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**50 CFR Part 216
Taking and Importing Marine Mammals;
U.S. Navy Training in the Southern
California Range Complex; Final Rule**

DEPARTMENT OF COMMERCE**National Oceanic and Atmospheric Administration****50 CFR Part 216**

[Docket No. 0808061069–81583–02]

RIN 0648–AW91

Taking and Importing Marine Mammals; U.S. Navy Training in the Southern California Range Complex

AGENCY: National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

ACTION: Final rule.

SUMMARY: NMFS, upon application from the U.S. Navy (Navy), is issuing regulations to govern the unintentional taking of marine mammals incidental to training, maintenance, and research, development, testing and evaluation (RDT&E) activities conducted in the Southern California Range Complex (SOCAL Range Complex), which extends south and southwest off the southern California coast, for the period of January 2009 through January 2014. The Navy's activities are considered military readiness activities pursuant to the Marine Mammal Protection Act (MMPA), as amended by the National Defense Authorization Act for Fiscal Year 2004 (NDAA). These regulations, which allow for the issuance of "Letters of Authorization" (LOAs) for the incidental take of marine mammals during the described activities and specified timeframes, prescribe the permissible methods of taking and other means of affecting the least practicable adverse impact on marine mammal species and their habitat, as well as requirements pertaining to the monitoring and reporting of such taking.

DATES: Effective January 14, 2009 through January 14, 2014.

ADDRESSES: A copy of the Navy's application (which contains a list of the references used in this document), NMFS' Record of Decision (ROD), and other documents cited herein, may be obtained by writing to Michael Payne, Chief, Permits, Conservation and Education Division, Office of Protected Resources, National Marine Fisheries Service, 1315 East-West Highway, Silver Spring, MD 20910–3225 or by telephone via the contact listed here (see **FOR FURTHER INFORMATION CONTACT**).

FOR FURTHER INFORMATION CONTACT: Jolie Harrison, Office of Protected Resources, NMFS, (301) 713–2289, ext. 166.

SUPPLEMENTARY INFORMATION: Extensive supplementary information was

provided in the proposed rule for this activity, which was published in the **Federal Register** on Tuesday, October 14, 2008 (73 FR 60836). This information will not be reprinted here in its entirety; rather, all sections from the proposed rule will be represented herein and will contain either a summary of the material presented in the proposed rule or a note referencing the page(s) in the proposed rule where the information may be found. Any information that has changed since the proposed rule was published will be addressed herein. Additionally, this final rule contains a section that responds to the comments received during the public comment period.

Background

Sections 101(a)(5)(A) and (D) of the MMPA (16 U.S.C. 1361 *et seq.*) direct the Secretary of Commerce (Secretary) to allow, upon request, the incidental, but not intentional taking of marine mammals by U.S. citizens who engage in a specified activity (other than commercial fishing) during periods of not more than five consecutive years each if certain findings are made and regulations are issued or, if the taking is limited to harassment and of no more than 1 year, the Secretary shall issue a notice of proposed authorization for public review.

Authorization shall be granted if NMFS finds that the taking will have a negligible impact on the species or stock(s), will not have an unmitigable adverse impact on the availability of the species or stock(s) for subsistence uses, and if the permissible methods of taking and requirements pertaining to the mitigation, monitoring and reporting of such taking are set forth.

NMFS has defined "negligible impact" in 50 CFR 216.103 as:

An impact resulting from the specified activity that cannot be reasonably expected to, and is not reasonably likely to, adversely affect the species or stock through effects on annual rates of recruitment or survival.

The NDAA (Pub. L. 108–136) removed the "small numbers" and "specified geographical region" limitations and amended the definition of "harassment" as it applies to a "military readiness activity" to read as follows (Section 3(18)(B) of the MMPA):

(i) Any act that injures or has the significant potential to injure a marine mammal or marine mammal stock in the wild [Level A Harassment]; or

(ii) Any act that disturbs or is likely to disturb a marine mammal or marine mammal stock in the wild by causing disruption of natural behavioral patterns, including, but not limited to, migration, surfacing, nursing, breeding, feeding, or sheltering, to a point

where such behavioral patterns are abandoned or significantly altered [Level B Harassment].

Summary of Request

On April 1, 2008, NMFS received an application from the Navy requesting authorization for the take of individuals of 37 species of marine mammals incidental to upcoming Navy training activities, maintenance, and research, development, testing, and evaluation (RDT&E) activities to be conducted within the SOCAL Range Complex, which extends southwest approximately 600 nm in the general shape of a 200-nm wide rectangle (see the Navy's application), over the course of 5 years. These activities are military readiness activities under the provisions of the NDAA. The Navy states, and NMFS concurs, that these military readiness activities may incidentally take marine mammals present within the SOCAL Range Complex by exposing them to sound from mid-frequency or high frequency active sonar (MFAS/HFAS) or underwater detonations. The Navy requests authorization to take individuals of 37 species of marine mammals by Level B Harassment. Further, though they do not anticipate it to occur, the Navy requests authorization to take, by injury or mortality, up to 10 beaked whales over the course of the 5-yr period for which the regulations will be in effect.

Background of Navy Request

The proposed rule contains a description of the Navy's mission, their responsibilities pursuant to Title 10 of the United States Code, and the specific purpose and need for the activities for which they requested incidental take authorization. The description contained in the proposed rule has not changed. See 73 FR 60836.

Overview of the SOCAL Range Complex

The proposed rule contains an overview of the SOCAL Range Complex that describes the SOCAL Operational Areas (OPAREAS), the Special Use Airspaces, San Clemente Island, and the overlap with Point Mugu Sea Range for certain anti-submarine warfare (ASW) training. The description contained in the proposed rule has not changed. See 73 FR 60836, page 60837.

Description of the Specified Activities

The proposed rule contains a complete description of the Navy's specified activities that are covered by these final regulations, and for which the associated incidental take of marine mammals will be authorized in the related LOAs. The proposed rule

describes the nature of the activities involving both mid and high-frequency active sonar (MFAS and HFAS) and explosive detonations, as well as the MFAS and HFAS sound sources and explosive types. See 73 FR 60836, pages 60837–60847. The narrative description of the action contained in the proposed rule has not changed, with the exception of the change from IEER to AEER described in the paragraph below. Tables 1, 2, and 3 summarize the sonar and explosive exercise types used in the

Navy’s activities and hours of sonar operation conducted.

