UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

June 2, 2008

Ms. Diori Kreske
Naval Facilities Engineering
Command Southwest
2585 Callaghan Highway
San Diego, CA 92136-5198

Subject: EPA comments on the Southern California Range Complex Draft Environmental Impact Statement (DEIS), California (CEQ # 20080119)

Dear Ms. Kreske:

The U.S. Environmental Protection Agency (EPA) has reviewed the above-referenced document pursuant to the National Environmental Policy Act (NEPA), Council on Environmental Quality (CEQ) regulations (40 CFR Parts 1500-1508), and our NEPA review authority under Section 309 of the Clean Air Act. Thank you for agreeing to accept our comments past the comment deadline (phone conversation Diori Kreske and Karen Vitulano, May 14, 2008). Our detailed comments are enclosed.

The Draft EIS/OEIS (herein DEIS) assesses the impacts of current and increased Navy training, and research and development activities in the Southern California Range Complex (SOCAL Range Complex), which includes over 120,000 square nautical miles (nm^2) off the coast of Southern California including near-shore areas, open ocean, and land on San Clemente Island. The Range Complex includes several biologically rich areas in the Southern California Bight including a portion of the Channel Islands National Marine Sanctuary.

The No-Action Alternative evaluates the current level of Navy training in the Range Complex, including over 39,000 annual operations and up to 14 major range events per year. Alternative 1 evaluates increased scope and intensity of training including over 45,000 annual operations and additional major range events and weapons systems. Alternative 2 evaluates further increased scope and intensity of training including over 50,000 annual operations, establishment of new underwater mine ranges, and the addition of major range events. The Navy's preferred alternative is Alternative 2.

Based on our review, we have rated the DEIS as Environmental Concerns – Insufficient Information (EC-2) (see enclosed "Summary of Rating Definitions"). EPA has concerns regarding impacts to marine resources from the preferred alternative. The preferred alternative proposes substantial increases in training operations, including increases in the use of mid-frequency active (MFA) sonar which has been associated with marine mammal strandings. The preferred alternative will also result in increased hazardous constituent releases to the ocean environment. EPA recommends additional mitigation measures be included in association with

MFA sonar use to represent a more precautionary approach commensurate with the scientific controversy, uncertainty, and unknown risks to seven threatened or endangered marine mammals in the Range Complex. We also request additional information regarding efforts to minimize and reduce the amount of hazardous materials deposited into the ocean from training material expenditures.

We are also concerned with the limited range of alternatives evaluated and suggest that the selection criteria be refined so that additional alternatives can be developed that meet the underlying purpose and need. Lastly, the general conformity analysis is not sufficient to demonstrate conformity with the State Implementation Plan (SIP) and we provide comments for improving this analysis.

EPA appreciates the opportunity to review this DEIS. When the Final EIS is released for public review, please send one copy to the address above (mail code: CED-2). If you have any questions, please contact me at (415) 972-3846 or Karen Vitulano, the lead reviewer for this project, at 415-947-4178 or vitulano.karen@epa.gov.

Sincerely,

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FOR Nova Blazej, Manager
Environmental Review Office

Enclosure: Summary of EPA Rating Definitions
EPA's Detailed Comments

SUMMARY OF EPA RATING DEFINITIONS

This rating system was developed as a means to summarize EPA's level of concern with a proposed action. The ratings are a combination of alphabetical categories for evaluation of the environmental impacts of the proposal and numerical categories for evaluation of the adequacy of the EIS.

ENVIRONMENTAL IMPACT OF THE ACTION

"LO" (Lack of Objections)

The EPA review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

"EC" (Environmental Concerns)

The EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce the environmental impact. EPA would like to work with the lead agency to reduce these impacts.

"EO" (Environmental Objections)

The EPA review has identified significant environmental impacts that must be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

"EU" (Environmentally Unsatisfactory)

The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potentially unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the CEQ.

ADEQUACY OF THE IMPACT STATEMENT

Category 1" (Adequate)

EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis or data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

"Category 2" (Insufficient Information)

The draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analysed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses, or discussion should be included in the final EIS.

"Category 3" (Inadequate)

EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analysed in the draft EIS, which should be analysed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the NEPA and/or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

*From EPA Manual 1640, "Policy and Procedures for the Review of Federal Actions Impacting the Environment."

