

CALIFORNIA COASTAL COMMISSION

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**W 10a**STAFF REPORT AND RECOMMENDATIONON CONSISTENCY CERTIFICATION

Consistency Certification No.	CC-30-96
Staff:	JRR-SF
File Date:	3/12/96
3 Months from receipt of certification:	6/12/96
6 Months from notice of activity:	4/10/96
Commission Meeting:	6/12/96

APPLICANT:**MCDONNELL DOUGLAS AEROSPACE**DEVELOPMENTLOCATION:

Space Launch Complex 2 West, Vandenberg Air Force Base, Santa Barbara County. (Exhibit 1 and 2)

DEVELOPMENTDESCRIPTION:

Up to ten Launches per year of the Delta II Space Launch Vehicles, for a three-year period with no more than three launches per year during the snowy plover and least tern nesting seasons.

SUBSTANTIVE FILE DOCUMENTS:

1. Environmental Assessment for Launch Rate Increase for Delta II Program at Vandenberg Air Force Base.
2. CD-64-91, Consistency Determination for NASA launches of Delta II vehicles from Vandenberg Air Force Base, maximum of two launches per year.
3. EA for the Modifications and Operations of Space Launch Complex 2W for the Delta II Launch Vehicle, September 1991.
4. SEA for the Modifications and Operations of Space Launch Complex 2W for the Delta II Launch Vehicle, June 1993.
5. CC-28-96, Consistency Certification for Commercial launches of Delta II Standard Small Launch Vehicle, Vandenberg Air Force Base.

6. CD-51-89, Consistency determination for construction and operation of SLC-7.
7. CD-88-93, Consistency determination for launching Lockheed Launch Vehicles.
8. CC-42-94, Consistency certification for construction and operation of California Commercial Spaceport.
9. Fish and Wildlife Service, Biological Opinion for Missile Launches from Two Sites on Vandenberg Air Force Base, Santa Barbara County, California, April 12, 1993 (1-8-93-F-8).
10. Fish and Wildlife Service, Final Report -- Western Snowy Plover Monitoring in 1993 At Vandenberg Air Force Base, California, February 2, 1994.

EXECUTIVE SUMMARY:

The proposed project utilizes a Delta II solid-fueled rocket-launch system to send satellites into earth orbits. McDonnell Douglas Aerospace (MDA) proposes to launch the Delta II from Space Launch Complex 2 West (SLC-2W) on Vandenberg Air Force Base (Vandenberg), with a maximum of ten launches per year. MDA modified its project to minimize impacts to federally listed endangered species (the California least tern and the snowy plover) that nest near the launch site. The applicant proposes to limit the launch activities to three years with no more than three launches per year during the nesting season. If the birds are not present, either during nesting season or afterwards, no restrictions apply. Additionally, MDA proposes to replace existing temporary structures within the SLC-2W with permanent facilities. Finally, MDA proposes to construct a new access road.

The proposed project will affect recreational resources of the coastal zone, because it requires closure of nearby Ocean Beach County Park and adjacent beaches. Despite this impact, the project is consistent with the recreation policies of the California Coastal Management Program (CCMP). The beach closures are necessary to protect public safety. The applicant will minimize the recreational impact by scheduling the launches to avoid weekends.

The project is adjacent to areas that contains sensitive habitat resources. However, the project is consistent with the habitat policies of the CCMP. The applicant proposes a three-year launch program with no more than three launches during the nesting seasons of the snowy plover and least tern. Before, during and after the launches, the applicant will monitor sensitive habitat areas to determine if the launches are affecting the birds. Based on that monitoring and any mitigation needs resulting from it, the applicant will submit a new consistency certification for extending the launch program.

The project will not significantly affect air and water quality resources of the coastal zone, and thus is consistent with those policies of the CCMP. Finally, the project includes measures to minimize oil spills.

STAFF SUMMARY AND RECOMMENDATION:

I. Project Description:

The proposed project utilizes a Delta II rocket launch system to launch satellites into earth orbits. MDA proposes to launch the Delta II vehicles from SLC-2W North Vandenberg (Exhibit 1 and 2). Previously, the Commission approved a consistency determination by the Air Force that authorized an annual launch rate of a maximum of two Delta II launches from SLC-2W. The applicant proposes to increase the launch rate to a maximum of ten launches per year for a three-year period. Additionally, the applicant will limit the number of launches during the snowy plover/least tern nesting season to a maximum of three per year. If the birds are not present, whether or not the launch is during the nesting season, the limitations do not apply. The applicant will use launches during the nesting season to gather data on the impacts to the species. Based on that data, the applicant will, if necessary, develop mitigation measures and submit a new consistency certification for extending the launch program beyond the three-year period. In addition to the launch activities, the applicant proposes to replace temporary buildings at the launch site with permanent structures and to construct a new road into the launch site.

The three-stage Delta II is 123.4 feet high and weighs approximately 513,000 pounds when fully fueled (Exhibit 3). The Delta II consists of five major assemblies: first stage, interstage, second stage, third stage, and payload fairing. The vehicle is powered through a combination of liquid and solid fuels including high-grade kerosene liquid oxygen, aerazine, and nitrogen tetroxide. All of the components of the vehicle are shipped to Vandenberg and assembled at SLC-2W. Once a rocket is fully assembled with its payload in place, final preparation for flight begins.

A typical mission proceeds in roughly the following order. At liftoff from the launch pad, the Delta II first stage propellant engine and six of the nine Solid Rocket Motors (SRMs) are ignited. Because SLC-2W is north of most other launch complexes at Vandenberg and because there are oil production platforms located off the coast to the south of SLC-2W, missions flown from SLC-2W cannot fly directly on their final southward course. The normal trajectory for a SLC-2W launch is nominally 259.5 degrees west for the first 90 seconds then a 41-second dog-leg maneuver to bring the vehicle on its southward course of 196 degrees. Until the rocket is several miles off the ground its flight is primarily straight up in the air.

The six SRMs burn out at approximately 64 seconds and the three remaining SRMs are ignited at approximately 66 seconds, by which time the vehicle has achieved an altitude of approximately 10 nautical miles (nmi) and is 7 to 8 nmi down range. At approximately 86 seconds at an altitude of approximately 15 nmi, the six spent SRMs are jettisoned (in two sets of three separated by approximately one second). They land in the ocean as marine debris at approximately 120.7° west longitude, 34.3° north latitude (roughly 25 miles northwest of San Miguel Island, 20 miles southwest of Point Conception, and well removed from major shipping lanes or oil exploration activities). The remaining three SRMs burn out at approximately 130 seconds, are subsequently jettisoned, and land in the ocean roughly 100 miles west of Ensenada, Mexico.

The first stage continues to power the Delta II until the main engine cut-off at approximately 260 seconds, followed by vernier engine cut-off at approximately 267 seconds, and first- and second-stage separation at 273 seconds. The fairing is jettisoned at 280 seconds, and depending on the mission, the multiple second-stage starts/cutoffs may take place. The vehicle then coasts until approximately 3,500 seconds when the second-stage engine is ignited in space for an approximately 20-second burn. The vehicle is stabilized and the spacecraft separated. Following the launch, the pad is washed down and the water is captured in the basin associated with the flame trough. The water in the basin is tested for contaminants and then disposed of in the Vandenberg wastewater facilities at SLC-6 as industrial waste water.

II. Applicant's Consistency Certification:

McDonnell Douglas Aerospace certifies that the proposed project is **consistent** with the California Coastal Management Program.

III. Staff Recommendation:

The staff recommends that the Commission adopt the following resolution:

A. Concurrence.

The Commission hereby **concurs** with the consistency certification made by McDonnell Douglas Aerospace for the proposed project, finding that the project is consistent with the California Coastal Management Program.