The Navy is developing the Advanced Extended Echo Ranging (AEER) system as a replacement to the IEER system. AEER would use a new active sonobuoy (AN/SSQ–125) that utilizes a tonal (or a sonar ping) vice impulsive (or explosive) sound source as a replacement for the SSQ–110A (the system used in IEER). AEER will still use the ADAR sonobuoy as the systems receiver and be deployed by Marine Patrol Aircraft. As AEER is introduced

for Fleet use, IEER will be removed. The same total number of buoys will be deployed as were presented in the proposed rule, but a subset of them will be AEER instead of IEER. The small difference in the number of anticipated marine mammal takes that will result from this change is indicated in the take table, along with other minor modifications. This small change in the take numbers did not affect NMFS’ analysis of and conclusions regarding the proposed action.

Sonar Sources	Freq- uency (kHz)	Source Level (dB) re 1 μPa @ 1 m	Emission Spacing (m)*	Vertical Direct- ivity	Horizon- tal Direct- ivity	Associated Platform	System Description
AN/SQS-53C	3.5	235	154	Omni	240° forward-looking	Cruiser (CG) and Destroyer (DDG) hull mounted sonar	ASW search, detection, & localization (approximately 2 pings per minute)
AN/SQS-53C Kingfisher Mode	3.5	236	4.6	20° width 42° D/E	120° forward	Same as above	Mine object detection (approximately 2 pings per minute)
AN/SQS-56C	7.5	225	129	13°	30°	Frigate (FFG) hullmounted sonar	ASW search, detection, & localization (approximately 2 pings per minute)
AN/AQS-22 (or AN/AQS-13F**)	4.1	217	15	Omni	Omni	Helicopter (SH-60, MH-60R) dipping sonar	ASW sonar lowered from hovering helicopter (approximately 10 pings/dip, 30 seconds between pings)
AN/BQQ-10	Classified (MF)	Classified	n/a	Omni	Omni	Submarine (SSN) hull mounted sonar	ASW search and attack (approximately two pings per hour when in use)
AN/BQQ-15	Classified (MF)	Classified				Submarine (SSN) hull mounted sonar	Submarine navigational sonar
AN/SSQ-62 DICASS (sonobuoy, tonal)	8	201	450	Omni	Omni	Helicopter and maritime patrol aircraft (P3 and P8 MPA) dropped sonobuoy	Remotely commanded expendable sonar-equipped buoy (approximately 12 pings per use, 30 secs between pings)
MK-48 torpedo sonar	Classified (>10)	Classified	144	Omni	Omni	Submarine (SSN) launched torpedo	Recoverable and non-explosive exercise torpedo; sonar is active approximately 15 min per torpedo run
***MK-46 or 54 torpedo sonar	Classified (HF)	Classified				Surface ship and aircraft fired exercise torpedo (lightweight)	Recoverable and non-explosive exercise torpedo
AN/SSQ-110A (IEER)	Classified (impulsive, broadband)	Classified	n/a	Omni	Omni	MPA deployed	ASW system consists of explosive acoustic source buoy (contains two 4.1 lb charges) and expendable passive receiver sonobuoy
AN/SLQ-25A (NIXIE)	Classified (MF)	Classified				DDG, CG, FFG and certain other surface ship towed array (torpedo countermeasure)	Towed countermeasure to avert localization and torpedo attacks (approximately 20 mins per use)
AN/SSQ-125 (AEER)	MF	Classified				MPA deployed	ASW system consists of active sonobuoy and expendable passive receiver sonobuoy

Table 1. Active sonar sources in SOCAL Range Complex and parameters used for modeling them. Many of the actual parameters and capabilities of these sonars are classified. Parameters used for modeling were derived to be as representative as possible. When, however, there were a wide range of potential modeling values, a nominal parameter likely to result in the most impact was used so that the model would err towards overestimation.

*Spacing means distance between pings at the nominal speed

**AN/AQS-22 used as surrogate for AN/AQS-13F; AQS-22 source level is higher than AQS-13F

*** MK-48 used as surrogate for MK-46/54 in modeling; MK-48 source level is higher than MK-46

Event	SQS-53C Sonar Hours	SQS-56C Sonar Hours	BQQ-10 Sonar Hours	BQQ-15 Sonar Hours	Total Sonar Hours	AQS-22 Number of Dips	SSQ-62 Number of Sonobuoys	SSQ-125 AEER Number of Sonobuoys	MK-48 Number of Torpedo Events	MK-46 Number of Torpedo Events	AN/SQ- 25A NIXIE Number of
Major Exercise (8/yr)	1,045	261	98	41	1,445	337	2,255	54	11	28	76
Integrated Exercises (7/yr)	403	101	138	41	683	690	845	0	15	28	76
ULT & Maintenance	529	132	579	41	1,281	1,692	1,156	0	61	28	76
Total	1,977	494	815	122	3,408	2,719	4,256	54	87	84	227

Table 2. Estimated Annual use of each sonar source. Note that values may vary slightly between years but will not exceed 5 times the annual estimate for any source (+/- 10%) over the course of the 5-yr regulations.

Exercise Type	Independent Unit-Level Exercises							Integrated / Coordinated / Major Exercises				
	S-S GUNEX / NSFS	A-S MISSILEX	A-S BOMBEX	SINKEX	ASW TRACKEX including IAC ¹	ASW TORPEX including IAC ¹	EER/ IEER / AEER	IAC	Sus- tain- ment	SHAREM	JTFEX	COMP- TUEX
Sources/ Weapons/ Rounds	5" rounds	HELLFIRE Harpoon	MK82, MK83, MK84 bombs	Bombs, MK48 5" rounds	53C AQS-22 sonobuoys	53C, MK48, AQS22 sonobuoys	AN/SQ- 110A or AN/SQ-125	All sources possible	All sources possible	All sources possible	All sources possible	All sources possible
Length of Exercise	2.5 - 9 hrs	3 hrs	1 hr	16 hrs	2 hrs	2	6 hrs	2 days	>21 days	7 days	10 days	21 days
Detonations/ Rounds per exercise	6 to 11	3	MK82 - 9 MK83 - 5 MK84 - 2	5" - 120 MK82 - 2 MK83 - 1 MK48 - 1	N/A	N/A	36	N/A	N/A	N/A	N/A	N/A
Number Exercises per Year ²	402	50	40	2	53C - 1600 buoys - 3,864 AQS22-2,453	53C - 28 buoys - 150 MK48 - 84 AQS22 - 112	3	2	1	2	4	4
Possible Areas Conducted	SOAR SHOBA W-291	LTR-1/2	W-291	W-291	SOAR W-291	SOAR	W-291	SOCAL	Primarily SOAR	SOCAL	SOCAL	SOCAL
Months of Year conducted	Year Round	Year Round	Year Round	Year Round	Year Round	Year Round	Year Round	Year Round	Year Round	Year Round	Year Round	Year Round

Table 3. Summary of Exercise Types with sonar or explosive use anticipated to result in take of marine mammals.