EPA DETAILED COMMENTS ON THE DRAFT ENVIRONMENTAL IMPACT STATEMENT, SOUTHERN CALIFORNIA RANGE COMPLEX, CALIFORNIA, JUNE 2, 2008

Purpose and Need and Alternatives

Limited Range of Alternatives

EPA is concerned that the DEIS for the Southern California Range Complex does not evaluate a full range of reasonable alternatives that meet the underlying purpose and need for the project. The No-action Alternative represents the existing level of training; Alternative 1 consists of the exercises in the No-action Alternative with the addition of 2 new training exercises and an increased in scope and intensity of training; and Alternative 2 includes the same exercises as Alternative 1 with further increased scope and intensity of training and construction of a shallow water minefield and shallow water training range. The alternatives analysis of this DEIS would be much improved by including alternatives that represented a more diverse level and mix of training instead of formulating alternatives that simply build upon one another. Additionally, the inclusion of an alternative with additional appropriate mitigation (40 CFR 1502.14(f)) would also expand the range of alternatives.

> *Recommendation:* In the Final EIS (FEIS), EPA recommends evaluation of additional alternatives that represent a more diverse level and mix of training and research/ development activities. We suggest an alternative be developed with additional mitigation measures and that an alternative with geographic and/or temporal exclusions be considered (see below).

Alternative with Temporal or Geographic Constraints

EPA is concerned that the DEIS did not fully explore an alternative with temporal or geographic constraints in the alternatives evaluation. The DEIS states that any alternative that would impose limitations on training locations within the SOCAL Range Complex would not be acceptable (p. 2-15). It further states that limitation on access to any component of the Range Complex would threaten the ability of the Navy to integrate its training across all warfare areas and presumably not meet criterion #1 which is to support all requirements of the Fleet Response Training Plan (FRTP).

The use of geographic and/or temporal exclusions can potentially be effective in reducing impacts to marine resources. The DEIS does not clearly demonstrate that developing an alternative with some geographic and/or temporal exclusions would not meet the underlying purpose and need. We note that the Navy includes some geographic limitations in its proposed mitigation measures[1].

> *Recommendation:* EPA recommends the development and evaluation of an alternative(s) with geographic and/or temporal exclusions. We recommend the identification of

[1] The operation procedures discussed under mitigation measures state that the Navy should avoid planning major Antisubmarine Warfare (ASW) training exercises with mid-frequency active (MFA) sonar in areas of at least 1,000-meter depth near a shoreline where there is rapid change in bathymetry, areas surrounded by land masses separated by less than 35 nautical miles, or embayments where multiple ships using MFA sonar near land may produce sound directed toward a channel or embayment that may cut off the lines of egress for marine mammals, and areas with historical presence of surface duct (p. 3.9-92, 5-9).

geographic areas where resources would benefit from training exclusions and discussion of how inclusion of one or more of these areas would affect training goals and the underlying purpose and need.

Use of Alternative Selection Criteria

EPA is concerned that the criteria developed to eliminate and select the range of alternatives, 1) appears to be so narrowly defined as to restrict the range of alternatives analyzed, 2) does not appear to have been applied consistently, and 3) highlights sustainable range practices that protect and conserve natural and cultural resources, yet does not identify how this was incorporated into alternative selection.

Recommendations: Provide more information regarding the development of criteria used to evaluate alternatives for meeting the purpose and need, and how these criteria were applied to each alternative.

Revise the criteria so that it is not so narrowly defined as to limit the range of alternatives evaluated. For example, criterion #1 states that the alternative should support all requirements of the Fleet Response Training Plan (FRTP). The DEIS does not provide information regarding the FRTP or how an alternative would be deemed supportive of all requirements. It is also unclear why all FRTP requirements must be fulfilled completely by activities in the Southern California Range Complex to meet the underlying purpose and need, or whether other range complexes also operate to fulfill FRTP requirements. The Navy is also substantially increasing or proposing to substantially increase training in the Northwest Range Complex, Hawaii Range Complex, and the Mariana Islands Range Complex. If these other range complexes in the Pacific also are fulfilling FRTP requirements, then the criteria of having the SOCAL Range Complex fulfill all FRTP requirements would be unnecessarily high and limit the range of reasonable alternatives.

Additionally, criterion #11 states that the alternative should support use of the range complex to the "maximum extent possible". This would seem to favor only the preferred alternative, which has the largest increase in scope and intensity of training, and eliminate other alternatives that might meet the underlying purpose and need while avoiding or minimizing adverse effects on the human environment (40 CFR 1500.2 e). The criteria should be revised so that it is not so narrowly defined that it precludes assessing other reasonable alternatives that could avoid or minimize adverse effects upon environmental resources.