IV. Findings and Declarations:

The Commission finds and declares as follows:

A. Background. On October 21, 1991, the Commission staff agreed with a negative determination submitted by the Air Force for its launching of Delta II Launch Vehicles from SLC-2W. The negative determination allowed for up to two launches per year. The program approved by the Commission, did not include launches during the least tern and snowy plover nesting seasons. The proposed project will increase the number of launches from this facility by eight launches per year and will allow for commercial launches and governmental operations.

B. Access and Recreational Resources. Section 30210 of the Coastal Act provides that:

In carrying out the requirement of Section 4 of Article X of the California Constitution, maximum access, which shall be conspicuously posted, and recreational opportunities shall be provided for all the people consistent with public safety needs and the need to protect public rights, rights of private property owners, and natural resource areas from overuse.

Section 30211 of the Coastal Act provides that:

Development shall not interfere with the public's right of access to the sea where acquired through use or legislative authorization, including, but not limited to, the use of dry sand and rocky coastal beaches to the first line of terrestrial vegetation.

Section 30220 of the Coastal Act provides that:

Coastal areas suited for water-oriented recreational activities that cannot readily be provided at inland water areas shall be protected for such uses.

Section 30221 of the Coastal Act provides that:

Oceanfront land suitable for recreational use shall be protected for recreational use and development unless present and foreseeable future demand for public or commercial recreational activities that could be accommodated on the property is already adequately provided for in the area.

The proposed launch site is within North Vandenberg and just North of Ocean Beach County Park. This beach is one of only four public beaches located northern Santa Barbara County. Those public beaches are Gaviota State Park, Jalama County Park, Ocean Beach County Park, and Point Sal State Beach. Because of the limited amount of recreational opportunities in this part of the coast, all of these beaches are important recreational resources. The applicant describes the beach closures that will accompany its launches as follows:

Rocket launches from SLC-2W will be conducted in accordance with ground, range, and flight safety regulations of the Air Force at VAFB. During launch operations, closure of the Coastal Zone will be conducted by the Air Force Safety Officer. Beaches south of SLC-2W to the southern coastal boundary of VAFB (including Ocean Beach County Park) would be closed during rocket launches from SLC-2W; however, closure of the Coastal Zone would last for a few hours during the actual launch. The proposed action will not cause an exceedance of the historic number of launches requiring beach closures (21 launches per year on an average over a 10-year span) at VAFB (ENSR, 1996). Additionally, efforts will be made to schedule launches that will avoid weekends and beach closures will be posted conspicuously well before the date of scheduled launches.

Almost all launches with southern trajectories from North Vandenberg require closure of Ocean Beach County Park and associated beaches. The Air Force requires this closure in order to protect public safety. Vehicles launched from SLC-2W will fly over Ocean Beach, which is within the destruct zone for Delta II rockets. If the Air Force has to destroy a vehicle after launch, debris from the explosion is likely to land on Ocean Beach. Thus the project presents a legitimate safety hazard to people using

Ocean Beach. Therefore, the Commission finds that, if it is necessary to use this site, beach closures are necessary to protect public safety.

Because of the limited amount of public beach available in this part of the coast, the Commission has strong concerns about any activity that affects recreational use of the existing beaches. In order for the Commission to find these beach closures consistent with recreational policies of the CCMP, the project must maximize recreation opportunities in a manner consistent with public safety concerns, and the applicant must demonstrate that there are no feasible ways to avoid or reduce the recreation impact.

The applicant requires a launch site on Vandenberg because it is the only location in the United States capable of launching satellites into a polar orbit. According to the applicant, the only other launch site currently designed to launch Delta II rockets is Cape Canaveral on Florida's east coast. Generally, the Cape Canaveral site is used for equatorial launches and the Vandenberg site is used for polar launches. The applicant describes the capabilities and restrictions of the Cape Canaveral site as follows:

Aside from SLC-17 at CCAS [Cape Canaveral Air Station], no other launch site is presently configured to accommodate a Delta II launch vehicle. Only SLC-2W is suitable for launching Delta II vehicles to deliver payloads into polar orbits. Launches from SLC-17 and other CCAS space centers are constrained to easterly launch azimuths between 35 and 120 degrees to avoid flying over populated areas.

It is nearly impossible to launch to a polar orbit from CCAS without flying over populated land areas. Thus polar orbit launches from that location present a significant safety risk. Vandenberg is the site used by governmental and commercial launchers to achieve polar orbits. Since most of the flight is over water, polar orbit launches from Vandenberg can occur without flying over any populated areas.

The applicant evaluated seven other alternative launch sites on Vandenberg. Two of those sites, Launch Support Complex 576 E (LSC 576E) and SLC-3W would require beach closures including closure of Ocean Beach. Therefore, those alternatives are not less damaging. All of the other existing launch sites are used for Air Force or other commercial space activities and the modifications necessary to support the Delta II launches and the launches themselves would interfere with those existing activities. Therefore, those alternatives are not feasible. Finally, the applicant evaluated relocating to the California Commercial Spaceport (Spaceport). Launches from the Spaceport do not require closure of public beaches. However, the Spaceport is not yet constructed. The Air Force expects the Spaceport to be completed in 1997. As approved by the Commission, the Spaceport is not capable of launching the Delta II rockets. However, the developers of the Spaceport are considering redesigning the facility to accommodate Delta II rockets. Although no final plans have been completed, the Spaceport has contacted the Commission staff to investigate applicable regulatory requirements for such a redesign.

Although the Commission agrees that SLC-2W is currently the only feasible launch location, the Commission must also determine that the applicant has minimized the recreation impact. The applicant proposes a maximum of ten launches per year. Each launch event requires approximately six hours of beach closure, which includes two hours before the launch and the three- to four-hour launch window. Vandenberg will reopen the beaches immediately after a successful launch. If the launch

occurs on schedule, the beach closure could be as short as two hours. If the launch does not occur within the necessary launch window, MDA will postpone the launch to the next available window and the Air Force will reopen the beaches. As additional mitigation, the applicant has agreed to avoid scheduling launches on weekends. Therefore, the Commission finds that the applicant will minimize the recreation impact.

Although the proposed increase in launches is consistent with the recreational policies of the Coastal Act, the Commission is concerned about cumulative impacts from the increased launch rates at VAFB. As described above, Ocean Beach is one of four public beaches in northern Santa Barbara County. Three of the four public beaches in northern Santa Barbara County are affected by launch activities at Vandenberg. Because of limited amount of access and the potential impact from Vandenberg, the Commission cannot understate the significance of cumulative impacts to access. Generally, beach closures are required for Titan IV launches from South Vandenberg (Jalama Beach), launches from SLC-3, SLC-2W, and LSC 576E (Ocean Beach), and launches of Minute Man and MX missiles from North Vandenberg (Point Sal). The Commission has authorized up to three launches from LSC 576E and two launches from SLC-2W. This project will increase number of launches from SLC-2W from two to ten launches per year.

Managing cumulative impacts from launch activities at Vandenberg is difficult. Historically, the launch rate at Vandenberg was much higher than the current rate. The Air Force has been launching rockets from Vandenberg since 1959. The greatest number of launches occurred in 1966 when the Air Force launched 94 rockets. Between 1959, and the enactment of Proposition 20, 1972, the Air Force has averaged approximately 57 launches per year from Vandenberg. During that time, the Air Force authorized many of its existing launch programs and built launch facilities to support those programs. However, over time the Air Force launches rockets at a much lower rate. Between 1973 and 1993 the launch rate averaged about 27 launches per year (Exhibit 4). For the last ten years, the annual rate averaged about 15 launches (Exhibit 4). The decrease in launch rate has resulted in a lesser recreational impact. The Commission has received beach closure statistics for the period between 1973 and 1993 (Exhibit 5). In 1973, 45 beach closures occurred (Exhibit 5). Since that time, the number of beach closures has steadily declined to approximately 8 closures in 1993 (Exhibit 5). Despite this decline, the Air Force expects an increase in beach closures over the next few years because of increased commercial space launch activities. However, the launch rate will remain below historic levels.

