EXECUTIVE SUMMARY

Introduction

The proposed action is for the Federal Aviation Administration (FAA) Associate Administrator for Commercial Space Transportation (AST) to issue a license to Kistler Aerospace Corporation (Kistler). As a commercial venture, Kistler proposes to launch low earth orbit (LEO) communications satellites and other private and government satellites using a fully reusable two-stage vehicle. The proposed location for the Kistler launch facility is at the Nevada Test Site (NTS), on land withdrawn from the public domain for use by the United States (U.S.) Department of Energy (DOE). In order to conduct commercial launch and reentry operations, Kistler must obtain a license from the FAA.

Two Federal agencies are directly involved in the proposed action, FAA and DOE. The FAA would license and regulate Kistler's operations and is the lead Federal agency for the National Environmental Policy Act (NEPA) process. Because licensing launch and reentry operations is a proposed Federal action subject to the requirements of NEPA of 1969, as amended, 42 United States Code (U.S.C.) 4321, FAA must evaluate the potential environmental impacts of the proposed action and its alternatives. Based upon the Environmental Assessment (EA), the FAA will determine whether there are potentially significant impacts requiring preparation of an Environmental Impact Statement (EIS) or whether to issue a Finding of No Significant Impact (FONSI). Using the concept of tiering, the FAA is relying in part upon the DOE *Final Environmental Impact Statement for the Nevada Test Site and Off-Site Locations in the State of Nevada*, dated August 1996, the FAA *Final Programmatic Environmental Impact Statement for Licensing Launches*, dated May 24, 2001, and the FAA *Final Programmatic Environmental Impact Statement for Commercial Reentry Vehicles*, dated May 1992.

The DOE EIS evaluated proposed land use alternatives for the NTS. On December 9, 1996, the DOE issued a Record of Decision (ROD) in which it decided to implement a combination of three alternatives: Expanded Use, No Action, and Alternative Use of Withdrawn Lands. The ROD stated "This decision will result in the continuation of the multipurpose, multi-program use of the Nevada Test Site, under which DOE will pursue a further diversification of interagency, private industry, and public-education uses while meeting its Defense Program, Waste Management, and Environmental Restoration mission requirements.…" It specifically identified Kistler as an example of a potential private use at the NTS.

Purpose and Need

The proposed Kistler launch facility would provide a commercial alternative to launching satellites using expendable launch vehicles launched at federal range facilities. The proposed Kistler activities would make available infrastructure for placing telecommunications, scientific and research payloads into LEO.

The Commercial Space Launch Act of 1984 (Public Law 98-575) (CSLA), as amended and codified at 49 U.S.C. Subtitle IX, Ch. 701, Commercial Space Launch Activities, authorizes the Department of Transportation (DOT) to regulate and license U.S. commercial launch and reentry activities. Within DOT, the Secretary's authority under CSLA has been delegated to the FAA. In

October 1998, Congress enlarged AST's role in the scope of commercial space launch activities to include licensing of reentries and the operation of reentry sites. The proposed project would involve the use of reusable launch vehicles to launch communications satellites, other private and government satellites, and provide other on-orbit services, and is therefore consistent with the objectives of the CSLA.

Description of Proposed Action

Under the proposed action, the FAA would issue a license to Kistler to conduct commercial launch and reentry operations at the NTS. These operations would include pre-flight processing activities, launch/flight operations, as well as landing operations. In order to conduct these operations, Kistler proposes to construct a base of operations consisting of a private launch site (including a vehicle processing facility), a vehicle reentry, landing, and recovery area, and a payload processing facility.

The DOE provided a general use permit to the Nevada Test Site Development Corporation (NTSDC) which will provide the necessary land area on which Kistler would construct the facilities and conduct its operations. The NTSDC issued a subpermit to Kistler for Kistler's use of the site. Characteristics of the NTS, including remoteness, low population, open range, restricted airspace, security, and elevation, are advantages for launching satellites.

Kistler intends to operate its launch vehicle service using a fleet of five K-1 vehicles at a maximum rate of 52 launches per year once the system is fully operational. Kistler also plans to have the capability to launch two vehicles within three days of each other if the need arises. The proposed schedule of missions from the NTS would begin no earlier than 2002 and build to a capability to support a maximum flight rate of 52 launches and reentries per year from Kistler's facility in Nevada.