Apply criteria consistently across all alternatives. The DEIS states that the No Action Alternative (continued current training levels) generally satisfies Fleet training requirements but does not meet the purpose and need because it does not accommodate surge requirements training (p. 2-17). Alternative 1 is deemed meeting the purpose and need because it partially accommodates these needs even though it does not support criteria #10 for range enhancements (p. 2-32). The application of criteria #10 then does not appear to be applied as the other criteria towards meeting the purpose and need. The criteria should be applied consistently in determining the range of alternatives to be

analyzed in the document and should be refined to assist in eliminating alternatives that would not meet the "underlying purpose and need" (40 CFR 1502.13),

Demonstrate how alternatives meet criterion #12, which states that the alternative should support sustainable range management practices that protect and conserve natural and cultural resources. EPA commends the Navy for including this criterion, however the DEIS does not provide information on how this criterion was considered in evaluating potential alternatives.

Impacts from Mid-Frequency Active (MFA) Sonar

Significance of Impacts

We understand that there is a substantial amount of uncertainty in predicting impacts to marine mammals and resources from MFA sonar. The DEIS describes a complex methodology to attempt to predict the number of harassments and injury that will occur to marine mammals from MFA sonar use. The substantial uncertainty inherent in this evaluation is a cause for concern. The methodology is based on admittedly "sparse data" (p. 3.9-52) (3 data sets), with one of the data sets using acoustic stimuli dissimilar to the Navy's MFA sonar, and another involving inconsistent and anecdotal observations (p. 3.9-53). Additionally, the data represents only four species, and the Navy acknowledges that behavioral responses to sonar can vary significantly by species (p. 3.9-45).

Using this methodology, the DEIS estimates that the preferred alternative 2 will result in 94,370 annual exposures to marine mammals that could alter behavior, 18,838 exposures that will result in temporary hearing loss, and 30 annual exposures that will result in permanent hearing loss, and no mortalities (p. 3.9-83). The basis for concluding that the 30 animals experiencing permanent hearing loss will not be linked to mortalities is not clear considering the important role hearing plays in communication, navigation and foraging (p. 3.9-32).

The DEIS indicates that this represents the best available science, but it also recognizes that there are many unknowns in assessing the effects and significance of marine mammal responses to sound exposures (p. 3.9-31). Applying the criteria for assessing significance under the Council on Environmental Quality (CEQ) Regulations, especially the degree to which the effects on the quality of the human environment are likely to be highly (scientifically) controversial, the degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks, and the degree to which the action may adversely affect endangered or threatened species (40 CFR 1508.27(4),(5) and (9) respectively), EPA maintains that these impacts are potentially significant under NEPA and that robust mitigation measures are needed to reduce environmental impacts.

Recommendation: We recommend the Navy consider the scientific controversy, uncertain/unknown risks, and presence of threatened and endangered species in assessing significance of impacts from MFA sonar on marine resources and the need for mitigation measures. We recommend precaution be maximized regarding the use of MFA sonar. We also recommend the approach used with the Hawaii Range Complex be considered,

where existing levels of MFA sonar (No Action Alternative) were distributed across additional exercises, and recommend this be discussed in the FEIS.

Mitigation Measures

The DEIS states that the Navy has implemented a comprehensive suite of mitigation measures to reduce impacts to marine mammals (p. 3.9-87). However, the mitigation measures for impacts from MFA sonar in the DEIS do not appear comprehensive and consist only of training and posting lookouts on ships to spot marine mammals, and a safety zone of 1,000 yards within which marine mammal sightings will prompt the ship to limit active sonar transmission by at least 6 decibels (p. 3.9-90). We agree that lookouts are important, but the DEIS acknowledges that cetaceans are difficult to locate visually (3.9-24), and nighttime and inclement weather would reduce visibility making siting even more difficult. The effectiveness of the safety zone depends upon accurate siting. Additionally, it is not clear how the safety zone of 1,000 yards was established.

The DEIS states that any limitations on its activities will threaten military readiness and eliminates mitigation measures on this basis (p. 3.9-101). However, the Navy does adopt some measures that impose significant limitations on training. For example, the DEIS identifies these mitigation measures to reduce impacts from underwater detonations during Major Exercises:

- A pre-exercise survey will take place within 30 minutes of the event and the exercise paused if an animal is present within the survey area until it voluntarily leaves (p. 3.9-95).
- Ordnance cannot be released until the target area is deemed clear (p. 3.8-14) and operations are immediately halted if marine mammals or sea turtles are observed within the target area and delayed until the animal clears the target area (p. 3.8-14).
- Post exercise surveys shall be conducted within 30 minutes after completion of the explosive event (p. 3.9-95).

