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STAFF REPORT: REGULAR CALENDAR

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| Consistency Determination No.: | CD-0005-21 |
| Federal Agency: | Department of the Air Force |
| Location: | Space Launch Complex LF-05, Cinco Road, northern Vandenberg Space Force Base (VSFB), Santa Barbara Co. |
| Project Description: | Extended Range Cannon Artillery II Program |
| Staff Recommendation: | Concurrence |

SUMMARY OF STAFF RECOMMENDATION

The Department of the Air Force (Air Force) has submitted a consistency determination for construction and operations associated with a test firing program called Extended Range Cannon Artillery (ERCA) II, at Space Launch Complex (SLC) LF-05 on northern Vandenberg Space Force Base (VSFB) (formerly Vandenberg Air Force Base (VAFB)). As described by the Air Force in its consistency determination, ERCA II is a “multi-element, multi-phase test program of the Army’s next generation artillery systems.” Major components of the artillery system include the cannon, gun mount, artillery projectile, and propelling charges. Proposed test firings would be aimed directly west,

onto and over the Point Mugu Sea Range (PMSR) (**Exhibits 1-2**). The testing schedule (**Exhibit 6**) would include a maximum of 51 total test firing days, and a total of 77 individual firings (one or two per firing day), over a four-year period (2022-2025).

The proposed artillery cannon installation and firing site, LF-05, is currently out of service and fully paved. The firings would generate sonic booms, which have the potential to disturb onshore and offshore marine mammals, pinnipeds, sea otters, and onshore amphibians (red legged frogs). A small population of red legged frogs exists in the drainage near LF-05, and a pinniped haulout is present within a half mile of LF-05.

The effects from the cannon firings would be similar to past military testing and training activities at VSFB and on the PMSR, for which the Commission has concurred with Air Force and Navy consistency determinations. The Air Force has included measures to monitor and minimize adverse effects on marine resources. Likely effects would be limited to temporary startle reactions at on-shore pinniped haulout areas northwest of LF-05. With these monitoring and impact minimization commitments, the staff recommends the Commission find the project consistent with the marine resources and water quality policies (Sections 30230 and 30231) of the Coastal Act.

LF-05 is a paved area; however offsite impacts could occur to two sensitive terrestrial species, California red-legged frogs, and the Gaviota tarplant. A very small red-legged frog population exists near LF-05 (to the east), and like hauled-out pinnipeds, noise from the firings may elicit short term startle behaviors by the frogs. The Air Force will monitor the small population of red legged frogs in the project area to document any temporary effects and assure they are insignificant. The Air Force will also improve Gaviota tarplant habitat through the removal of invasive plant species, which will also benefit red-legged frogs. With these commitments, the staff recommends the Commission find the project consistent with Section 30240 of the Coastal Act.

Public access would not be affected. Northern VSFB is off limits to the public due to military security needs and public safety. Notices to Mariners would be posted for notification to offshore boaters (commercial fishers and recreational boaters) in advance of all test firing events. The staff recommends the Commission find the project consistent with the public access and recreation and commercial fishing policies (Sections 30210, 30220, and 30234.5) of the Coastal Act.

The Air Force is consulting with the State Historic Preservation Officer and with the Chumash Tribe, and has documented cultural resources that previously existed at the site. No cultural or historic resources would be affected by the proposed project, and the staff recommends the Commission find the project consistent with the cultural and archaeological resource policy (Section 30244) of the Coastal Act.

The staff therefore recommends the Commission **concur** with the Air Force's consistency determination number CD-0005-21. The motion and resolution are on **Page 4** of this report. The standard of review for this consistency determination is the Chapter 3 policies of the Coastal Act.

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Exhibit 5 – Red Legged Frog Habitat

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I. FEDERAL AGENCY'S CONSISTENCY DETERMINATION

The Air Force has determined the project consistent with the California Coastal Management Program.

II. MOTION AND RESOLUTION

Motion:

I move that the Commission **concur** with consistency determination CD-0005-21.

Staff recommends a **YES** vote on the motion. Passage of this motion will result in a concurrence in the determination of consistency and adoption of the following resolution and findings. An affirmative vote of a majority of the Commissioners present is required to pass the motion.