The Kistler K-1 is designed as a two-stage vehicle made up of a Launch Assist Platform (LAP) and an Orbital Vehicle (OV) as described and illustrated in Chapter 2. Each stage would be fully reusable, carry its own avionics, and is intended to operate autonomously under control of on-board computers with no ground control.[1] The K-1 uses liquid oxygen (LO_X) and kerosene as propellants in each of its stages and would be the only launch vehicle used at the Kistler NTS facilities. The design is organized around major subsystems called Line Replaceable Units (LRUs) which are designed to have minimum interfaces with other subsystems to reduce the need to make or break connections during processing. LRUs are designed to be modular to allow simple, organizational level processing at the launch site and to be readily accessible by service personnel. The details of the launch vehicle operations provided in the environmental assessment are based on Kistler's conceptual engineering designs.

The K-1 vehicle is designed to carry commercial payloads, such as satellites, into LEO, which is generally 200 to 1,000 kilometers (110 to 540 nautical miles) above the earth. The altitude reached would be determined by the requirements of the payload.

Description of Alternatives and No Action

[1] A fully autonomous system would not satisfy the existing FAA licensing requirements for reusable launch vehicles. Accordingly, final operational processes involving the K-1 vehicle have not yet been approved by the FAA.

Alternative Locations Considered. Prior to selecting the NTS as its launch base, Kistler explored alternatives throughout the United States. Kistler considered locating at The California Spaceport® at Vandenberg Air Force Base, Spaceport Florida Authority's Launch Complex 46 at Cape Canaveral Air Force Station, and the proposed Southwest Regional Spaceport near the White Sands Missile Range in New Mexico.

The coastal sites (Spaceport Florida and the California Spaceport®) were eliminated from consideration due to restrictions in launch azimuths. Kistler's prospective customers require launch to inclinations in two distinct corridors. The first corridor runs from 45 to 60 degrees and the second corridor includes inclinations from 84 to 99 degrees. Current range restrictions would not allow launches to the first corridor from the California Spaceport®, or launches to the second corridor from Spaceport Florida, Launch Complex 46. Selection of either of these two sites, then, would mean that Kistler could only serve a portion of its projected market. Kistler thus narrowed the candidate sites to the NTS and the proposed Southwest Regional Spaceport.

The final decision to select the NTS over the proposed Southwest Regional Spaceport was based upon range support considerations. In Kistler's estimation, the NTS offered a more flexible range environment that is important to commercial operations. The current design for the Kistler K-1 is intended to be an autonomously controlled system that does not require extensive tracking and communications networks. This innovative approach represents a significant cost advantage for a commercially operated system. Authorities at the NTS recognized the need for such innovation to facilitate commercial operations and were willing to consider accepting the autonomously controlled system pending FAA licensing.[2]

The NTS was determined to be an optimal location for the Kistler site, launch, reentry, and recovery facility for several reasons.

- The NTS is surrounded by thousands of square kilometers of land withdrawn from the public domain for the Nevada Test and Training Range (also known as the Nellis Air Force Range).
- The airspace over the NTS and Nevada Test and Training Range is removed from public access by the designation of an extensive Restricted Area.
- An EIS was completed by DOE in August 1996 that resulted in a ROD that confirmed the continuation of the "multipurpose, multi-program use of the NTS."

Alternative Sites on the NTS. Kistler considered several sites within the NTS as candidate basing sites. The following criteria were used to evaluate each site:

- Accessibility for suppliers and customer payloads,
- Least impact on other users of the NTS and Nevada Test and Training Range operations,

[2] A fully autonomous system would not satisfy the existing FAA licensing requirements for reusable launch vehicles. Accordingly, final operational processes involving the K-1 vehicle have not yet been approved by the FAA. Those processes are described generally in the Environmental Assessment as background information for evaluation of the range of environmental impacts.

- Relatively level sites that required little grading and preparation,
- Soil characteristics at the landing site that would least stress the landing system, and
- Highest take-off site elevation possible to give the K-1 an additional performance advantage.

Since the NTS is used for numerous other activities by a large number of other users, Kistler identified a preferred site for its operations, not through a process of elimination based upon Kistler's own requirements, but through a dialogue with other NTS users. Kistler proposed an initial site and received comments from the NTS user community. Based on these comments and recommendations, Kistler developed further options for discussion. Within this process, Kistler considered several sites within the NTS as candidate basing sites.