It is unclear why these mitigation measures do not threaten military readiness while others do. The DEIS should include specific criteria for how and when military readiness is deemed threatened such that mitigation measures to avoid impacts are dismissed.

Because of potentially significant impacts to marine mammals from MFA sonar use (see comment above), we recommend the Navy implement additional mitigation measures to reduce these impacts. We understand that the National Marine Fisheries Service may impose additional mitigation measures for the Letter of Authorization it will issue under the Marine Mammal Protection Act.

Recommendations: EPA recommends the following mitigation measures be considered:

- Utilize a larger safety zone of at least 2,200 yards as recommended by the California Coastal Commission. Other nations are able to train using this safety zone. (North Atlantic Treaty Organization (NATO) applies a 2,000 meter shutdown zone when a marine mammal is detected; Australia applies a 4,000 yard safety zone).
- Avoid areas within the Channel Islands National Marine Sanctuary. The avoidance of this and other biologically rich areas could reduce impacts on marine mammals and other marine resources. The DEIS states that avoiding any area that has the potential for marine mammal populations is impractical (p. 3.9-103), however we are

suggesting avoidance of only areas with the conditions attracting the highest densities of marine mammals.

- During low visibility conditions when siting animals is difficult, avoid exercises in areas of higher habitat value and areas where migrations are occurring.
- Incorporate extra protections for the California Blue whale, especially considering the five blue whale fatalities in the Southern California Bight in the Fall of 2007 which exceeded the Potential Biological Removal[2] of this species of 1.4 whales per year based on their current, endangered population status. While ship strikes are the proximal cause, it remains to be seen if other variables, including mid-frequency acoustic testing, may have been contributing factors[3].
- Map and clarify the mitigation commitment regarding the geographic exclusions identified in the mitigation measure on page 3.9-92 and 5-9. This states that the Navy should avoid exercises in areas of at least 1,000-meter depth near a shoreline where there is rapid change in bathymetry, areas surrounded by land masses separated by less than 35 nautical miles or embayments where multiple ships using MFA sonar near land may produce sound directed toward a channel or embayment that may cut off the lines of egress for marine mammals, and areas with historical presence of surface duct. Ensure these areas are identified and that this mitigation commitment is clear, such as indicating that the Navy "shall" instead of "should" implement this mitigation.

Monitoring and Reporting

The DEIS states that the Navy will coordinate with the NMFS Stranding Coordinator for any unusual marine mammal behavior and any stranding, beached or floating marine mammals that may occur coincident with Navy training (p. 3.9-101). Additionally, the Navy is developing a Marine Species Monitoring Plan (MSMP) which will help determine the effectiveness of the Navy's mitigation measures (p. 3.9-98). More detail is needed regarding these efforts. It is not clear what specific monitoring efforts the Navy will take to look for evidence of marine mammal strandings. The range complex extends south for over 200 miles paralleling the coast of Mexico to just north of Mexico's Guadalupe Island (Figure ES-2). It is not clear if or how monitoring efforts will extend into Mexico.

> *Recommendation:* Provide more details regarding monitoring efforts in the FEIS. Specify how the effectiveness of mitigation measures will be monitored and measured.

Impacts to Water Resources

The DEIS identifies the various hazardous constituents present in the munitions and other training equipment that will be released into the ocean (Section 3.4.3). The preferred alternative will increase the amount of shells, small arms, and bombs from 418 tons per year (tpy) to 571 tpy (Table 3.4-5, 3.4-20), the estimated lead discharged from torpedo ballasts and hoses will increase from 32,200 lbs to 40,300 lbs per year (p. 3.4-57), and the amount of hazardous constituents

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[2] The PBR is the maximum number of animals, not including natural mortalities that can be removed from a stock while allowing the stock to reach or maintain its optimum sustainable population.

[3] http://channelislands.noaa.gov/sac/pdf/cpp5-08.pdf

from sonobouys released into the ocean would increase from 18,600 lbs to 35,200 lbs per year (p. 3.4-29, 3.4-57).

The DEIS acknowledges that expenditures of ordnance and other training materials can affect ocean water quality (p. 3.4-13). It also states that Navy ships are required to conduct activities at sea in a manner that minimizes or eliminates any adverse impacts on the marine environment (p. 3.4-13). The mitigation measures for water resources (p. 5-3) identify environmental compliance policies and procedures applicable to operations ashore, including reducing or avoiding water quality degradation from the expenditure of training materials from land ranges (p. 5-3). It also states that certain features of the training materials themselves are designed to reduce pollution, and references Section 3.4.3.1.6, however the DEIS does not appear to contain this section number. The DEIS does not identify specific measures it will take to minimize and reduce the amount of hazardous materials deposited into the ocean from training material expenditures.