Resolution:

The Commission hereby **concurs** with consistency determination CD-0005-21 by the Air Force on the grounds that the project is fully consistent, and thus consistent to the maximum extent practicable, with the enforceable policies of the California Coastal Management Program.

III. FINDINGS AND DECLARATIONS

A. Project Description

The Air Force proposes a testing program, entitled Extended Range Cannon Artillery (ERCA) II, at Space Launch Complex LF-05, located on Cinco Rd. (which intersects Point Sal Rd.) on northern Vandenberg Space Force Base (**Exhibit 1**). ERCA II is a multi-element, multi-phase test program of the Army's next generation artillery systems. Major components of the artillery system include the cannon, gun mount, artillery projectile, and propelling charges; these components would be sited at the existing deactivated LF-05 on VSFB. Other ancillary activities (e.g., propelling charge assembly and storage) would occur at an approved existing facility on VSFB. The proposed activities would include testing ERCA II by firing projectiles over the Pacific Ocean at distances ranging from the shoreline of VSFB onto and over the Point Mugu Sea Range (PMSR) (Figure 2-2). A maximum of five test events are proposed, involving 51 total test firing days, and a total of 77 individual firings (one or two per firing day), over a four-year period (2022-2025). Each test event includes artillery projectiles that would be launched due west from the LF-05 site towards and out over the Pacific Ocean.

Each of the five test events (**Exhibit 6**) would include logistics and testing over a two to seven week period. All test events would require an eight-hour continuous closure period for a designated closure area associated with a 1,250 foot long arc around LF-05 when energetics are present on site. This designated 8-hour closure area would include Point Sal Road and the beach area adjacent to LF-05. This beach area is located on VSFB and not accessible to the public.

No permanent infrastructure or utilities would be required for the establishment and use of the site. Some power requirements at LF-05 would be satisfied through an existing adjacent transformer. Up to 13 temporary generators would also be used to provide power, if necessary, to support the testing activities. No construction of new infrastructure or buildings are proposed; although fence maintenance/repair and removal of up to three existing light poles would be needed. In addition, approximately 100 cubic yards of fill (gravel and/or clean soil) would be placed in the corner of the LF-05 access road and Point Sal Road, to accommodate the turn radius of large trailers that would access the site during cannon installation.

The Air Force states the tests would be similar to other military weapons testing occurring in the Point Mugu Sea Range (PMSR), as noted on page 13 of its consistency determination:

ERCA II activities would be similar to testing activities that are currently conducted at the PMSR (e.g., directed energy weapons, ground launched targets). As with the other projectiles, the ERCA II guided projectile is launched with solid propellant, both out of the artillery weapon and through its integrated rocket motor. These types of activities are conducted daily within PMSR Special Use Areas (predominantly designated Warning Areas). A Warning Area is airspace of defined dimensions (extending outward from 3 NM off the coast of the United States) that is designated to contain activity that may be hazardous to nonparticipating aircraft. The purpose of a warning area is to warn nonparticipating pilots of the potential danger from activities being conducted. This is done via Notice to Airmen. Associated Notices to Mariners (NTMs) are issued for the sea spaces underneath an active Warning Area.

Over the course of the five test events, three types of projectiles would be tested (Projectiles A, B, and C); the maximum quantities and dimensions of the projectiles would be as follows:

| <u>Projectile Type</u> | <u>Number</u> | <u>Dimension (inches)</u> | <u>Weight (lbs.)</u> |
|------------------------|---------------|---------------------------|----------------------|
| Projectile A | 56 | 13 x 44 | 500-650 |
| Projectile B | 3 | 13 x 50 | 460-610 |
| Projectile C | 18 | 13 x 105 | 500-650 |

The firing cannon would be placed above ground at LF-05. Permanent construction modifications to LF-05 include removal of several light poles on the west side of LF-05, as well as removal of most (if not all) of the light poles and car stops in the LF-05 parking lot. The cannon would be anchored to the ground with footings installed within the footprint of the existing pad.