The proposed project represents an 8-launch per year increase in the launch rate. Even with this increase, the launch rate is significantly less than Vandenberg's historic levels and the cumulative impact on recreational resources of the coastal zone will be less than historic levels. However, the Air Force is aware that most of the historic and current launch programs were initiated prior to the Coastal Zone Management Act and that these programs have effects on coastal zone resources. In order to address this issue, the Commission has initiated discussion with the Air Force to develop programmatic consistency review of launch activities at Vandenberg. This review will authorize a specific, as yet unidentified, launch rate for Vandenberg and provide the Commission with certainty on the number of beach closures. It is through that process that the Commission will fully address the cumulative impacts from launch activities at Vandenberg. With respect to this project, the Commission can find it consistent with the Coastal Act without a complete cumulative analysis

because Vandenberg has significantly reduced the number of beach closures over the years and because the cumulative impacts will be fully addressed in the programmatic consistency review.

In conclusion, the Commission finds that the beach closures are necessary for public safety, currently there are no feasible alternatives, the applicant has incorporated measures to reduce impacts to recreational resources, and the project will not have significant cumulative impacts on coastal recreation. Therefore, the Commission finds that the proposed launch facility is consistent with the access and recreational policies of the CCMP.

C. Habitat Resources. Section 30230 of the Coastal Act provides that:

Marine resources shall be maintained, enhanced, and where feasible, restored. Special protection shall be given to areas and species of special biological or economic significance. Uses of the marine environment shall be carried out in a manner that will sustain the biological productivity of coastal waters and that will maintain healthy populations of all species of marine organisms adequate for long-term commercial, recreational, scientific, and educational purposes.

Section 30231 of the Coastal Act provides that:

The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored through, among other means, minimizing adverse effects of waste water discharges and entrainment, controlling runoff, preventing depletion of ground water supplies and substantial interference with surface water flow, encouraging waste water reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural streams.

Section 30240(b) of the Coastal Act provides that:

Development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be cited and designed to prevent impacts which would significantly degrade such areas, and shall be compatible with the continuance of such habitat areas.

1. Existing Resources. There are several federally listed endangered and threatened species and other species of special significance located on Vandenberg, including the California least tern, unarmored three-spined stickleback, snowy plover, tidewater goby, Southern sea otter, California Brown Pelican, bald eagle, Southwestern willow flycatcher, and American peregrine falcon. In addition, there are several species of pinnipeds that reside on Vandenberg. Those pinnipeds include

the harbor seal, California sea lion, northern fur seal, and elephant seal. Habitats for the tidewater goby, the unarmored three-spined stickleback, the Southwestern willow flycatcher, bald eagle, northern fur seal, and elephant seals are not in the vicinity of the proposed launch site.

The species most likely affected by the proposed project include the snowy plover, California least tern, sea otter, and harbor seal. The least tern and snowy plover nest near the launch site. These nest sites include Purisma Point (which is approximately one mile north of the launch site), the mouth of the Santa Ynez River (which is approximately 3 miles south of SLC-2W), and the mouth of the San Antonio Creek (approximately 3 miles north of SLC-2W). The snowy plover also nests on several beaches near the launch site. There are 12.4 miles of sandy beach on Vandenberg that provide nesting habitat for the snowy plover. This area includes 7.7 miles of beach north of Purisma Point (approximately 1 mile north of the launch site), 1.1 miles north of the Santa Ynez River (which is 3.2 miles south of the launch site), and 3.7 miles south of the Santa Ynez River. (U.S. Fish and Wildlife Service snowy plover monitoring report, February 2, 1994.)

The brown pelican and the peregrine falcon reside on Vandenberg. The brown pelican does not nest on the base, but forages and roosts on much of the coastal areas of the base. Launch noise may startle a roosting pelican, but this impact will be minor and temporary. Additionally, the Delta II vehicle will not generate a large enough acid cloud to affect the pelican. The peregrine falcon nests on south base, including areas near Spaceport. They periodically forage and roost near the SLC-2W. Neither the noise nor ground acid cloud will have a significant effect on foraging falcons in the vicinity of SLC-2W. Any launch effects at this site will be temporary and minor.

Several species of marine mammals visit coastal areas near all three launch sites. The Southern sea otter utilizes several rocky areas along the Vandenberg coast, including Purisma Point (which supports a small breeding colony). Additionally, there are breeding populations of harbor seals near both SLC-2W. Finally, California sea lions haul out at various locations along the Vandenberg coast. Since the sea lion does not breed near the launch site and since this species is tolerant of human activities, the launches will not significantly affect the sea lion.

2. Marine Mammals. The project will not significantly affect the Southern sea otter. The Purisma Point sea otter colony is far enough away from the launch site to avoid effects from acid ground clouds generated by the launch. Additionally, launch noise will not affect the otter. The sea otter spends most of its time in the water. Any startle response would probably cause it to dive under water. The worst effect from this response would be to separate mothers from pups. However, mothers regularly leave their pups while foraging. Therefore, any additional separation would not significantly affect the sea otters.

The project's effects on harbor seals are difficult to determine. The Purisma Point area (near SLC-2W) provides haulout and breeding areas for harbor seals. Launch noise could result in effects on this marine mammal. These animals are easily disturbed by human activities. This disturbance could result in abandonment of the haul out areas or interference with their breeding and rearing activities.

In past projects, the Commission has considered the impact from launch activities on marine mammals (CD-21-82 -- Space Shuttle, CD-28-90 -- Titan IV/Centaur, CD-88-93 -- Lockheed Launch Vehicle at

SLC-6, and CC-42-94-California Commercial Spaceport). In those consistency reviews, the Commission found that noises generated from launches of those vehicles will not significantly affect marine mammals, assuming noise levels would occur as predicted, and with adequate monitoring and mitigation (if monitoring shows adverse impacts). Since the Delta II is significantly smaller than either the Space Shuttle or the Titan IV/Centaur vehicles, the launch noise generated from this vehicle will be significantly less than the military vehicles. Therefore, the impact to marine mammals will be less than that from either the Space Shuttle or the Titan IV/Centaur. Nevertheless, MDA will participate in a marine mammal monitoring study to verify these conclusions. The applicant will implement its monitoring program incorporation with Vandenberg and the National Marine Fisheries Service.

3. California Least Tern And Western Snowy Plover. Both the snowy plover and the least tern are potentially affected by launch activities from SLC-2W. Both these species nest near the Santa Ynez River and Purisma Point. Since the Santa Ynez River populations are approximately three miles from the launch site, Delta II launches will not significantly affect those nesting sites. However, the Purisma Point nesting areas are approximately one mile from the launch site and potentially affected by launch activities.

In 1993, at the request of the Air Force, the U.S. Fish and Wildlife Service (Service) published a biological opinion for missile launches from two sites on Vandenberg, SLC-2W and SLC 576E. That biological opinion covered two launches of Delta II vehicles from SLC-2W and three launches of Taurus rockets from SLC-576E (a nearby launch site). The Service believes that launch noise and emissions from these facilities could potentially affect both species. The Service recommended additional mitigation to protect both species. The mitigation includes monitoring of acoustic and emission levels, increased monitoring of the species, predator control, and a prohibition of launching during the nesting season when the wind is blowing towards the nesting sites. The authorized launches are to be used to gather data about impacts from launch activities on the birds. However, only one launch has occurred during the nesting season for these species. Since that launch occurred last month (April 1996), there is insufficient data to determine effects on the birds from the launches.