Kistler and DOE first identified the proposed locations for the Kistler facilities through a siting process that considered existing and planned land uses at the NTS. Kistler initially identified an optimal baseline location (Alternative 1) that involved various portions of Area 25 for the proposed activities and facilities. Upon consultation with other NTS users, however, it became apparent that Area 25 is among the most heavily used and developed portions of the NTS. There was significant concern over the possibility of road closures, electromagnetic interference, noise levels, scheduling coordination, and the impacts of a possible vehicle failure.

In response to Kistler's proposal, NTS users were requested to provide their input into identifying locations and time frames for the proposed Kistler activities that would minimize the effects on their own operations and in defining criteria/requests for an internal NTS safety review.

The initial request, Alternative 1, included a caveat that the site could be shifted to another location should a conflict arise at Area 25. The participants felt that once the Kistler project was established as a facility it would be difficult to move and that a permanent siting decision should be made. Therefore, although Alternative 1 may have met all technical assessment criteria, it clearly did not meet the need to have the least impact on other users of the NTS and Nevada Test and Training Range. Consequently, Alternative 1 was rejected and was not specifically evaluated in the EA.

Several other areas in the southwest corner of the NTS such as the Yucca Lake/Yucca Flats areas, which runs through Areas 1, 2, 3, 4, 6, 7, 8, 9, and 10, up the east side of the NTS, were areas with significant development and activity. The Frenchman Lake/Frenchman Flat area in Area 5 is equally well utilized by the DOE and other NTS users. The NTS users consequently focused their efforts on identifying sites in the little-used northwest quadrant of the NTS. Initially, consensus was reached on Area 18 for the launch site and Area 19 for the landing/recovery site. Following a thorough survey of Area 19 that failed to locate a suitable landing/recovery site for the K-1, the NTS users later concurred on the current siting with the launch complex in the southern portion of Area 19 and the landing/recovery area in Area 18.

The agreement resulted in the DOE Nevada Operations Office determination that the DOE could approve the proposed Kistler operations as part of its permitting of permissible uses, and that the activities should be located in Area 18 and an adjacent location in Area 19. It should be noted that Areas 18 and 19 are among the most rugged terrain on the NTS. Unlike the more southerly portions of

the NTS, there are no dry lakes or gentle alluvial plains. The topography in Areas 18 and 19 consists of rocky mountains, hills, dry stream beds, and gullies. There is little choice of level terrain. Within these Areas, Kistler chose the most level sites possible for its launch and landing operations based upon topographic maps. A subsequent site visit to the Areas confirmed the selections.

The proposed launch site is on the southern slopes of Pahute Mesa south of Rattlesnake Ridge and north of Stockade Wash at an elevation of about 1,768 meters (5,800 feet). The facilities would be approximately 177 kilometers (110 miles) from Las Vegas, and approximately 72 kilometers (45 miles) from the on-site town of Mercury in the southeast corner of the NTS.

This alternative (use of Areas 18 and 19) is examined in detail along with the no action alternative in the EA.

No Action Alternative. Under the No Action Alternative, Kistler would not propose to conduct launch/reentry operations at the NTS, and the FAA would not issue a license for Kistler to conduct launch or reentry operations. Kistler would not construct its launch facilities nor would it launch commercial satellites from the NTS.

Environmental Impacts

Safety and Health. The safety and health of the workers at the NTS and the general public could be affected by the proposed action, however, due to the remote location of the NTS, the potential to affect the public would be limited to actual in-flight emergencies. Accident scenarios will be explored more fully as part of a Safety Review conducted by the FAA, as part of a licensing determination.

The steep flight ascent profile further minimizes risk to the public. In either corridor for near polar or midrange orbits, nearly half of the K-1's ascent would occur over the NTS and the Nevada Test and Training Range, and at no time in any nominal trajectory does the vehicle enter airspace controlled by the FAA for general and commercial aviation.[3] The airspace above and around the NTS is designated as restricted. During most of its scheduled flights, the LAP is designated to stay within the NTS or Nevada Test and Training Range restricted airspace, however, certain launch trajectories require the LAP to fly outside of these restricted airspace areas, but also above FAA controlled airspace. On these missions, the LAP would traverse airspace not used by general or commercial aviation at altitudes greater than 45,000 meters (150,000 feet). The LAP would not enter FAA controlled airspace. The OV is designed to return to earth on a steep trajectory, entering the restricted airspace over NTS while still above 33,528 meters (110,000 feet) in altitude.