1. IAC activities are accounted for in ASW TRACKEX and ASW TORPEX

2. For ASW TRACKEX and ASW TORPEX: 53C number equates to annual hours of use; buoys number equates to annual number of sonobuoys used;

AQS22 number equates to annual number of dips; MK48 number equates to annual number of MK48 or 46 torpedoes used.

Description of Marine Mammals in the Area of the Specified Activities

There are 41 marine mammal species with possible or confirmed occurrence in the SOCAL Range Complex. Nine marine mammal species listed as federally endangered under the Endangered Species Act (ESA) can occur in the SOCAL Range Complex: The humpback whale, North Pacific right whale, sei whale, fin whale, blue whale, sperm whale, southern resident killer whale, Guadalupe fur seal, and Steller sea lion. The proposed rule contains a discussion of three species that are not considered further in the analysis (southern resident killer whale, North Pacific right whale, and Steller sea lion) because of their rarity in the SOCAL Range Complex. With the exception of marine mammal abundance and Steller sea lion correction discussed below, the Description of Marine Mammals in the

Area of the Specified Activities in the proposed rule remains unchanged (see 73 FR 60836, pages 60846-60850).

For this rulemaking and subsequent LOA, NMFS' Southwest Fisheries Science Center calculated marine mammal density estimates based on compiled densities from vessel surveys conducted from 1986 to 2005, and provided it to the Navy as Government Furnished Information (GFI). These density estimates are included in Table 4 and remain unchanged from the proposed rule. The proposed rule contains a description of the methods used to estimate density. During the public comment period for the proposed rule, several members of the public noted and commented that the abundance numbers provided for some marine mammal species were not from the latest NMFS stock assessment reports. Those numbers have been updated in Table 4, which now includes

the abundance estimates from both the 2007 stock assessment reports and the draft 2008 reports. This correction did not affect NMFS analysis, as take estimates are based on density estimates (not abundance estimates), which remain unchanged from those presented in the proposed rule.

The proposed rule indicated (73 FR 60836, page 60849) that the last sighting of a Steller sea lion in Southern California was that of a sub adult male that was briefly on San Miguel Island in 1998. In fact, a Steller sea lion was sighted in Newport Harbor in April 2008 and a Steller sea lion (that may have been the same individual) live stranded in Santa Barbara in the summer of 2008. This correction did not affect NMFS analysis and, as indicated in the proposed rule, Steller sea lions are not likely to be present in the action area or taken by the Navy's specified activities.

Species Name	Warm Season density/km ²	Cold Season density/km ²	Estimated Population Size	
			NMFS 2007 Stock Assessment Report	NMFS 2008 Stock Assessment Report
MYSTICETES				
Blue whale	0.0041222	0.0041222	1,186	1,368
Fin whale	0.0024267	0.0008008	3,454	2,636
Humpback whale	0.0001613	0.0000984	1,396	1,391
Sei whale	0.0000081	0.000005	43	46
Bryde's whale	0.0000081	0.0000081	none published	none published
Gray whale	0	0.051	18,813 ^o	18,813 ^{oo}
Minke whale	0.0010313	0.0010313	898	806
ODONTOCETES				
Sperm whale	0.0014313	0.0008731	2,265	2,853
Baird's beaked whale	0.0001434	0.0001434	313	540
Bottlenose dolphin	0.0123205	0.0184808	323 inshore stock/ 3,257 offshore stock	323 inshore stock/ 3,495 offshore stock
Cuvier's beaked whale	0.0036883	0.0036883	2,171	2,830
Dall's porpoise	0.0016877	0.0081008	57,549	48,376
Killer whale	0.0000812	0.0000812	422 NPAC offshore stock / 314 West Coast transient stock	1,014 Eastern NPAC offshore stock/ 314 West Coast transient stock**
Long-beaked common dolphin	0.0965747	0.0366984	1,893	15,335
Mesoplodont beaked whales	0.0011125	0.0011125	1,024	1,206
Northern right whale dolphin	0.0056284	0.0270163	15,305	12,876
Pacific white-sided dolphin	0.0160748	0.0160748	25,233	20,719
Pygmy sperm whale	0.0013785	0.0013785	none published	899
Short-finned pilot whale	0.0003315	0.0003315	245	245
Risso's dolphin	0.0180045	0.0540134	12,093	11,621
Short-beaked common dolphin	0.8299606	0.315385	487,622	392,733
Striped dolphin	0.0175442	0.0107019	23,316	17,925
Ziphiid whales	0.0008214	0.0008214		
PINNIPEDS				
Guadalupe fur seal	0.007	0.007	7,408	7,408
Northern elephant seal	0.042	0.025	124,000	124,000
Harbor seal	0.19	0.19	34,233	34,233
California sea lion	0.605	0.87	238,000	238,000
Northern fur seal	0.027	0.027	9,424	9,424

Table 4. Estimated density and abundance of marine mammals

A Brief Background on Sound

The proposed rule contains a section that provides a brief background on the principles of sound that are frequently referred to in this rulemaking. See 73 FR 60836, pages 60850–60851. This section also includes a discussion of the functional hearing ranges of the different groups of marine mammals (by frequency) as well as a discussion of the two main sound metrics used in NMFS analysis (sound pressure level (SPL) and sound energy level (SEL)). The information contained in the proposed rule has not changed.

Potential Effects of Specified Activities on Marine Mammals

With respect to the MMPA, NMFS' effects assessment serves four primary purposes: (1) To prescribe the permissible methods of taking (i.e., Level B Harassment (behavioral harassment), Level A Harassment (injury), or mortality, including an identification of the number and types of take that could occur by Level A or B harassment or mortality) and to prescribe other means of affecting the least practicable adverse impact on such species or stock and its habitat (i.e., mitigation); (2) to determine whether

the specified activity will have a negligible impact on the affected species or stocks of marine mammals (based on the likelihood that the activity will adversely affect the species or stock through effects on annual rates of recruitment or survival); (3) to determine whether the specified activity will have an unmitigable adverse impact on the availability of the species or stock(s) for subsistence uses (however, there are no subsistence communities that would be affected in the SOCAL Range Complex, so this determination is inapplicable for this rulemaking); and (4) to prescribe requirements pertaining to monitoring and reporting.