Because of the lack of information regarding impacts to the listed bird species, the applicant agreed to continue the experimental nature of the launches. As fully described in Exhibit 7, the applicant has modified its consistency certification to limit the project to a three-year period, with a maximum of three launches per year during the nesting season. The applicant, in coordination with the Air Force and the Fish and Wildlife Service, will monitor plovers and terns before, during, and after launches. The applicant will use data gathered from the monitoring to develop mitigation measures, if necessary, and resubmit a consistency certification for a continuation of the launch program.

Since the limited number of launches during the nesting season will be used to gather data on impacts to the affected birds and used to develop mitigation measures to minimize impacts, the project is consistent with the habitat protection policies of the CCMP.

4. Conclusion. In analyzing the project's impacts on endangered and sensitive species, the Commission is guided by Sections 30230 and 30240 of the Coastal Act. For the Commission to concur with this consistency certification, the Commission must find that the project

will not significantly degrade the endangered species habitat and will maintain healthy populations of these species. Since the applicant's analysis of existing studies and available information suggests that the project will not significantly affect any of the species discussed above, and the applicant has agreed to monitor, and mitigate if necessary, the impacts to the harbor seal, least tern, and snowy plover from launch activities, the Commission finds that the proposed project will protect habitat resources of the coastal zone. Therefore, the Commission finds that the project is consistent with the Marine Resources and Environmentally Sensitive Habitat protection policies of the CCMP.

D. Air Quality. The Coastal Act contains several air quality provisions. Section 30253(3) of the Coastal Act states in part, that:

New development shall ... [b]e consistent with the requirements imposed by an air pollution control district of the State Air Resources Control Board as to each particular development.

Section 30414 provides:

(a) The State Air Resources Board and air pollution control districts established pursuant to state law and consistent with requirements of federal law are the principal public agencies responsible for the establishment of ambient air quality and emission standards and air pollution control programs. The provisions of this division do not authorize the commission or any local government to establish any ambient air quality standard or emission standard, air pollution control program or facility, or to modify any ambient air quality standard, emission standard, or air pollution control program or facility which has been established by the state board or by an air pollution control district.

(b) Any provision of any certified local coastal program which establishes or modifies any ambient air quality standard, any emission standard, any air pollution control program or facility shall be inoperative.

(c) The State Air Resources Board and any air pollution control district may recommend ways in which actions of the commission or any local government can complement or assist in the implementation of established air quality programs.

Additionally, Section 307(f) of the Coastal Zone Management Act incorporates federal, state, and local provisions established pursuant to the Clean Air Act into state coastal management programs.

Pursuant to the Clean Air Act, the state has established programs to attain and maintain national ambient air quality standards adopted by the Environmental Protection Agency. Under the State Health and Safety Code, the State Air Resources Board and local air pollution control districts implement this responsibility. EPA reviews those rules to determine that they are consistent with the

Clean Air Act. Pursuant to the Clean Air Act and the State Health and Safety Code, the state may adopt more stringent standards for certain pollutants than those under federal law.

Air pollution levels above both the designated federal and state ambient air quality standards threaten public health. The federal standard for ozone is 12 parts per hundred million (pphm), while the state standard is 9 pphm. State and federal law require the local Air Pollution Control Districts (APCDs) (usually counties) to establish air quality programs, which include rules and regulations for the attainment and maintenance of both the federal and state ozone standards and other standards within their districts.

The project is within Santa Barbara County, which does not meet several established air standards. The State has classified the County as non-attainment for both state and federal ozone standards (O_3), as well as for the state fine particulate matter standard (PM_{10} , 24 hour standard).

Santa Barbara County APCD requirements that may be applicable to the project include: consistency with Air Quality Attainment Plan provisions, consistency with Health and Safety Code provisions, compliance with District New Source Review, Prevention of Significant Deterioration, and any other rules listed in any APCD's Final Authority to Construct permit program that might be required. Upon exceeding certain threshold, or "trigger" levels, these rules generally require reduction of pollutants, Best Available Control Technology, and offsets for residual emissions. However, under the APCD's existing rules, the proposed project does not exceed any of these trigger levels.

The major activities involving air emissions are the rocket launches and the construction of supporting facilities including two roads, a parking lot and permanent buildings. The APCD does not have regulatory authority over rocket launches because they are mobile sources. However, in analyzing launch emissions, the applicant notes the primary pollutants are aluminum oxide, hydrochloric acid, carbon monoxide, and carbon dioxide. The Air Force's uses a model (Rocket Exhaust Effluent Diffusion Model) to estimate launch "hold" criteria, to assure that the project does not pose any health risks. Under these criteria, launches will not be allowed under certain atmospheric conditions. The applicant will conduct rocket launches in accordance with safety zones and safety regulations established by Vandenberg.

One of the more notable air quality issues raised with respect to launch activities is the creation of an acid ground cloud. These ground clouds have the potential to affect the acidity (pH) of nearby water bodies and adversely affect sensitive plant and animal species. This issue was of some significance when the Commission reviewed the consistency determinations for the Space Shuttle and the Titan IV/Centaur. With respect to the Delta II rockets, however, the acid cloud is not a significant issue. The applicant describes the issue as follows:

During Delta II launches, water is used for IPS on the main engine to reduce the initial shock wave of the motor exhaust gasses down the flame duct. This configuration is different from that used by the Titan, which uses a water curtain through which the exhausts of both solid and liquid engines pass. In the Titan, a large acid mist is formed from the interaction of the exhaust of the

solid motors and the water. No such acid mist is formed by the Delta since the solid motor exhausts do not contact the IPS water during the launch. Deposition of HCl is limited to the area under the rocket itself and the HCl does not disperse widely such as occurs with the Titan.

Addressing ozone depleting materials, the applicant does not anticipated releases of fluorocarbons to the atmosphere and states that it will "...comply with all U.S. Air Force regulations that apply to the use of ozone depleting chemicals."

Regarding compliance with the Clean Air Act, the applicant notes that compliance with that Act's "Conformity Rule" would be required if emission levels were to exceed "de minimis" levels. Federal actions that do not contribute pollutants above the specified levels are exempt from the conformity analysis requirements. An Air Force Air Emissions Conformity Analysis concluded that proposed operations at SLC-2W, including launches, would not exceed the de minimis thresholds (Exhibit 6).

Therefore, the Commission finds that the project, as proposed, complies with all applicable APCD, ARB, and Clean Air Act requirements, and is consistent with Section 30253(3) of the Coastal Act.

E. Water Quality Resources. Section 30231 of the Coastal Act provides that:

The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored through, among other means, minimizing adverse effects of waste water discharges and entrainment, controlling runoff, preventing depletion of ground water supplies and substantial interference with surface water flow, encouraging waste water reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural streams.

The applicant will collect and test waste water and then transfer the water to a treatment facility on South Vandenberg. An additional water quality concern is the generation of an acid ground cloud caused by the launch events. However, this impact will not be significant because the Delta II launch vehicles do not generate an acid cloud, the lack of sensitive species in the immediate vicinity of the launch sites, and the buffering capacity of the soil in the area. Therefore, the Commission finds that the proposed project is consistent with the water quality protection policies of the CCMP.

F. Oil Spills. There is a potential for the launch activities at Vandenberg to damage offshore oil platforms and cause an oil spill. Section 30232 of the Coastal Act requires protection of coastal resources from oil spills. That section provides:

Protection against the spillage of crude oil, gas, petroleum products, or hazardous substances shall be provided in relation to any development or

transportation of such materials. Effective containment and cleanup facilities and procedures shall be provided for accidental spills that do occur.