The Air Force considered a number of alternative locations worldwide, both on and off VSBF (and including Kodiak Island in Alaska, Woomera Test Range in Australia, Wallops Island in Virginia, Cape Canaveral in Florida, Reagan Test Site in the Marshall Islands, and San Nicolas Island). Alternative sites considered on VSBF were LF-06 and the Advanced Ballistic Reentry System-A area. The Air Force determined that the proposed site at LF-05 "... would have the best potential of meeting program needs while minimizing impacts to other [military] DoD operations."

B. Other Agency Approvals and Consultations

National Marine Fisheries Service (NMFS)

The Air Force is consulting with the National Marine Fisheries Service (NMFS) under the Marine Mammal Protection Act and requesting an Incidental Harassment Authorization (IHA) for Level B Harassment (behavioral disruption) of four pinniped species (harbor and northern elephant seals, and California and Stellar sea lions). The Air Force is also requesting concurrence from NMFS that the project may affect, but is not likely to adversely affect the black abalone, steelhead, leatherback sea turtle, loggerhead sea turtle, Guadalupe fur seal, and six cetacean species (fin, gray, blue, humpback, sei, and sperm whales).

U.S. Fish and Wildlife Service (USFWS)

The Air Force has initiated informal consultation under Section 7 of the Endangered Species Act with the USFWS, due to presence of southern sea otters and California red legged frogs, marbled murrelet, Gaviota tarplant, California least tern, and western snowy plover in the project vicinity.

Santa Barbara County Air Pollution Control District (SBAPCD)

The Air Force will apply for Permits to Operate to cover air emissions from two on-site generators from the SBAPCD.

California State Historic Preservation Office (SHPO) and Tribal Consultation

The Air Force has consulted with the SHPO and has coordinated with the Santa Ynez Band of Chumash Indians. The Commission staff also coordinated with representatives of the Santa Ynez Band of Chumash Indians, Chumash Council of Bakersfield, Coastal Band of the Chumash Nation, Northern Chumash Tribal Council, San Luis Obispo County Chumash Council, and the yak tityu tityu yak tilhini – Northern Chumash Tribe.

C. Marine Resources

Coastal Act Section 30230 states:

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.

The primary marine resource concerns raised by the project would be acoustic effects from sonic booms, strike threats to marine mammals and sea turtles from the projectiles, and potential ingestion of debris and contamination from metals. The Air Force's consistency determination states that the strike and ingestion threats would be extremely low, and that the primary concern over noise effects would be limited to effects on pinnipeds that haulout on shoreline areas of VSFB. The haulout area closest to LF-05 is at Lion's Head, located 0.45 m from the site (**Exhibit 5**). The Air Force considers in-water noise effects to be minimal, due to the low transmissibility of sound between air and water, and the relative time animals spend below water.

The Air Force reviewed potential effects on 21 protected marine species: sea turtles, southern sea otters, pinniped species, and cetaceans (**Exhibit 7**). Potential effects analyzed were those due to physical impacts during construction and site improvement, acoustics (sonic booms and blast noise), physical disturbance and strike from the projectiles and their component parts, ingestion of component parts or fragments from the component parts, and contamination (from metals). The Air Force determined that effects rising to the level of needing harassment authorization from NMFS would be limited to four pinniped species. The Air Force is also coordinating with the USFWS, which has Endangered Species Act authority over one of the marine mammals potentially found within the project area (sea otters). The Air Force has applied to NMFS for an Incidental Harassment Authorization (IHA) for Level B Harassment (behavioral disruption) of four pinniped species (harbor and northern elephant seals, and California and Stellar sea lions). The Air Force's consistency determination acknowledges that hauled out pinnipeds can be disturbed by noise and/or sonic booms (overpressure of high-energy impulsive sound) from artillery test firings. The Air Force's consistency determination states:

The potential effects of in-air noise generated during the Proposed Action on pinniped species at haulouts and southern sea otters near LF-05 were analyzed by assessing the expected sound pressure levels and sound exposure levels, the in-air impulsive noise thresholds for pinnipeds and sea otters, and the maximum number of individuals of each species expected to be in the exposure area. No

expected noise exposures were above levels that would cause physical injury (e.g., permanent loss in hearing sensitivity) of marine mammals. The threshold for behavioral disruption would be exceeded for harbor seals, northern elephant seals, California sea lions, and Steller sea lions that utilize several nearby haulout locations, as well as southern sea otters occasionally observed offshore of LF-05. Noise resulting from the cannon blast and sonic boom is expected to startle individuals, causing them to alert, potentially flee from haulout locations to the water, or dive underwater. The disruption may elicit temporary avoidance of the area, or other short-term behavioral reactions; however, pinnipeds and sea otters are expected to resume normal behavior soon after the completion of each test event.