In the Potential Effects of Specified Activities on Marine Mammals Section of the proposed rule NMFS included a qualitative discussion of the different ways that MFAS/HFAS and underwater explosive detonations may potentially affect marine mammals (some of which NMFS would not classify as harassment). See 73 FR 60836, pages 60851–60863. Marine mammals may experience direct physiological effects (such as threshold shift), acoustic masking, impaired communications, stress responses, and behavioral disturbance. This section also included

a discussion of some of the suggested explanations for the association between the use of MFAS and marine mammal strandings (such as behaviorally-mediated bubble growth) that have been observed a limited number of times in certain circumstances (the specific events are also described). See 73 FR 60836, pages 60859–60863. The information contained in the Potential Effects of Specified Activities on Marine Mammals Section from the proposed rule has not changed, with the exception of the following sentence. On page 60861, NMFS said "Other species (*Stenella coeruleoalba*, *Kogia breviceps* and *Balaenoptera acutorostrata*) have stranded, but in much lower numbers and less consistently than beaked whales." As a member of the public pointed out, and as NMFS stated on page 60860 of the proposed rule, there was no likely association between the minke whale and spotted dolphin strandings referred to and the operation of MFAS. Therefore, the sentence should read "Other species, such as *Kogia breviceps*, have stranded in association with the operation of MFAS, but in much lower numbers and less consistently than beaked whales."

Later, in the Estimated Take of Marine Mammals section, NMFS relates and quantifies the potential effects to marine mammals from MFAS/HFAS and underwater detonation of explosives discussed here to the MMPA regulatory definitions of Level A and Level B Harassment. NMFS has also considered the effects of mortality on these species.

Mitigation

In order to issue an incidental take authorization (ITA) under Section 101(a)(5)(A) of the MMPA, NMFS must prescribe regulations setting forth the “permissible methods of taking pursuant to such activity, and other means of affecting the least practicable adverse impact on such species or stock and its habitat, paying particular attention to rookeries, mating grounds, and areas of similar significance.” The NDAA of 2004 amended the MMPA as it relates to military readiness activities and the incidental take authorization process such that “least practicable adverse impact” shall include consideration of personnel safety, practicality of implementation, and impact on the effectiveness of the “military readiness activity.” The SOCAL Range Complex activities described in the proposed rule are considered military readiness activities.

NMFS reviewed the Navy’s proposed SOCAL Range Complex activities and the proposed SOCAL mitigation measures (which the Navy refers to as Protective Measures) presented in the Navy’s application to determine whether the activities and mitigation measures were capable of achieving the least practicable adverse effect on marine mammals. NMFS determined that further discussion was necessary regarding the potential relationship between the operation of MFAS/HFAS and marine mammal strandings.

Any mitigation measure prescribed by NMFS should be known to accomplish, have a reasonable likelihood of accomplishing (based on current science), or contribute to the accomplishment of one or more of the general goals listed below:

(a) Avoidance or minimization of injury or death of marine mammals wherever possible (goals b, c, and d may contribute to this goal).

(b) A reduction in the numbers of marine mammals (total number or number at biologically important time or location) exposed to received levels of MFAS/HFAS, underwater detonations, or other activities expected to result in the take of marine mammals (this goal may contribute to a, above, or to reducing harassment takes only).

(c) A reduction in the number of times (total number or number at biologically important time or location) individuals would be exposed to received levels of MFAS/HFAS, underwater detonations, or other activities expected to result in the take of marine mammals (this goal may contribute to a, above, or to reducing harassment takes only).

(d) A reduction in the intensity of exposures (either total number or number at biologically important time or location) to received levels of MFAS/HFAS, underwater detonations, or other activities expected to result in the take of marine mammals (this goal may contribute to a, above, or to reducing the severity of harassment takes only).

(e) A reduction in adverse effects to marine mammal habitat, paying special attention to the food base, activities that block or limit passage to or from biologically important areas, permanent destruction of habitat, or temporary destruction/disturbance of habitat during a biologically important time.

(f) For monitoring directly related to mitigation—an increase in the probability of detecting marine mammals, thus allowing for more effective implementation of the mitigation (shut-down zone, etc.).

NMFS worked with the Navy to identify potential additional practicable and effective mitigation measures, which included a careful balancing of the likely benefit of any particular measure to the marine mammals with the likely effect of that measure on personnel safety, practicality of implementation, and impact on the “military-readiness activity”. NMFS and the Navy developed a Stranding Response Plan to address the concern listed above.

The Navy’s proposed mitigation measures, as well as the Stranding Response Plan, which is required under these regulations, were described in detail in the proposed rule (73 FR 60836, pages 60863–60870). The Navy’s measures address personnel training, lookout and watchstander responsibilities, and operating procedures for activities using both MFAS/HFAS and explosive detonations. Three modifications (see below) have been made to the mitigation measures described in the proposed rule. The final SOCAL Stranding Response Plan, which includes a shutdown protocol, a stranding investigation plan, and a requirement for Navy and NMFS to implement an MOA that will establish a framework whereby the Navy can (and provide the Navy examples of how they can best) assist NMFS with stranding investigations in certain circumstances,

may be viewed at: <http://www.nmfs.noaa.gov/pr/permits/incidental.htm#applications>. Additionally, the mitigation measures are included in full in the codified text of the regulations.

The proposed rule (the regulatory text, not the preamble) contained a measure in which the Navy indicated that “prior to conducting the exercise, remotely sensed sea surface temperature maps would be reviewed. SINKEX shall not be conducted within areas where strong temperature discontinuities are present, thereby indicating the existence of oceanographic fronts.” See 73 FR 60836, page 60904. The Navy included this measure in the LOA application in error. The removal of the measure does not change NMFS’ analysis and therefore the measure is not included in the final rule.

The following measure has been added to the Mitigation section of the regulations: Night vision goggles shall be available to all ships and air crews for use as appropriate.

Last, the same mitigation measures outlined for the IEER system in the proposed rule will also be applied to the similar, but newly described, AEER system.