The applicant recognizes the potential for an accident during launch damaging an offshore oil platform. According to the applicant, this project is subject to the same safety requirements as any military launch. These safety requirements include measures to protect oil platforms from impacts from catastrophic events. The consistency determination the Air Force's launch facility on Cypress Ridge, SLC-7, describes the procedures used to minimize the risk of an oil spill:

During SLC-7 launches, the USAF will advise oil companies operating offshore of the need to evacuate oil platforms considered to be at risk from the launch. According to oil industry representatives, prior to evacuation of a platform, the wellbore will be closed and capped, and the blow-out prevention equipment on the ocean floor and the platform will be activated to prevent a spill. In addition, not all personnel would be evacuated. A skeleton crew

trained in fire fighting, damage control, and spill response would remain on the platform and be in a shelter for approximately 12 minutes at the time of the launch. Personnel remaining on the rig could promptly respond to emergencies utilizing onboard equipment and request assistance from shore-based support services.

The Commission has historically found that these measures will reduce the potential for oil spills caused by an accident during a launch. Therefore, the Commission finds that the proposed project will protect against the potential for an oil spill, and thus that the proposed project is consistent with the oil spill protection policy of the CCMP.

4523-125-100

1-3

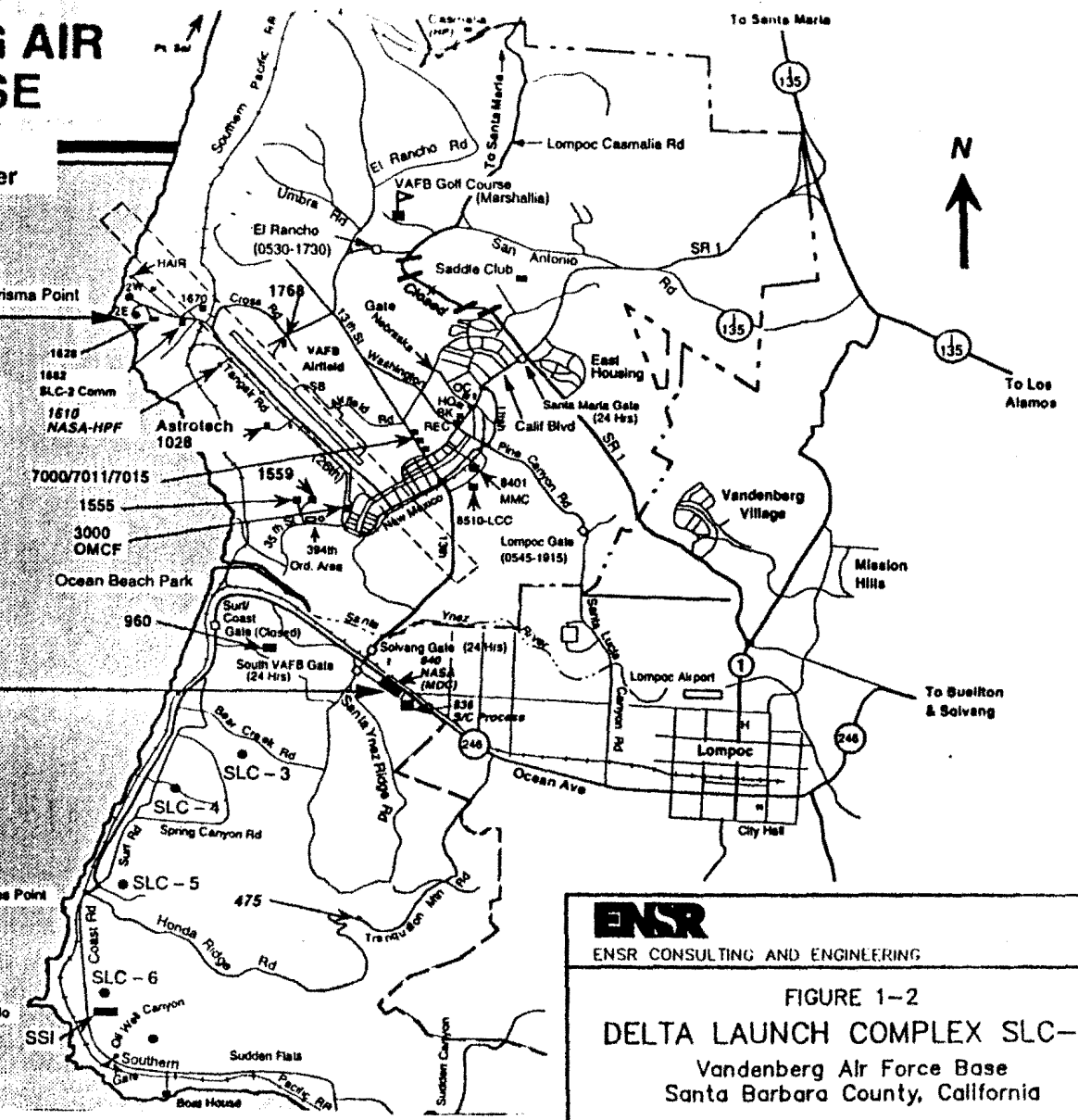
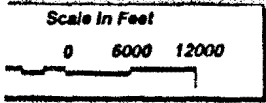
VANDENBERG AIR FORCE BASE

MDA
Vandenberg Test Center

Delta Launch Complex SLC-2

PACIFIC OCEAN

NASA Spacecraft Support Area



ENSR CONSULTING AND ENGINEERING

FIGURE 1-2
DELTA LAUNCH COMPLEX SLC-2
 Vandenberg Air Force Base
 Santa Barbara County, California