As it does for all VSFB launches potentially affecting haulout areas, the Air Force will conduct pre- and post-activity daily counts (pinnipeds) for each test event and will conduct acoustic and video monitoring for pinnipeds. The Air Force has been consistently monitoring the harbor seal haulout area at Lion's Head (**Exhibit 5**) for over 25 years, and, in compliance with past Air Force consistency determinations for various space launch activities, provided the monitoring results to the Commission staff. Past monitoring has only documented short-term pinniped startle responses at VSFB from Air Force launches. Past monitoring of missile launches (as opposed to rocket launches) has not documented marine mammal behavioral reactions. Nevertheless, because ERCA II is a new activity, it is not covered by the current Five-Year NMFS basewide "take" authorization (Incidental Take Authorization: U.S. Air Force Launching of Space Launch Vehicles, Missiles, and Aircraft and Helicopter Operations at Vandenberg Air Force Base (2019-2024) - <https://www.govinfo.gov/content/pkg/FR-2019-04-10/pdf/2019-06918.pdf>). NMFS' Federal Register Notice accompanying this basewide authorization notes:

As described in our Notice of Proposed Rulemaking (84 FR 341; January 24, 2019) and below, over 20 years of monitoring data support our determination that marine mammal habitat is not expected to be negatively impacted by the USAF's activities. The USAF has reported increasing numbers of several species on VAFB, including California sea lions and northern elephant seals which began pupping on VAFB for the first time in 2017. The fact that pinniped numbers are increasing on VAFB indicates that these species are not abandoning haulouts and rookeries and that haulout and rookery habitat is not becoming unsuitable for these species as a result of the USAF's activities, which have been ongoing for over 30 years.

As noted above, the Air Force has applied for a separate NMFS authorization for ERCA II, and while past missile launches have not elicited behavioral reactions, as is the case for the existing basewide authorization, for any new activity, monitoring by NMFS-approved observers and methods will be conducted. The received levels (RL) at the

haulout sites would be comparable to those from previously-authorized (and monitored) launches.

In addition, the maximum number of test firings in one day would be two and each firing day would typically be separated from the subsequent one by an extended period of weeks or months. In total, only 77 test firings would be carried out over a four year period. This means that any startled or disturbed marine mammals would be provided with an extended period of time to settle and return to normal behavior.

The Air Force statistically analyzed the potential for a projectile or a component of the projectiles to strike marine species in a test's nominal splash down area. The Air Force calculated probabilities of potential direct strike exposures based on "worst-case" scenarios, where the highest density of representative marine species for a given splash down area was chosen. For all the remaining marine species with lesser densities, the Air Force states the probability would be reduced. Based on its statistical analysis, using worst-case data inputs (tending to overestimate exposures), the Air Force concluded with "a reasonably high level of certainty" that marine species would not be struck by the projectiles or components from the test firings. The Air Force states:

Direct strike exposure estimates were discountable (less than 0.01) for all ESA-listed species (blue, fin, gray, humpback, sei, and sperm whales; and Guadalupe fur seals). For nearshore small odontocetes, long-beaked common dolphin were chosen for analysis given they are the species with the highest density in the nearshore portion of the splash down areas; all other small odontocetes would have less chance of a strike in comparison to this species. The results indicated a cumulative probability of 0.068 of a strike to long-beaked common dolphin when the probabilities are summed for all tests. For offshore small odontocetes, short-beaked common dolphin were chosen for analysis given they are the species with the highest density in that portion of the splash down areas; all other small odontocetes would have less chance of a strike in comparison to this species. The results indicated a cumulative probability of 0.011 of a strike to short-beaked common dolphin. Finally, Test 3 has potential splash down areas in the deep ocean, which is far from the continental shelf and the distribution of the other representative species analyzed. In consideration of these most distant splashdown areas, striped dolphin were analyzed as the marine mammal species having the highest density, resulting in a cumulative probability of 0.0005 of a strike when the probabilities were summed for all tests.