NMFS has determined that the Navy’s proposed mitigation measures (from the LOA application), along with the Stranding Response Plan (and when the Adaptive Management (see Adaptive Management below) component is taken into consideration) are adequate means of effecting the least practicable adverse impacts on marine mammal species or stocks and their habitat, paying particular attention to rookeries, mating grounds, and areas of similar significance, while also considering personnel safety, practicality of implementation, and impact on the effectiveness of the military readiness activity. The justification for this conclusion is discussed in the Mitigation Conclusion section of the proposed rule. See 73 FR 60836, pages 60870–60871. The Mitigation Conclusion Section of the proposed rule has not changed. Research and Conservation Measures for Marine Mammals.

The Navy provides a significant amount of funding and support for marine research. The Navy provided \$26 million in Fiscal Year 2008 and plans for \$22 million in Fiscal Year 2009 to universities, research institutions, federal laboratories, private companies, and independent researchers around the world to study marine mammals. Over the past five years the Navy has funded over \$100 million in marine mammal research.

The U.S. Navy sponsors seventy percent of all U.S. research concerning the effects of human-generated sound on marine mammals and 50 percent of such research conducted worldwide. Major topics of Navy-supported research include the following:

- Better understanding of marine species distribution and important habitat areas,
- Developing methods to detect and monitor marine species before and during training,
- Understanding the effects of sound on marine mammals, sea turtles, fish, and birds, and
- Developing tools to model and estimate potential effects of sound.

The Navy's Office of Naval Research currently coordinates six programs that examine the marine environment and are devoted solely to studying the effects of noise and/or the implementation of technology tools that will assist the Navy in studying and tracking marine mammals. The six programs are as follows:

- Environmental Consequences of Underwater Sound,
- Non-Auditory Biological Effects of Sound on Marine Mammals,
- Effects of Sound on the Marine Environment,
- Sensors and Models for Marine Environmental Monitoring,
- Effects of Sound on Hearing of Marine Animals, and
- Passive Acoustic Detection, Classification, and Tracking of Marine Mammals.

The Navy has also developed the technical reports referenced within this document and the SOCAL Range Complex EIS, such as the Marine Resource Assessments. Furthermore, research cruises by NMFS and by academic institutions have received funding from the U.S. Navy.

The Navy has sponsored several workshops to evaluate the current state of knowledge and potential for future acoustic monitoring of marine mammals. The workshops brought together acoustic experts and marine biologists from the Navy and other research organizations to present data and information on current acoustic monitoring research efforts and to evaluate the potential for incorporating similar technology and methods on instrumented ranges. However, acoustic detection, identification, localization, and tracking of individual animals still requires a significant amount of research effort to be considered a reliable method for marine mammal monitoring. The Navy supports research efforts on acoustic monitoring and will continue to investigate the feasibility of passive

acoustics as a potential mitigation and monitoring tool.

Overall, the Navy will continue to fund ongoing marine mammal research, and is planning to coordinate long-term monitoring/studies of marine mammals on various established ranges and operating areas. The Navy will continue to research and contribute to university/external research to improve the state of the science regarding marine species biology and acoustic effects. These efforts include mitigation and monitoring programs; data sharing with NMFS and via the literature for research and development efforts.

Long-Term Prospective Study

Apart from this final rule, NMFS, with input and assistance from the Navy and several other agencies and entities, will perform a longitudinal observational study of marine mammal strandings to systematically observe and record the types of pathologies and diseases and investigate the relationship with potential causal factors (e.g., sonar, seismic surveys, weather). The proposed rule contained an outline of the proposed study (73 FR 60836, pages 60837–60838). No changes have been made to the longitudinal study as described in the proposed rule.

Monitoring

In order to issue an ITA for an activity, Section 101(a)(5)(A) of the MMPA states that NMFS must set forth "requirements pertaining to the monitoring and reporting of such taking". The MMPA implementing regulations at 50 CFR 216.104 (a)(13) indicate that requests for LOAs must include the suggested means of accomplishing the necessary monitoring and reporting that will result in increased knowledge of the species and of the level of taking or impacts on populations of marine mammals that are expected to be present.

Monitoring measures prescribed by NMFS should accomplish one or more of the following general goals:

- (a) An increase in the probability of detecting marine mammals, both within the safety zone (thus allowing for more effective implementation of the mitigation) and in general to generate more data to contribute to the effects analyses.
- (b) An increase in our understanding of how many marine mammals are likely to be exposed to levels of MFAS/HFAS (or explosives or other stimuli) that we associate with specific adverse effects, such as behavioral harassment, TTS, or PTS.
- (c) An increase in our understanding of how marine mammals respond

(behaviorally or physiologically) to MFAS/HFAS (at specific received levels), explosives, or other stimuli expected to result in take and how anticipated adverse effects on individuals (in different ways and to varying degrees) may impact the population, species, or stock (specifically through effects on annual rates of recruitment or survival).

(d) An increased knowledge of the affected species.

(e) An increase in our understanding of the effectiveness of certain mitigation and monitoring measures.

(f) A better understanding and record of the manner in which the authorized entity complies with the incidental take authorization.

Proposed Monitoring Plan for the SOCAL Range Complex

As NMFS indicated in the proposed rule, the Navy has (with input from NMFS) fleshed out the details of and made improvements to the SOCAL Range Complex Marine Mammal and Sea Turtle Monitoring Plan (Monitoring Plan). Additionally, NMFS and the Navy have incorporated a recommendation from the public, which recommended the Navy hold a workshop to discuss the Navy's Monitoring Plan (see Monitoring Workshop section). The final SOCAL Range Complex Monitoring Plan, which is summarized below may be viewed at <http://www.nmfs.noaa.gov/pr/permits/incidental.htm#applications>. The Navy plans to implement all of the components of the Monitoring Plan; however, only the marine mammal components (not the sea turtle components) will be required by the MMPA regulations and associated LOAs.

The draft Monitoring Plan for the SOCAL Range Complex has been designed as a collection of focused "studies" (described fully in the SOCAL Range Complex Monitoring Plan) to gather data that will allow the Navy to address the following questions:

- (1) Are marine mammals and sea turtles exposed to MFAS, especially at levels associated with adverse effects (i.e., based on NMFS' criteria for behavioral harassment, TTS, or PTS)? If so, at what levels are they exposed?
- (2) If marine mammals and sea turtles are exposed to MFAS in the SOCAL Range Complex, do they redistribute geographically as a result of continued exposure? If so, how long does the redistribution last?
- (3) If marine mammals and sea turtles are exposed to MFAS, what are their behavioral responses to various levels?