DRAWN: M. SCOP	DATE: 10/3/95	PROJECT NO	REV.
FILE NO. 4523085G	CHK BY: <i>RE</i>	4523-125-100	

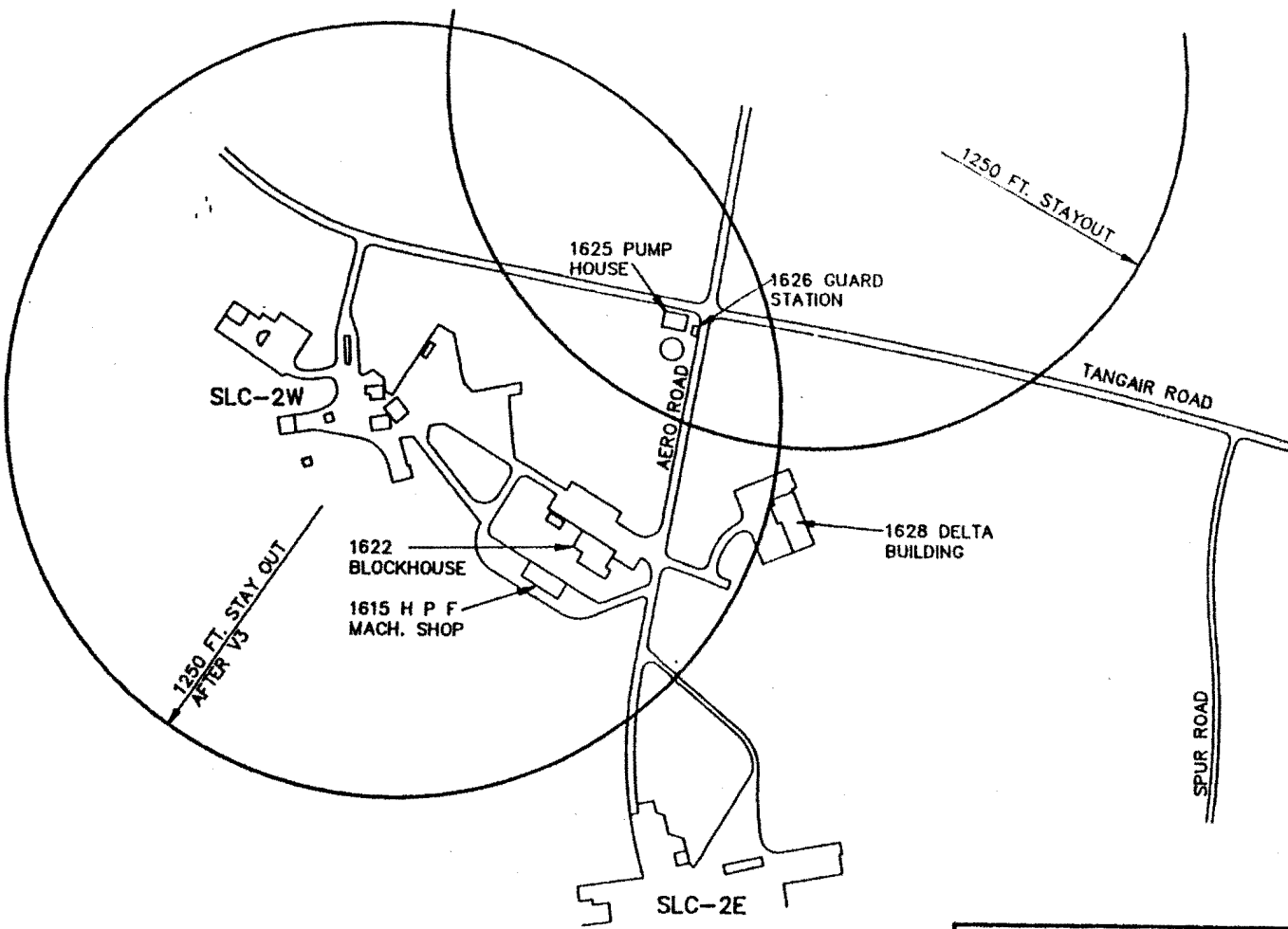
ENSR

California Coastal Commission

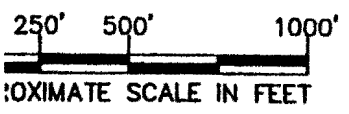
EXHIBIT NO. 1

APPLICATION NO.

CC-30-96

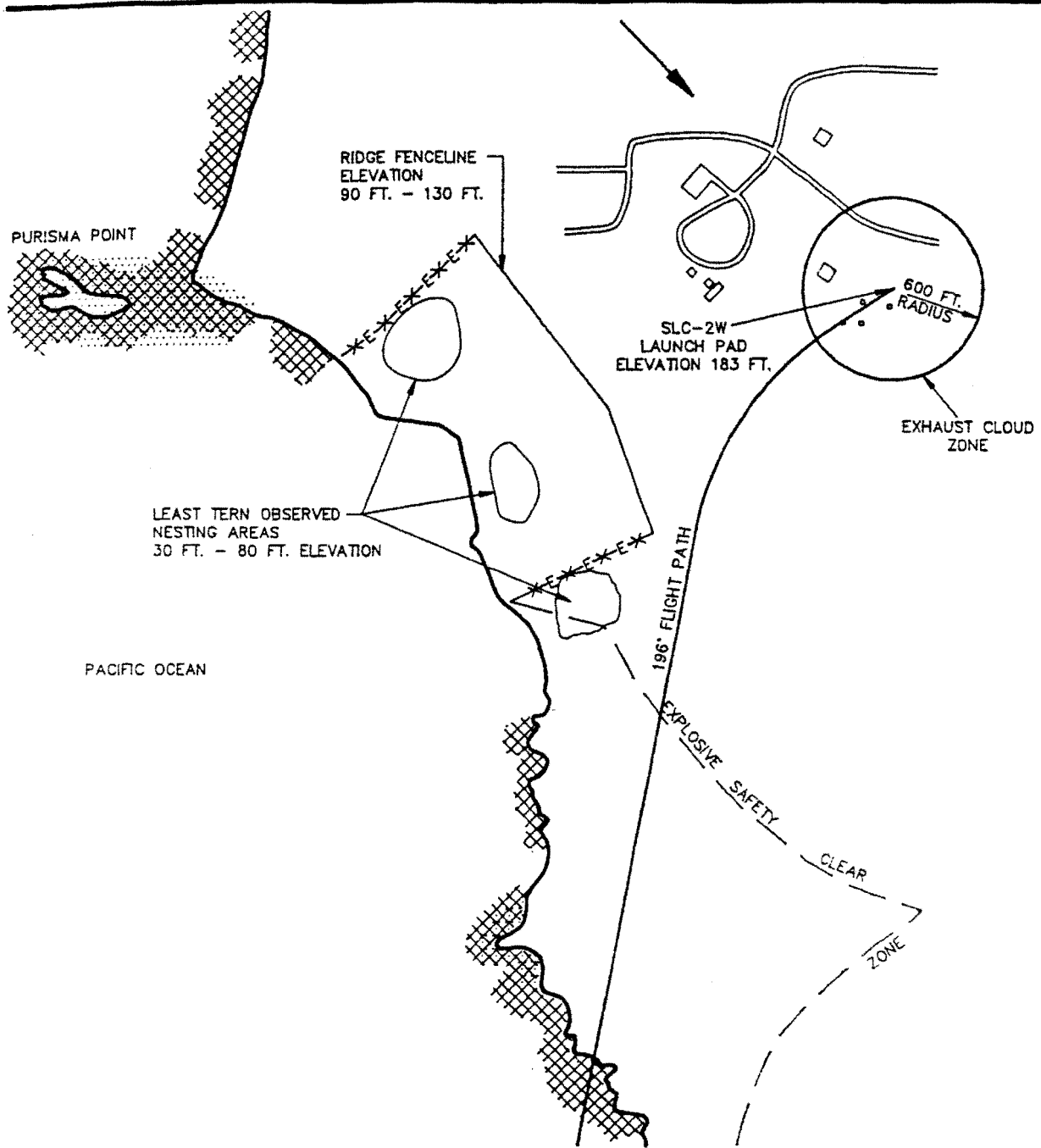


 California Coastal Commission	CC-30-96
	EXHIBIT NO. 2 APPLICATION NO.



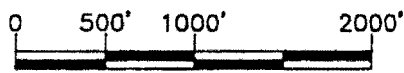
 ENSR CONSULTING AND ENGINEERING			
FIGURE 1-3 SITE PLAN DELTA LAUNCH COMPLEX SLC-2W Vandenberg Air Force Base Santa Barbara County, California			
DRAWN: M. SCOP FILE NO. 4523125a	DATE: 1/31/00 CHK BY: <i>KC</i>	PROJECT NO. 4523-125-100	REV.