Potential effects from debris and contamination are analyzed below in the water quality section of this report.

The Commission agrees with the Air Force that the primary marine species effects would be in-air noise potentially disturbing hauled out pinnipeds, and that potential strike

effects would be insignificant and comparable to those involved in past Air Force and Navy military testing and training activities on the Point Mugu Sea Range. Further, as noted above, in connection with past Air Force launch activity monitoring (see following paragraph), while pinnipeds may be subjected to short term startle effects, past monitoring has not documented any significant adverse effects. The noise levels at the haulout site would not exceed NMFS-adopted “Temporary Threshold Shift (TTS)” levels, which would be cause for concern, but would instead be limited to exceeding the lower “behavioral reaction” thresholds. To assure impacts will be minimal, as the Air Force has committed to during Commission review of past launch activities at VSBF, the Air Force will continue to monitor the haulout areas, document any marine mammal reactions, and provide monitoring results to the Commission staff.

Thus, the proposed cannon test activities would be conducted and result in marine species effects similar to past military activities at VSBF and on the Pt. Mugu Sea Range, and for which the Commission has concurred with past Air Force and Navy consistency determinations. The most recent of these reviews was the Navy’s consistency determination (CD-0003-20) for Navy military readiness testing and training on the Pt. Mugu Sea Range, which the Commission concurred with on December 11, 2020. Similar Air Force consistency determinations for launch programs concurred with by the Commission, and which involved sonic booms and pinniped haulout monitoring, are: CD-059-03 (Ground Based Mission Defense), CD-006-99 (Theater Ballistic Missile (TBM) Targets Program), CD-064-91 (Modification to Delta II launch vehicle and complex), CD-028-90 (Conversion of SLC-6 for Titan IV/Centaur launch vehicles), CD-003-88 (Space launch vehicle modification), and CD-018-82 and CD-021-82 (Space Shuttle (SLC-6) improvements). The Commission therefore concludes that, with the Air Force’s monitoring commitment, the proposed activities would be conducted in a manner that would protect marine species and areas of special biological significance and would be consistent with Section 30230 of the Coastal Act.

D. Water Quality

Coastal Act Section 30231 states:

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 Air Force's water quality analysis in its consistency determination focused on potential water quality effects from use of fuels and propellants, as well as deposition of metals and plastics. Concerning fuels and propellants, the Air Force concluded that:

Impacts associated with fuels and propellants would be negligible for the following reasons: (1) most propellant combustion byproducts are benign, while those of concern would be diluted to below detectable levels within a short time; (2) 98 percent of propellants are consumed during normal operations; and (3) most of the constituents of concern are biodegradable by various marine organisms or by physical and chemical processes common in marine ecosystems. Therefore, potential impacts of propellants, fuels, and initiators on sediments and water quality from ERCA II testing activities would be unlikely.

Concerning metals and plastics, the Air Force analyzed expended objects (primarily composed of composite material or metal). In its consistency determination, the Air Force states:

Metals and other materials would sink to the seafloor, where they would most likely be buried or partially buried in sediments, depending on the type of seafloor substrate. Metals exposed to the seawater would slowly corrode over years or decades, releasing small amounts of water-soluble metal compounds into the water column and corrosion products into adjacent sediments. The low, near-freezing water temperatures and low oxygen levels in sediments only a few inches below the water column-seafloor interface that characterize deep water (greater than 250 m) benthic habitats would inhibit corrosion of metals and any dispersion of metals and corrosion products beyond isolated areas adjacent to the munition.

The Air Force concluded that chemical, physical, or biological changes to sediments or water quality would "not be detectable," would be "similar to nearby areas without munitions or other expended materials containing metals," and "would not be substantial." Concerning plastics, the Air Force noted their relative contribution to expended materials was relatively small, they would not bioaccumulate, and effects would be limited to direct contact (as opposed to absorption to sediments). The Air Force concluded such effects would be "inconsequential and not detectable."