Past activities at the NTS have included underground nuclear testing and rocket launches. The proposed use of a portion of the NTS as a commercial launch and reentry site is consistent with these prior land uses and existing Health and Safety programs at the NTS. This past experience would enhance Kistler's ability to respond to an on-site emergency. Worker safety issues arise primarily from accidents during construction, decontamination, decommissioning, and maintenance activities as well as from explosions, fires, or spills.

[3] FAA controlled airspace for general and commercial aviation is designated as 18,000 meters (60,000 feet) and below.

During normal operations the vehicle would pass through NTS-restricted use airspace and into Nevada Test and Training Range airspace with only a small part of the Nevada Test and Training Range being affected in a corridor on either side of the launch ground track. Other activities outside of the corridor could continue as normal. The width of this corridor would be determined jointly by DOE, the Air Force, and Kistler. Kistler would determine the landing time as soon as the vehicle has been launched.

Upon reentry, the OV would reenter the NTS/Nevada Test and Training Range airspace between 41 and 52 kilometers (22 and 28 nautical miles) south to southwest of the landing area. On the approaches into the landing area from the south, the OV would enter only NTS restricted airspace. On reentry from the southwest, the OV would pass through a part of the Nevada Test and Training Range airspace. Because the landing time would be predicted immediately after launch, the amount of time the NTS/Nevada Test and Training Range airspace would have to be blocked could be managed with precision. The amount of range time required to be blocked for the launch of a Kistler K-1 vehicle would be approximately 30 minutes. Twenty-four hours later, another 30 minute block would be required to recover the second stage OV. The specific arrangements related to airspace use will be addressed in detail during the safety analysis portion of the licensing process.

The nearest air traffic route used by civil aviation that would be over flown by the Kistler vehicle on launch would be Jet Route 80-58 (J80-58), which is between Wilson Creek, Nevada and Tonopah, Nevada. Upon reentry, the nearest air traffic route is J92 between Beatty, Nevada, and Boulder City, Nevada. Because of the large horizontal and altitude separation distances, the nearest civil air traffic route structure would not be affected, and any impacts would be negligible.

Land Use. The January 1997 site selection process determined that the proposed action was a compatible use for the area. Surrounding land uses are not expected to be affected by the proposed action. The national security mission of the DOE would continue to have priority over all activities conducted on the NTS. DOE programs may, for reasons related to national security or exigency, preempt Kistler activities. Thus, land use is not expected to be impacted.

Air Resources. The Kistler facilities would be located in an air quality control region that is in attainment with Federal and State Ambient Air Quality Standards, making an analysis of conformity to the Clean Air Act, Section 176 (c), unnecessary.

Construction impacts should be limited to particulate matter with the maximum concentrations averaged over 24 hours not exceeding 135 micrograms/cubic meter. As this is below the national standard of 150 micrograms/cubic meter, there is little concern for impacts on air quality.

Expected launch emissions include carbon monoxide (CO), hydrogen chloride, carbon dioxide, and water. The only criteria pollutant emitted is CO but it is not anticipated that levels will exceed the Nevada or National Standard for CO.

Noise. The launch vehicle would produce loud noise during launches. The noise produced could have an impact for workers at the Kistler site. These workers would be required to wear hearing protection. Other workers at the NTS may experience the loud noise and have their conversations disrupted for two to three minutes during a launch. Members of the public would be able to hear the

launch, but would experience a noise level similar to a garbage disposal at one meter. The sound would be of a short duration.

Construction and recovery activities would generate noise, but at levels similar to other industrial activities, and again only workers involved with the construction activity would be required to wear hearing protection. The general public would not be aware of the noise generated from either construction or other heavy equipment activity related to recovery operations.

The more readily perceived public impact off-site of the NTS would be caused by sonic booms from launch and reentry. Sonic booms can cause startle reflexes and are more likely to surprise people than is engine noise. The sound produced by sonic booms would approach loud thunder or possibly noise from a fireworks display. Although this impact is greater, it is nonetheless minimal. Sonic boom levels generated during reentry would sound like distant thunder, and have minimal impact.

Socioeconomics and Environmental Justice. The proposed action is expected to create an average of 85 direct full time jobs and 28 direct part time jobs during the construction phase of the project and 90 direct full time jobs and 28 direct part time jobs during operation of the proposed Kistler launch facilities. This is not expected to affect housing availability in the region of influence.