(4) What are the behavioral responses of marine mammals and sea turtles that are exposed to explosives at specific levels?

(5) Is the Navy's suite of mitigation measures for MFAS and explosives (e.g., PMAP, major exercise measures agreed to by the Navy through permitting) effective at avoiding TTS, injury, and mortality of marine mammals and sea turtles?

Data gathered in these studies will be collected by qualified, professional marine mammal biologists that are experts in their field. They will use a

combination of the following methods to collect data:

- Visual Surveys—Vessel and aerial.
- Passive Acoustic Monitoring (PAM), including working with the passive acoustic detection capabilities of Navy's SOAR fixed range.
- Marine Mammal Observers (MMOs) on Navy Vessels.
- Marine Mammal Tagging.

In the five proposed study designs (all of which cover multiple years), the above methods will be used separately or in combination to monitor marine mammals in different combinations before, during, and after activities

utilizing MFAS/HFAS or explosive detonations. Table 5 contains a summary of the monitoring effort that is planned for each study in each year (effort may vary slightly between years or study type, but overall effort will remain constant). The SOCAL Range Complex Monitoring Plan is designed to collect data on all marine mammals and sea turtles encountered during monitoring studies. However, priority will be given to ESA-listed species and taxa in which MFAS exposure, under certain circumstances and strandings have been linked (beaked whales and other deep-diving species).

STUDY 1,3,4 (exposures and behavioral responses)									
	FY09	ADAPTIVE MANAGEMENT REASSESSMENT (AMR)	FY10	AMR	FY11	AMR	FY12	AMR	FY13
Aerial Surveys	Award monitoring contract, develop standard operating procedures (SOP), obtain permits; Portions of major, intermediate level, or Unit Level Training (ULT) mid-frequency active sonar (MFAS) exercises, and offshore detonation events		Portions of major, intermediate level, or ULT MFAS exercises, and offshore detonation events		Portions of major, intermediate level, or ULT MFAS exercises, and offshore detonation events		Portions of major, intermediate level, or ULT MFAS exercises, and offshore detonation events		Portions of major, intermediate level, or ULT MFAS exercises, and offshore detonation events
Marine Mammal Observers (MMO)	Opportunistic as staff and SOP developed; minimum intermediate level or ULT MFAS exercises		Intermediate level or ULT MFAS exercises		Intermediate level or ULT MFAS exercises		Intermediate level or ULT MFAS exercises		Intermediate level or ULT MFAS exercises
Vessel surveys (study 3, 4 only)	Award monitoring contract, develop SOP, obtain permits; Portions of major or intermediate level MFAS exercises including offshore detonation events		Portions of major or intermediate level MFAS exercises including offshore detonation events		Portions of major or intermediate level MFAS exercises including offshore detonation events		Portions of major or intermediate level MFAS exercises including offshore detonation events		Portions of major or intermediate level MFAS exercises including offshore detonation events
STUDY 2 (geographic redistribution)									
Aerial Surveys Before and After Training	Award monitoring contract, develop SOP, obtain permits; Portions of major, intermediate level, or ULT MFAS exercises		Portions of major, intermediate level, or ULT MFAS exercises		Portions of major, intermediate level, or ULT MFAS exercises		Portions of major, intermediate level, or ULT MFAS exercises		Portions of major, intermediate level, or ULT MFAS exercises
Passive Acoustics	Award monitoring contract, develop SOP, obtain permits; Order devices and determine best location; integrate SOAR M3R classification data for beaked whales (BW)	AMR	Install minimum 2 autonomous devices in the SOCAL study area and begin recording; integrate SOAR M3R classification data (BW)	AMR	Continue recording from devices; Begin data analysis; integrate SOAR M3R classification data (BW and other species if available)	AMR	Continue recording from devices and data analysis; integrate SOAR M3R classification data (BW and other species if available)	AMR	Data Analysis and continue recording from devices and data analysis; integrate SOAR M3R classification data (BW and other species if available)
Marine Mammal Tagging	Award monitoring contract, develop SOP, obtain permits		Conduct opportunistic marine mammal tagging		Conduct opportunistic marine mammal tagging		Conduct opportunistic marine mammal tagging		Complete tag analysis and reporting
FY Commitment:	FY09 -120 hrs aerial survey (approx. 20 aerial survey days at 6 hrs/day) -60 hours vessel survey (approx. 5 days at 12 hrs/day) -36 hrs MMO (approx. 3 days at 12 hrs/day) - integrate existing PAM	AMR	FY10 -120 hrs aerial survey (20 days) -72 hrs vessel survey (6 days) -72 hours MMO (6 days) -use existing PAM; deploy min. 2 PAM buoys -tagging	AMR	FY11 -120 hrs aerial survey -72 hrs vessel survey -72 hours MMO -use existing PAM; deploy min. 2 PAM bottom buoys -tagging	AMR	FY12 -120 hrs aerial survey -72 hrs vessel survey -72 hours MMO -use existing PAM; deploy min. 2 PAM bottom buoys -tagging	AMR	FY13 -120 hrs aerial survey -72 hrs vessel survey -72 hours MMO -use existing PAM; deploy min. 2 PAM bottom buoys

Table 5. Summary of SOCAL Range Complex Monitoring Plan

Monitoring Workshop

During the public comment period on the SOCAL Range Complex proposed rule (as well as the Hawaii Range Complex proposed rule), NMFS received a comment which, in consultation with the Navy, we have chosen to incorporate into the final rule (in a modified form). One commenter recommended that a workshop or panel be convened to solicit input on the monitoring plan from researchers, experts, and other interested parties. The SOCAL Range Complex proposed rule included an adaptive management component and both NMFS and the Navy believe that a workshop would provide a means for Navy and NMFS to consider input from participants in determining whether or how to modify monitoring techniques to more effectively accomplish the goals of monitoring set forth earlier in the document. NMFS and the Navy believe that this workshop concept is valuable in relation to all of the Range Complexes and major training exercise rules and LOAs that NMFS is working on with the Navy at this time, and consequently this single Monitoring Workshop will be included as a component of all of the rules and LOAs that NMFS will be processing for the Navy in the next year or so.