The Commission notes that the water quality effects generated by the proposed cannon test activities would be far less in magnitude compared to the extensive set of military activities occurring over the Point Mugu Sea Range (Sea Range) for decades, from past Air Force launch activities at VSBF, and past Navy testing and training activities on the Sea Range. The Commission has concurred with numerous Air Force and Navy consistency determinations for launches from VSBF and Navy testing and training activities on the Sea Range, and even where it has not concurred, the unresolved

concerns have not been over water quality impacts. The most recent of the Commission's concurrences was for the Navy's consistency determination (CD-0003-20) for Navy military readiness testing and training on the Point Mugu Sea Range, which the Commission concurred with on December 11, 2020. The Commission therefore finds the proposed project would avoid significant adverse effects on water quality and would be consistent with Section 30231 of the Coastal Act.

E. Environmentally Sensitive Habitat Areas (ESHA)

Coastal Act Section 30240 states:

(a) Environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values, and only uses dependent on those resources shall be allowed within those areas.

(b) Development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be sited and designed to prevent impacts which would significantly degrade those areas, and shall be compatible with the continuance of those habitat and recreation areas.

The project site is a developed, paved area used for decades for launch activities. While the project site is not located within ESHA, construction and operation (particularly loud cannon firings) have the potential to adversely affect sensitive terrestrial species, including two nearby sensitive species: the Gaviota tarplant (*Deinandra increscens villosa*) and the California red-legged frog (CRLF) (*Rana draytonii*). These species may be affected by the reestablishment of fire breaks, vegetation maintenance, worker activity, and projectile impacts. Known red legged frog locations at VTSFB streams and creeks are depicted on **Exhibit 5**. In its consistency determination, the Air Force states:

Potential impacts associated with these activities include damage or mortality of Gaviota tarplant plants and seedbank and expansion of Gaviota tarplant populations in portions of the Action Area subject to physical impacts. However, the Air Force would offset any impacts on Gaviota tarplant through habitat enhancement by removing invasive species that impact tarplant habitat quality. CRLFs could be injured or killed during construction and vegetation management at LF-05, but the risk of these impacts would be reduced by employment of minimization measures, including surveying the area prior to construction and vegetation maintenance and moving frogs out of the impacted area if found.

As is the case for hauled out pinnipeds discussed in the Marine Resources Section above, the Air Force anticipates that red legged frogs may be subject to startle effects

from sonic booms, but states that these effects would be short term and minor. The Air Force states:

Blast noise and sonic boom would likely trigger a startle response in CRLF, causing them to flee to water or attempt to hide in place. It is likely that any reaction would be dependent on the sensitivity of the individual, the behavior in which it is engaged when it experiences the noise, and the sound level (e.g., higher stimuli would be more likely to trigger a response). Regardless, the reaction is expected to be the same – the frog’s behavior would be disrupted and it may flee to cover in a similar reaction to that of a frog reacting to a predator (USFWS 2015a). As a result, there could be a temporary disruption of CRLF behaviors including foraging, calling, and mating (during the breeding season). However, frogs tend to return to normal behavior quickly after being disturbed.

Based on a study using bullfrogs (*Lithobates catesbeiana*), a species in the same family as CRLF (*Ranidae*) (Simmons et al. 2014), the Air Force states “temporary hearing damage is expected to occur for CRLF that may be present near LF-05.” The Air Force will survey and perform bioacoustic monitoring to quantify frog calling behaviors, to determine if any long-lasting impacts are occurring. The Air Force will provide these monitoring reports to Commission staff. Nevertheless, despite the potential short-term effects, the Air Force concluded that due to the limited extent of suitable habitat in the drainage near LF-05, the number of red legged frogs affected would be minimal and very temporary. Air Force surveys conducted in 2020 found only one legged frog in the vicinity of LF-05; the Air Force states in its consistency determination:

In 2020 one CRLF was observed in the drainage south of LF-05 and the amount of suitable habitat is limited. Therefore, the number of CRLF inhabiting this drainage is likely relatively small and few individuals would be affected: impacts on the broader CRLF population are not expected. Acoustic monitoring would be performed at this location to quantify the noise level exposure and characterize potential impacts on breeding behaviors (e.g., calling).