Beneficial economic impacts of the proposed action are the added diversification of the regional economy and an expanded use of NTS resources. Thus, in summary, only positive, and no negative, socioeconomic effects on the region would be expected as a result of the proposed action. In addition, no disproportionate effects on economically disadvantaged or minority groups are anticipated as a result of the proposed action.

Visual Resources. The construction and operation of the Kistler facilities would not impact the visual environment, as they would not be visible from outside the NTS boundaries. The launch vehicle itself would not be visible to the public but the vapor contrail would be distinct although transitory. Native American groups have expressed concern regarding the visual vapor contrail. The reentry vehicle would be unpowered therefore it would not produce a visible contrail.

Biological Resources. Construction of the Kistler facilities would result in the clearing of over 268 hectares (671 acres). The vegetation in the construction areas would be permanently destroyed, however, the anticipated loss would not adversely affect local or regional biological diversity. The landing/recovery area would be allowed to revegetate naturally by herbaceous plant species.

Additional vegetation losses could occur from launch emissions. High temperature exhaust gases may damage or permanently destroy vegetation in the immediate vicinity of the launch. Adverse impacts to vegetation from hydrogen chloride deposits are expected to be negligible.

Potential impacts to wildlife could be produced by construction-related noise, human presence, clearing, grading, and by operational-related phenomena such as sonic booms and launch related noise and emissions.

While some species may exhibit a degree of response, it is not anticipated that noises associated with the launch or flight of the K-1 would affect the viability or diversity of the wildlife in the region.

The level of traffic resulting from Kistler's construction and operation activities would not exceed the levels anticipated in the NTS EIS and so would not result in any unanticipated increase in threat to the desert tortoise population on the NTS. To further reduce the potential for harm to the desert tortoises, all Kistler-related workers would receive the same desert tortoise training required of all NTS workers.

Water Resources. Kistler operations could have minor direct and indirect effects on the intermittent surface waters that occur in the area. Soil erosion caused by water movement across the landing/recovery area would impact downstream flows in ephemeral drainages in the area. This impact would be somewhat mitigated by directing upstream runoff around the landing/recovery zone.

Kistler's estimated maximum water requirement for operations is 6,800 cubic meters ($1.8x10^6$ gallons or 5.5 acre-feet) per year. Construction of the vehicle processing facility would require an estimated 3,800 cubic meters ($1.0x10^6$ gallons or approximately three acre-feet) of water. According to State of Nevada Water Planning Report 3, basin 227-b has an estimated total perennial yield of 4.4 million cubic meters per year (3,600 acre-feet per year). Based on the capacity and historic use of Well 8 and the estimated total perennial yield of basin 227-b, it is unlikely that construction and operation of the Kistler launch facilities would affect groundwater availability.

Geology and Soils. All of Kistler's facilities would be constructed on the ground surface or near surface. Except for excavation for standard footings for buildings and other structures, and for construction of the flame bucket and launch stand, disturbance of subsurface geologic media would not occur.

The vehicle processing facility would be located within an area that has had considerable previous soil disturbance due to the presence of the Area 18 Camp. The soil at the proposed launch site has been only slightly disturbed by several pre-existing small trenches. The landing/recovery area soil is generally undisturbed, although there are some existing two-track roads in the vicinity.

Cultural and Native American Resources. Construction of the proposed project would involve disturbance of 268 hectares (671 acres) of ground surface. This would affect any surface or subsurface cultural remains in the disturbed areas. Although a cultural resources reconnaissance of the proposed payload processing facility site did not find any historic properties, the reconnaissance of the proposed landing/recovery and launch sites identified two sites. The first, in the landing/recovery area, is a previously recorded historic property that has been the subject of two previous data recovery efforts. The second is a previously undiscovered site in the launch complex area. Both sites were determined to be historic properties under the criterion of 36 Code of Federal Regulations (CFR) 60.4.