ENSR



LEGEND

- X—E—X— ELECTRIC FENCE
- ▣ ROCKY SHORELINE
- ➔ PREVALING WIND APR. - AUG. 185°
- ▨ HARBOR SEAL HAUL OUT AREA



SCALE IN FEET

ENSR
ENSR CONSULTING AND ENGINEERING

FIGURE 3-5
**LEAST TERN NESTING AND HARBOR
SEAL HAUL OUT AREAS NEAR SLC-2W**
Vandenberg Air Force Base
Santa Barbara County

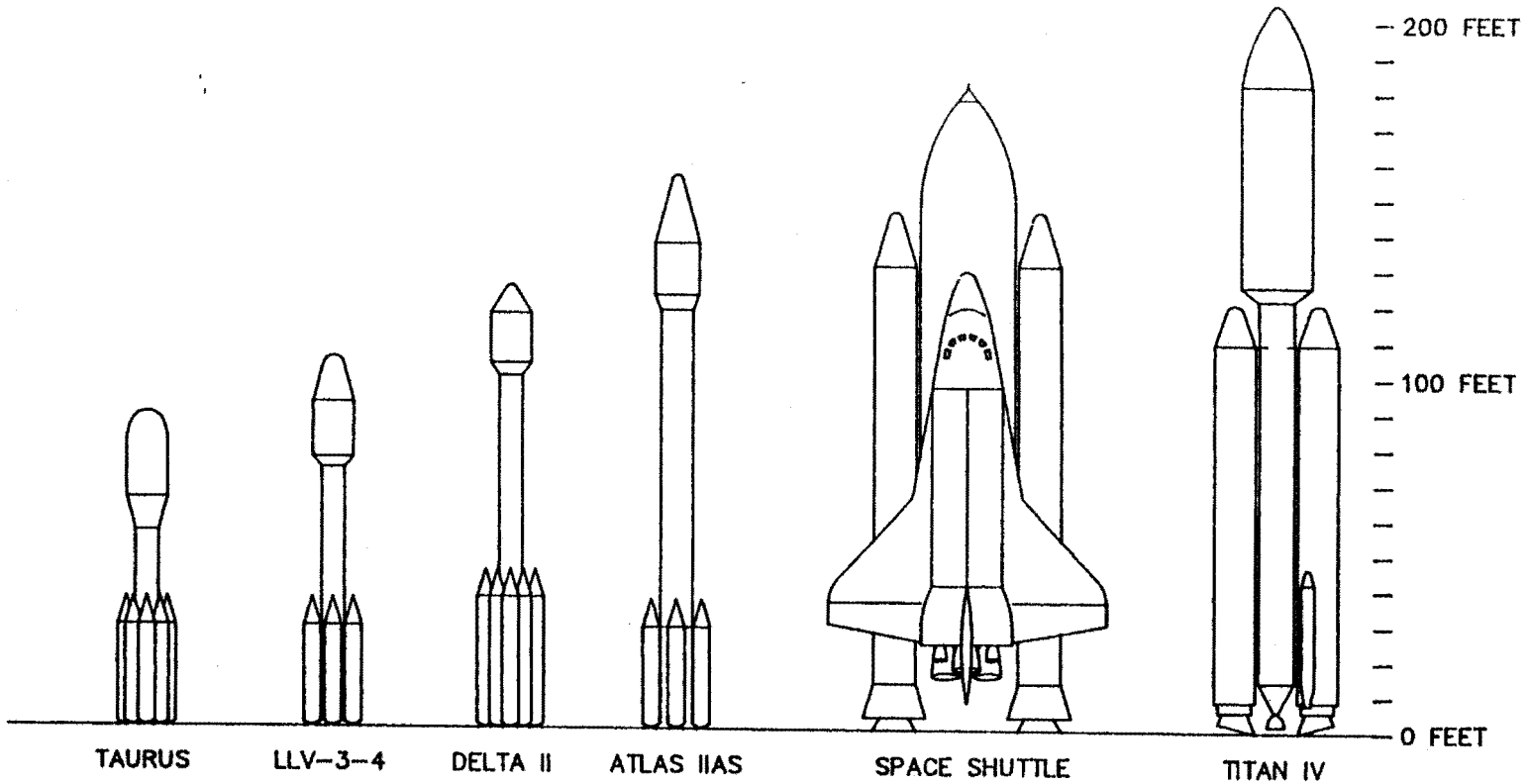
DRAWN: M. SCOP	DATE: 1/31/96
FILE NO. 4523085A	CHK BY: JE

EXHIBIT NO. 2 cont.

APPLICATION NO.

CC-30-96

California Coastal Commission

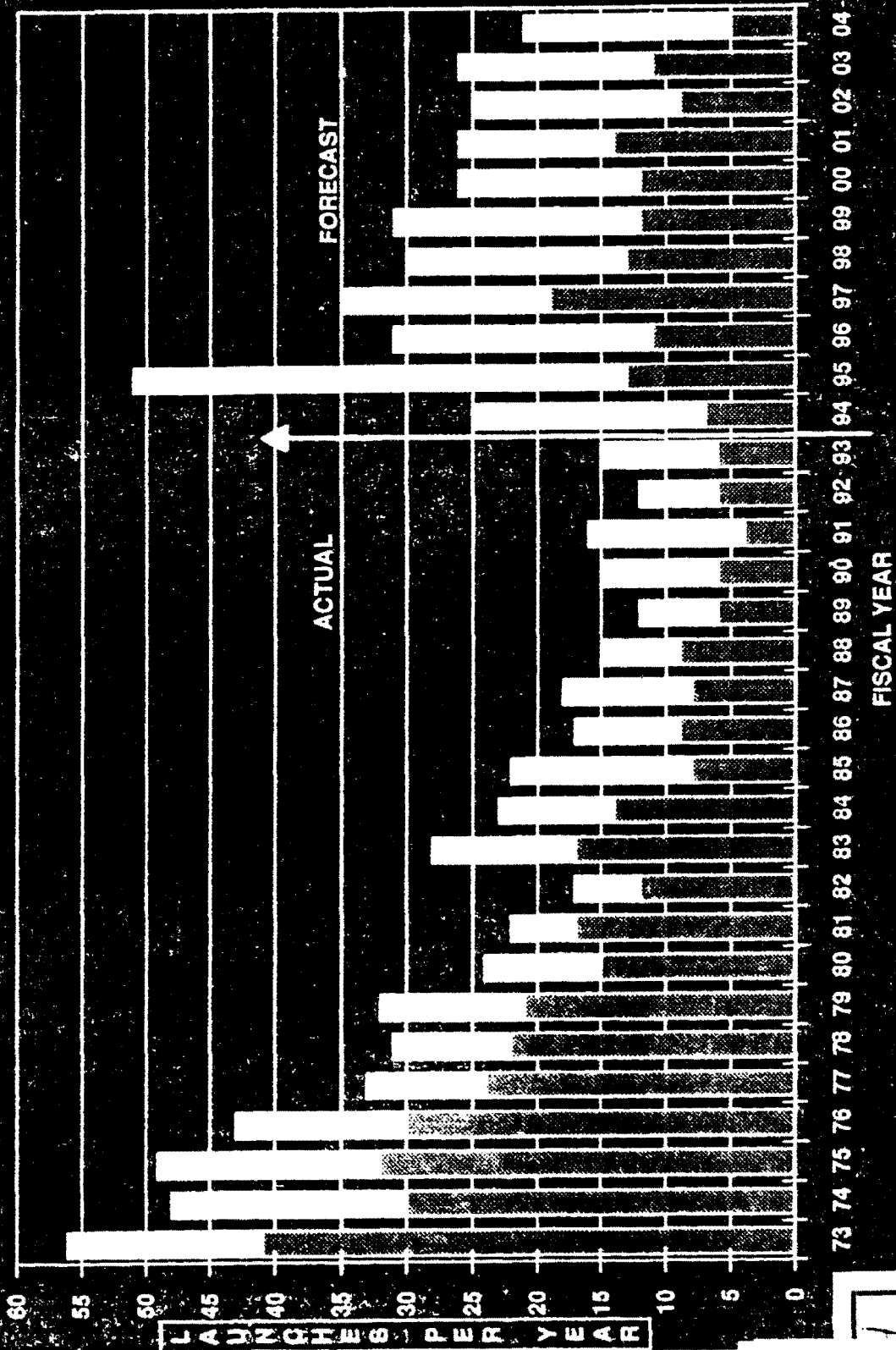


ENSR

ENSR			
ENSR CONSULTING AND ENGINEERING			
FIGURE 2-6			
COMPARISON OF LAUNCH VEHICLES			
Vandenberg Air Force Base Santa Barbara County, California			
DRAWN: M. SCOP	DATE: 6/23/95	PROJECT NO. 4523-125-100	REV.
FILE NO. 4523085D	CHK BY: RE		