The Navy, with guidance and support from NMFS, will convene a Monitoring Workshop, including marine mammal and acoustic experts as well as other interested parties, in 2011. The Monitoring Workshop participants will review the monitoring results from the previous two years of monitoring pursuant to the SOCAL Range Complex rule as well as monitoring results from other Navy rules and LOAs (e.g., the Atlantic Fleet Active Sonar Training, Hawaii Range Complex (HRC), and other rules). The Monitoring Workshop participants would provide their individual recommendations to the Navy and NMFS on the monitoring plan(s) after also considering the current science (including Navy research and development) and working within the framework of available resources and feasibility of implementation. NMFS and the Navy would then analyze the input from the Monitoring Workshop participants and determine the best way forward from a national perspective. Subsequent to the Monitoring Workshop, modifications would be applied to monitoring plans as appropriate.

Integrated Comprehensive Monitoring Program

In addition to the Monitoring Plan for the SOCAL Range Complex, the Navy will complete the Integrated Comprehensive Monitoring Program (ICMP) Plan by the end of 2009. The ICMP will provide the overarching coordination that will support compilation of data from range-specific monitoring plans (e.g., SOCAL Range Complex plan) as well as Navy funded research and development (R&D) studies. The ICMP will coordinate the monitoring program's progress towards meeting its goals and develop a data management plan. The ICMP will be evaluated annually to provide a matrix for progress and goals for the following year, and will make recommendations on adaptive management for refinement and analysis of the monitoring methods.

The primary objectives of the ICMP are to:

- Monitor and assess the effects of Navy activities on protected species;
- Ensure that data collected at multiple locations is collected in a manner that allows comparison between and among different geographic locations;
- Assess the efficacy and practicality of the monitoring and mitigation techniques;
- Add to the overall knowledge-base of marine species and the effects of Navy activities on marine species.

The ICMP will be used both as: (1) A planning tool to focus Navy monitoring priorities (pursuant to ESA/MMPA requirements) across Navy Range Complexes and Exercises; and (2) an adaptive management tool, through the consolidation and analysis of the Navy's monitoring and watchstander data, as well as new information from other Navy programs (e.g., R&D), and other appropriate newly published information.

In combination with the 2011 Monitoring Workshop and the adaptive management component of the SOCAL Range Complex rule and the other planned Navy rules (e.g., AFAST and HRC), the ICMP could potentially provide a framework for restructuring the monitoring plans and allocating monitoring effort based on the value of particular specific monitoring proposals (in terms of the degree to which results would likely contribute to stated monitoring goals, as well as the likely technical success of the monitoring based on a review of past monitoring results) that have been developed through the ICMP framework, instead of allocating based on maintaining an equal (or commensurate to effects)

distribution of monitoring effort across Range complexes. For example, if careful prioritization and planning through the ICMP (which would include a review of both past monitoring results and current scientific developments) were to show that a large, intense monitoring effort in Hawaii would likely provide extensive, robust and much-needed data that could be used to understand the effects of sonar throughout different geographical areas, it may be appropriate to have other Range Complexes dedicate money, resources, or staff to the specific monitoring proposal identified as "high priority" by the Navy and NMFS, in lieu of focusing on smaller, lower priority projects divided throughout their home Range Complexes.

The ICMP will identify:

- A means by which NMFS and the Navy would jointly consider the previous year's monitoring results and advancing science to determine if modifications are needed in mitigation or monitoring measures to better effect the goals laid out in the Mitigation and Monitoring sections of the SOCAL Range Complex rule.
- Guidelines for prioritizing monitoring projects.
- If, as a result of the workshop and similar to the example described in the paragraph above, the Navy and NMFS decide it is appropriate to restructure the monitoring plans for multiple ranges such that they are no longer evenly allocated (by Range Complex), but rather focused on priority monitoring projects that are not necessarily tied to the geographic area addressed in the rule, the ICMP will be modified to include a very clear and unclassified record-keeping system that will allow NMFS and the public to see how each Range Complex/project is contributing to all of the ongoing monitoring (resources, effort, money, etc.).

Past Monitoring in the SOCAL Range Complex

The proposed rule contained a detailed review of the previous marine mammal monitoring conducted in the SOCAL Range Complex, which was conducted in compliance with the terms and conditions of multiple biological opinions issued for MFAS activities (73 FR 60836, pages 60873–60875). No changes have been made to the discussion contained in the proposed rule.

Adaptive Management

The final regulations governing the take of marine mammals incidental to Navy activities in the SOCAL Range Complex will contain an adaptive

management component. Our understanding of the effects of MFAS/HFAS and explosives on marine mammals is still in its relative infancy, and yet the science in this field continues to improve. These circumstances make the inclusion of an adaptive management component both valuable and necessary within the context of 5-year regulations for activities that have been associated with marine mammal mortality in certain circumstances and locations (though not the SOCAL Range Complex). The use of adaptive management will give NMFS the ability to consider new data from different sources to determine (in coordination with the Navy) on an annual basis if mitigation or monitoring measures should be modified or added (or deleted) if new data suggests that such modifications are appropriate (or are not appropriate) for subsequent annual LOAs.

Following are some of the possible sources of applicable data:

- Results from the Navy's monitoring from the previous year (either from the SOCAL Range Complex or other locations).
- Findings of the Workshop that the Navy will convene in 2011 to analyze monitoring results to date, review current science, and recommend modifications, as appropriate to the monitoring protocols to increase monitoring effectiveness.
- Compiled results of Navy funded research and development (R&D) studies (presented pursuant to the ICMP, which is discussed elsewhere in this document).
- Results from specific stranding investigations (either from the SOCAL Range Complex or other locations, involving the coincident MFAS/HFAS of explosives training or not involving the coincident use).
- Results from the Long Term Prospective Study described below.
- Results from general marine mammal and sound research (funded by the Navy (described below) or otherwise).

Mitigation measures could be modified or added (or deleted) if new data suggests that such modifications would have (or do not have) a reasonable likelihood of accomplishing the goals of mitigation laid out in this final rule and if the measures are practicable. NMFS would also coordinate with the Navy to modify or add to (or delete) the existing monitoring requirements if the new data suggest that the addition of (or deletion of) a particular measure would more effectively accomplish the goals of monitoring laid out in this final rule.

The reporting requirements associated with this rule are designed to provide NMFS with monitoring data from the previous year to allow NMFS to consider the data and issue annual LOAs. NMFS and the Navy will meet annually (prior to LOA issuance, except in the year of the Monitoring Workshop) to discuss the monitoring reports, Navy R&D developments, and current science and whether mitigation or monitoring modifications are appropriate.