Finally, as noted above, the Air Force has committed to improving Gaviota tarplant habitat in the project vicinity, which will also benefit red-legged frogs. The Air Force will submit its restoration plan, which will, at a minimum, include removal of ice-plant, and monitoring and adaptive management measures to assure successful restoration, to the Commission staff for its review and concurrence, prior to implementation.

In conclusion, given the small red legged frog population near LF-05, that fact that any sonic booms would be directed primarily to the west and away from areas populated by the frogs, and with monitoring to further document potential effects, as well as Air Force commitments to improve Gaviota tarplant habitat used by red legged frogs through the removal of invasive plant species, the Commission agrees with the Air Force that the

proposed activities would not adversely affect nearby ESHA and the project would, therefore, be consistent with Section 30240 of the Coastal Act.

F. Public Access and Recreation

Coastal Act Section 30210 states:

In carrying out the requirements 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.

Coastal Act Section 30220 states:

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

Coastal Act Section 30234.5 states:

The economic, commercial, and recreational importance of fishing activities shall be recognized and protected.

Sonic booms from the launches would create overpressures of up to 20 pounds per square foot (psf), or approximately 0.14 pounds per square inch). On land, the noise level would equate to up to 150 decibels (dB). To help ensure safety, the Air Force would close the areas likely to be affected by sonic booms for up to 8 hours on firing days. These areas would include the project site, LF-05, and the beach areas directly to its west. LF-05 is off limits to the public due to military security and public safety. The beach areas west of LF-05 are also off limits to the public and are only accessible by VSFb military personnel (i.e., active-duty military and their dependents, retired military and their dependents, and DoD and VSFb contractor employees). Thus, while LF-05 and the beach to the west would be closed during launches to protect military personnel, the closures would not affect public access. While portions of the road to Point Sal is within the safety arc (**Exhibit 4**), and thus subject to safety closures, the road is closed to the public and has been for a number of years. Moreover, the Commission has authorized past Air Force consistency determinations for launch activities, acknowledging and finding consistent with the Coastal Act public access and recreation policies, that such temporary closures are necessary to protect both military security and public safety needs (see list of Air Force launch activities, page 9 above).

Sonic booms and potential debris footprints would necessitate temporary closures of offshore areas as well. The Air Force notes that ERCA projectiles and component parts would primarily splash down offshore of VSFb and within the PMSR, and that some

component parts could land immediately west of LF-05 (which, as noted above, is not publicly accessible). These offshore areas experience limited public use and are predominately used by Navy vessels, commercial vessels, and other recreational boaters. ERCA II testing activities would be coordinated, via Notices To Mariners (NTMs), no less than 24 hours in advance of testing activities. In addition, daily Very High Frequency (VHF)-FM Marine Radio (Channel 16) alerts would also be broadcast to notify recreational boaters and the public of any closures associated with the testing activities.

The Air Force states in its consistency determination:

ERCA II test activities would be coordinated so that no conflicting uses, or vessel traffic would occur with recreational boaters. The Air Force, in coordination with NAWCWD, would issue an NTM 24 hours in advance of test activities as well as daily VHF-FM Marine Radio broadcasts to notify recreational boaters and the public of any closures associated with testing activities. These notices allow the public to select an alternate destination without an appreciable effect on their activities. Testing activities would not be conducted until vessels are clear of the area in accordance with the range clearance procedures. Recreational boaters would be able to adopt alternate routes to avoid areas subject to closures, so they would not be affected by testing activities.

The Commission agrees with the Air Force that the onshore closures would not affect public access, and that the offshore closures are necessary for public safety and military security needs, and consistent with past Commission findings regarding Air Force launches and other Air Force and Navy activities on the Point Mugu Sea Range. The Commission therefore finds the proposed activities would be consistent with the public access, recreation, and commercial fishing policies of the Coastal Act (Sections 30210, 30220, and 30234.5).