California Coastal Commission	CC-30-96	APPLICATION NO.	EXHIBIT NO. 3
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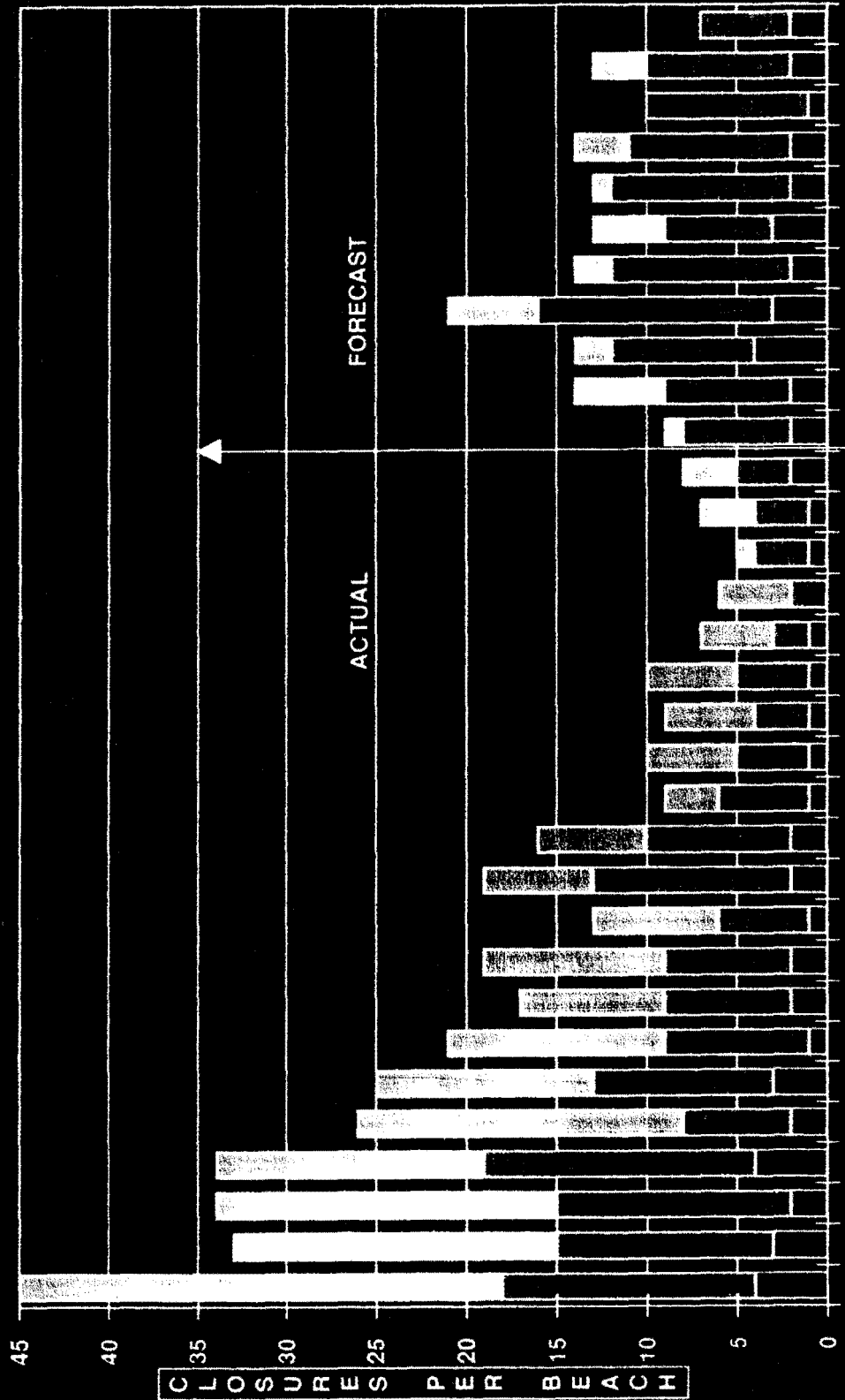
VAFB BEACH CLOSURES



BEACH CLOSURES
 NON-BEACH CLOSURES

EXHIBIT NO. 4
APPLICATION NO.
CL-30-96

BEACH CLOSURES BY INDIVIDUAL BEACH



73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04

FISCAL YEAR

JALAMA SURF PT. SAL

EXHIBIT NO. 5
APPLICATION NO.
CC-30-96

AE EX IBM

None of the pollutants will be emitted in an amount greater than the corresponding *de minimis* threshold. Therefore, the requirements of a conformity analysis are not applicable to this project.


TABLE 4-5

Clean Air Act Conformity Comparison

Constituent	Total Annual Launch Emissions ^a (tons)	Total Annual Indirect Emissions (tons)	Total Annual Project Emissions (tons)	<i>De minimis</i> Emission Levels
PM ₁₀	0	0.07	0.07	100 tons/year
CO	60.7	3.74	64.4	100 tons/year
NO _x	0.22	0.46	0.68	50 tons/year
VOC	--	0.87	0.87	50 tons/year
SO ₂	--	0.03	0.03	100 tons/year
a - Negligible emissions of VOC, SO ₂ , and lead				

4.1.5 Cumulative Impacts

Based on the infrequency of launch activities proposed for the action and the short-term nature of the construction activities when considered in conjunction with both other launches and other construction projects on base, no cumulative impacts to air quality are anticipated to occur from the proposed action.

EXHIBIT NO. 6
APPLICATION NO.
CC-30-96
 California Coastal Commission

MCDONNELL DOUGLAS

McDonnell Douglas Aerospace
Vandenberg Test Center

A31-L490-JRN-CL-68
23 May 1996

To: California Coastal Commission
45 Fremont Street, Suites 1900 and 2000
San Francisco, CA 94105-2219

Attn: Mr. Jim Raives

Subject: Delta II Launch Rate Increase

As communicated to you by Bill Gorham of ENSR, McDonnell Douglas Corporation (MDC) wishes to amend its application for a Coastal Consistency Certification (Certification) in the following ways:

- The Certification will be for three years.
- Up to ten launches could take place annually provided they do not occur during the critical portions of the least tern or snowy plover nesting periods¹ except as provided for below.
- Up to three launches could occur annually during the period described in footnote 1.
- Daylight launches that occur during the period described in footnote 1 will be recorded on video tape with sufficient detail to determine responses of terns and plovers to launches.
- After five launches have occurred during the period described in footnote 1, consultation with the U.S. Fish and Wildlife Service (USFWS) will be reinitiated.

Mr. Watkins (USFWS) has indicated the USFWS would like to see restrictions on access to the area before and after the launches so that data on bird activity will not be influenced by extraneous factors such as human disturbances. However, because MDC does not have authority to control such access, that request is not made part of the modification to the Certification.

Please review this request and let us know if it satisfactorily addresses your concerns for protected species adjacent to SLC-2. Also, please let us know if, with this modification, we will still be on the June agenda for review of this request.



J. R. Niederhauser
Senior Manager
MDA, Vandenberg AFB

JRN/wc

¹ For the sake of this agreement, the critical period for least tern and snowy plover nest to be April 15 to July 31, and occurs only if terns and plovers are present at the nestin Purisima Point.

EXHIBIT NO. 7
APPLICATION NO.
CC-30-96