An addition, the DEIS does not identify the presence of the old chemical munitions dumping area approximately 80 miles south southwest of San Clemente Island or indicate whether underwater detonations will occur in this area.

> *Recommendation:* In the FEIS, identify what practices or procedures will be taken to minimize the release of hazardous materials into the ocean from ordnance and other training materials. Clarify or correct the reference to Section 3.4.3.1.6. Identify the location and potential impacts of training near the old chemical munitions dumping area. EPA recommends against any sediment disturbance in this area.

Hazardous Waste Management

The discussion on the hazardous contamination resulting from the small arms range does not include deposition of chemicals from igniters, such as lead thiocyanate, that build up on soils at the firing line (p. 3.4-37). Additionally, the DEIS states that the amount of small arms ammunition will increase from 2.6 million rounds to 6 million rounds under the preferred alternative, however the amount of solid and liquid detonation products and lead that will be deposited on the range is not predicted to increase (p. 3.3-15 and 3.3-23). This discrepancy should be corrected or clarified.

Also, it is not clear how leftover OTTO fuel will be managed from torpedo use. The OTTO fuel and seawater mixture created during torpedo test firings can be reclaimed, and EPA recommends this practice.

> *Recommendation:* Provide additional information in the FEIS regarding contamination from igniters, including lead thiocyanate, on the small arms range. Correct or clarify the discrepancy regarding the amount of solid and liquid detonation products under the preferred alternative. EPA also recommends Best Management Practices (BMPs) for reducing lead contamination from the small arms firing range. See http://www.epa.gov/region02/waste/leadshot/epa_bmp.pdf.
>
> Identify management practices that will be used for leftover OTTO fuel. EPA recommends OTTO fuel reclamation as a waste minimization measure. See

http://www.bmpcoe.org/bestpractices/internal/nuwck/nuwck_22.html for more information.

Air Quality - General Conformity

The DEIS does not sufficiently demonstrate conformity with the State Implementation Plan (SIP). The DEIS states that the emissions associated with the No Action Alternative and Alternative 1 would be less than the de minimis thresholds for all pollutants and therefore does not require a general conformity determination. The DEIS states that should the South Coast Air Basin (SCAB) be redesignated as an extreme non-attainment area for the 8-hour National Ambient Air Quality Standard (NAAQS) for ozone as indicated in the Draft Final 2007 Air Quality Management Plan (AQMP), the de minimis levels for ozone precursors Oxides of Nitrogen (NOx) and reactive organic gases (ROG) would be 10 tons (9,072 kg) per year, and therefore emissions of NOx for Alternative 1 would be above the de minimis threshold (p. 3.2-19).

In its official 8-hour ozone SIP submittal, the California Air Resources Board (CARB) requested that EPA reclassify the SCAB as extreme non-attainment for 8-hour ozone. Since this action could take place prior to the Federal action associated with the DEIS, general conformity for both the 8-hour ozone extreme and severe-17 classifications is appropriate.

The DEIS also states that ground vehicle emissions were included in the overall South Coast Air Quality Management District (SCAQMD) SIP emissions budget for the SCAB for mobile sources, therefore ground vehicles were not included in the total budget for San Clemente Island operations that was submitted to the SCAQMD for inclusion in the update to the AQMP (the DEIS does not include these emissions in Table 3.2-13). General conformity analyses require demonstration that the mobile source emissions associated with the project are specifically identified in the applicable SIP, or that the motor vehicle emissions are included in a conforming transportation plan and transportation improvement program.

> *Recommendation:* The Navy must sufficiently demonstrate compliance with conformity requirements of Section 176(c) of the Clean Air Act for the selected alternative before the federal action commences. In the FEIS, demonstrate that the NOx emissions associated with the project are specifically identified in the applicable 8-hour ozone SIP budget, which in this case is the 1997/1999 1-hour ozone SIP[4]. Provide evidence of general conformity for both the 8-hour ozone extreme and severe-17 classifications of the South Coast Air Basin. State whether the project mobile source emissions are specifically identified in the SIP or in a conforming transportation plan and transportation improvement program.

[4] The 1997/1999 1-hour ozone SIP is the applicable ozone SIP for general conformity purposes for the project. The California Air Resources Board adopted the South Coast air basin 8-hour ozone SIP on September 27, 2007 and transmitted the SIP to EPA on November 28, 2007. EPA has not yet approved the 8-hour ozone SIP.