to future discussions with the proponent to find a collaborative solution that incorporates these alternatives.

Thank you for reviewing our comment on this important issue. Please feel free to contact me at 202-509-9515 if you have any questions.

Sincerely,

Rune Duke
Senior Director, Airspace and Air Traffic

The Aircraft Owners and Pilots Association (AOPA) is a not-for-profit individual membership organization of General Aviation Pilots and Aircraft Owners. AOPA's mission is to effectively serve the interests of its members and establish, maintain and articulate positions of leadership to promote the economy, safety, utility, and popularity of flight in General Aviation aircraft. Representing two-thirds of all pilots in the United States, AOPA is the largest civil aviation organization in the world.