G. Air Quality

Coastal Act Section 30253(3) states:

New development shall: ... (3) Be consistent with requirements imposed by an air pollution control district or the State Air Resources Control Board as to each particular development.

The Air Force operates its construction activities and launch firings under overall basewide authorizations, and where applicable, specific facility authorizations, issued by the Santa Barbara County Air Pollution Control District (SBCAPCD). The project includes use of two generators requiring SBAPCD Permits to Operate (PTO). The Commission finds that, through the Air Force's compliance with the SBAPCD PTO, the

project would be consistent with the Coastal Act's air quality requirement (Section 30253(3)).

H. Cultural Resources

Coastal Act Section 30244 states:

Where development would adversely impact archaeological or paleontological resources as identified by the State Historic Preservation Officer, reasonable mitigation measures shall be required.

As noted above, LF-05 is a paved area. Four archaeological sites and the historic LF-05 are present within the project area. All four archaeological sites are eligible for the National Register of Historic Places (NRHP) as part of the San Antonio Terrace Archaeological District (SATAD). The Air Force noted that in 2000, LF-05 was determined eligible for listing "as a property that has achieved significance within the last 50 years and based on Cold War criteria." In 2013, facility demolition at LF-05 included partial mitigation by documentation and curation of architectural and engineering design plans. However, this Air Force demolition at the site rendered LF-05 ineligible for the NRHP. In its consistency determination, the Air Force states:

Of the four archaeological sites within the project area, only three are in the area of direct impacts where vegetation maintenance, firebreak re-establishment, and dispersal and collection of launch debris would occur. Re-establishment and maintenance of the firebreak and vegetation maintenance within the site are not expected to have an adverse effect. Likewise, dispersal and collection of launch debris would not be expected to have an adverse effect on the sites. Because the Proposed Action would not have an adverse effect on archaeological sites that contribute to the significance of the SATAD, the Air Force determined that the Proposed Action would not have an adverse effect on archaeological or paleontological resources. The Air Force is consulting with the State Historic Preservation Officer for concurrence with the determination of no adverse effect.

The Air Force consulted with the Santa Ynez Band of the Chumash Indians for concurrence that there would be no impacts on cultural sites. The Commission staff has also reached out to Chumash Tribal representatives, including the Santa Ynez Band of Chumash Indians, Chumash Council of Bakersfield, Coastal Band of the Chumash Nation, Northern Chumash Tribal Council, San Luis Obispo County Chumash Council, and the yak tityu tityu yak tilhini – Northern Chumash Tribe. The Commission staff has not received any comments from these representatives as of the date of this report. If received, any further Tribal comments will be included in an addendum.

In conclusion, the Commission agrees with the Air Force that the proposed project is unlikely to adversely affect archaeological and cultural resources and finds the project consistent with the cultural and archaeological resource policy of the Coastal Act (Section 30244).

SUBSTANTIVE FILE DOCUMENTS

1. Air Force Consistency Determination, Army Extended Range Cannon Artillery II (ERCA II), prepared for the Air Force by ManTech SRS Technologies, March 24, 2021.
2. Consistency Determination CD-0003-20, Navy, Point Mugu Sea Range Military Readiness and Testing Program.
3. Air Force Consistency Determinations for launches from Vandenberg AFB: CD-059-03 (Ground Based Missile Defense), CD-006-99 (Theater Ballistic Missile (TBM) Targets Program), CD-064-91 (Modification to Delta II launch vehicle and complex), CD-028-90 (Conversion of SLC-6 for Titan IV/Centaur launch vehicles), CD-003-88 (Space launch vehicle modification), and CD-018-82 and CD-021-82 (Space Shuttle (SLC-6) improvements).
4. Incidental Take Authorization: U.S. Air Force Launching of Space Launch Vehicles, Missiles, and Aircraft and Helicopter Operations at Vandenberg Air Force Base (2019-2024).
5. 2020 and 2019 Annual Monitoring Reports, Letters of Authorization, Taking Marine Mammals Incidental to Space Vehicle and Missile Launches and Aircraft Test Flights and Helicopter Operations at Vandenberg Air Force Base, California, USAF and NMFS, dated March 1, 2021 (for 2020), and February 20, 2020 (for 2019).