Under the Criteria of Effect and Adverse Effect (36 CFR 800.9), it was determined that the proposed Kistler activities would affect both historic properties. The previously addressed site had been the focus of data recovery in 1989 and 1993 and the DOE determined that no additional recovery efforts were needed. A data recovery plan was prepared to avoid the adverse impacts to the newly discovered site and would include collection of cultural material, analysis of collected material, cataloging, and curation by the Desert Research Institute. The DOE provided a determination of "no adverse effect" on historic properties based on the Section 106 review of the Kistler project (dated September 18, 1997). The Nevada State Historic Preservation Officer (SHPO) concurred with this determination in a letter dated

September 23, 1997. The Advisory Council on Historic Preservation raised no objection to the project based on DOE's and the Nevada SHPO's determination (October 1, 1997). To ensure that Native American concerns were considered and data recovery was conducted in a culturally sensitive manner, representatives of the Owens Valley and Southern Paiutes and Western Shoshones were invited to participate in all phases of data recovery, under DOE/Nevada's ongoing American Indian Monitoring Program. In addition DOE conducted a Rapid Cultural Assessment (RCA) involving the consolidated Group of Tribes and Organizations (CGTO) which is compromised of representatives from all tribes with cultural ties to the NTS. The RCA team provided a detailed report of their findings and recommended mitigation measures. The DOE, FAA, and CGTO met to discuss potential impacts expected from the proposed Kistler project and the possibility of implementing appropriate mitigation measures. As a result, the DOE and FAA will implement the following mitigation measures prior to Kistler initiating operations:

- Preparation of a Rapid Cultural Assessment for the landing/recovery site and
- Permission for Tribal Elders to visit both the launch and landing/recovery sites.

These measures will be undertaken with the involvement of Kistler, DOE, FAA, and the CGTO.

Transportation. The additional traffic generated by the proposed Kistler action is minimal. The NTS on-site road network could easily support the additional traffic generated by Kistler activities. Traffic on off-site roads would increase, but other than State Road 433, the access road to the NTS, additional Kistler traffic would have almost no impact on traffic flow. The impact on State Road 433 would be as a result of all the expanded activities at the NTS with traffic generated by Kistler playing a minor role. This road would continue to operate at an acceptable level of service. The other minor transportation impact is closure of two paved roads for approximately one hour per launch, resulting in the disruption of paved road access to the northwest part of the NTS for one hour.

Cumulative Impacts

Air Emissions. It is projected that construction activities at NTS will generate about 600 tons of fugitive dust (PM_{10}) per year. This level will comprise just over three percent of the total of 177,760 tons associated with land disturbance activities throughout the region. The Kistler activities will add to this amount during the construction of the vehicle processing facility and launch area, and particularly for the work at the landing and recovery area, though the period of biggest impact is a small component of the total construction time. The air modeling analyses performed included cumulative impacts by adding impacts to the current background PM_{10} levels and no cumulative effects on air quality are expected.

Launch Vehicle Engine Noise. Noise impacts associated with activities at the NTS will be restricted to the geographical area contained therein and would not affect persons or residents in adjacent areas or add measurably to regional noise levels.

Socioeconomic Factors. Contributions of the proposed action to cumulative socioeconomic impacts would be additive. Given the proposed action's small relative size in comparison to the NTS workforce, the impacts would be minimal from a population and residential living standpoint.

Biological Resources. Air emissions and noise impacts during both construction and launch operations must be considered for cumulative impacts on biological resources. Although evaluated

separately, consideration was given to whether, in combination with other activities in the area, they might contribute to the creation of significant impacts. Air emissions during both construction and launch operations are not expected to have significant cumulative effects on air quality. Noise will likely drive birds and animals away from the launch, which will further limit their exposure to air emissions. Consequently, air emissions and noise levels are not expected to have cumulative effects on biological resources.

Cultural and Native American Resources. The cumulative impact analysis in the NTS EIS (DOE, 1996) estimated that over a ten-year period about 12,000 cultural resources sites would be adversely affected in non-NTS lands in the region. Of those, about 1,460 were estimated to be historic properties. Ground disturbing activities analyzed under the Expanded Use Alternative in the NTS EIS were estimated to result in the potential loss on NTS lands of about 670 cultural historic properties. Construction of Kistler's proposed facilities would affect two historic properties. Data recovery activities would facilitate mitigation of impacts to both sites. Therefore, the proposed action would represent a very slight increment of cumulative impact, well within the range of acceptable cumulative impacts analyzed in the NTS EIS.

Transportation. The cumulative impacts to transportation on and off the NTS as a result of the proposed Kistler activities is expected to be minimal. The existing capacity of the roads on the NTS was examined in the NTS EIS and determined to be more than adequate to meet the traffic already generated by NTS users as well as the proposed Kistler operations. The cumulative impacts of the Kistler activities and other anticipated off-site impacts would not cause a change in the level of service of any of the major roads that would be used to support the Kistler operations.