Reporting

In order to issue an ITA for an activity, Section 101(a)(5)(A) of the MMPA states that NMFS must set forth "requirements pertaining to the monitoring and reporting of such taking". Effective reporting is critical to ensure compliance with the terms and conditions of an LOA, and to provide NMFS and the Navy with data of the highest quality based on the required monitoring.

As NMFS noted in its proposed rule, additional detail has been added to the reporting requirements since they were outlined in the proposed rule. The updated reporting requirements are all included below. A subset of the information provided in the monitoring reports may be classified and not releasable to the public.

NMFS will work with the Navy to develop tables that allow for efficient submission of the information required below.

General Notification of Injured or Dead Marine Mammals

Navy personnel will ensure that NMFS (regional stranding coordinator) is notified immediately (or as soon as operational security allows) if an injured or dead marine mammal is found during or shortly after, and in the vicinity of, any Navy training exercise utilizing MFAS, HFAS, or underwater explosive detonations. The Navy will provide NMFS with species or description of the animal(s), the condition of the animal(s) (including carcass condition if the animal is dead), location, time of first discovery, observed behaviors (if alive), and photo or video (if available). The Stranding Response Plan contains more specific reporting requirements for specific circumstances.

Annual SOCAL Range Complex Monitoring Plan Report

The Navy shall submit a report annually on October 1 describing the implementation and results (through August 1 of the same year) of the SOCAL Range Complex Monitoring Plan, described above. Data collection

methods will be standardized across range complexes to allow for comparison in different geographic locations. Although additional information will also be gathered, marine mammal observers (MMOs) collecting marine mammal data pursuant to the SOCAL Range Complex Monitoring Plan shall, at a minimum, provide the same marine mammal observation data required in the MFAS/HFAS major Training Exercises section of the Annual SOCAL Range Complex Exercise Report referenced below.

The SOCAL Range Complex Monitoring Plan Report may be provided to NMFS within a larger report that includes the required Monitoring Plan Reports from multiple Range Complexes.

Annual SOCAL Range Complex Exercise Report

The Navy will submit an Annual SOCAL Range Complex Exercise Report on October 1 of every year (covering data gathered through August 1). This report shall contain the subsections and information indicated below.

MFAS/HFAS Major Training Exercises

This section shall contain the following information for Integrated, Coordinated, and Major Training Exercises (MTEs), which include Ship ASW Readiness and Evaluation Measuring (SHAREM), Sustainment Exercises, Integrated ASW Course Phase II (IAC2), Composite Training Unit Exercises (COMPTUEX), and Joint Task Force Exercises (JTTEX) conducted in the SOCAL Range Complex:

(a) Exercise Information (for each MTE):

- (i) Exercise designator.
- (ii) Date that exercise began and ended.
- (iii) Location.
- (iv) Number and types of active sources used in the exercise.
- (v) Number and types of passive acoustic sources used in exercise.
- (vi) Number and types of vessels, aircraft, etc., participating in exercise.
- (vii) Total hours of observation by watchstanders.
- (viii) Total hours of all active sonar source operation.
- (ix) Total hours of each active sonar source (along with explanation of how hours are calculated for sources typically quantified in alternate way (buoys, torpedoes, etc.)).
- (x) Wave height (high, low, and average during exercise).

(b) Individual marine mammal sighting info (for each sighting in each MTE):

- (i) Location of sighting.
- (ii) Species (if not possible—indication of whale/dolphin/pinniped).
- (iii) Number of individuals.
- (iv) Calves observed (y/n).
- (v) Initial Detection Sensor.
- (vi) Indication of specific type of platform observation made from (including, for example, what type of surface vessel, i.e., FFG, DDG, or CG).
- (vii) Length of time observers maintained visual contact with marine mammal(s).
- (viii) Wave height (in feet).
- (ix) Visibility.
- (x) Sonar source in use (y/n).
- (xi) Indication of whether animal is <200yd, 200–500yd, 500–1000yd, 1000–2000yd, or >2000yd from sonar source in (x) above.
- (xiii) Mitigation Implementation—Whether operation of sonar sensor was delayed, or sonar was powered or shut down, and how long the delay was.
- (xiv) If source in use (x) is hullmounted, true bearing of animal from ship, true direction of ship's travel, and estimation of animal's motion relative to ship (opening, closing, parallel).
- (xv) Observed behavior—Watchstanders shall report, in plain language and without trying to categorize in any way, the observed behavior of the animals (such as animal closing to bow ride, paralleling course/speed, floating on surface and not swimming, etc.).

(c) An evaluation (based on data gathered during all of the MTEs) of the effectiveness of mitigation measures designed to avoid exposing animals to mid-frequency sonar. This evaluation shall identify the specific observations that support any conclusions the Navy reaches about the effectiveness of the mitigation.

ASW Summary

This section shall include the following information as summarized from both MTEs and non-major training exercises (unit-level exercises, such as TRACKEXs):

(i) Total annual hours of each type of sonar source (along with explanation of how hours are calculated for sources typically quantified in alternate way (buoys, torpedoes, etc.)).

(iv) *Cumulative Impact Report*—To the extent practicable, the Navy, in coordination with NMFS, shall develop and implement a method of annually reporting non-major (i.e., other than MTEs) training exercises utilizing hull-mounted sonar. The report shall present an annual (and seasonal, where

practicable) depiction of non-major training exercises geographically across the SOCAL Range Complex. The Navy shall include (in the SOCAL Range Complex annual report) a brief annual progress update on the status of the development of an effective and unclassified method to report this information until an agreed-upon (with NMFS) method has been developed and implemented.

SINKEXs

This section shall include the following information for each SINKEX completed that year:

(a) *Exercise info:*

- (i) Location.
- (ii) Date and time exercise began and ended.
- (iii) Total hours of observation by watchstanders before, during, and after exercise.
- (iv) Total number and types of rounds expended/explosives detonated.
- (v) Number and types of passive acoustic sources used in exercise.
- (vi) Total hours of passive acoustic search time.
- (vii) Number and types of vessels, aircraft, etc., participating in exercise.
- (viii) Wave height in feet (high, low and average during exercise).
- (ix) Narrative description of sensors and platforms utilized for marine mammal detection and timeline illustrating how marine mammal detection was conducted.

(b) *Individual marine mammal observation (by Navy lookouts) info:*

- (i) Location of sighting.
- (ii) Species (if not possible—indication of whale/dolphin/pinniped).
- (iii) Number of individuals.
- (iv) Calves observed (y/n).
- (v) Initial detection sensor.
- (vi) Length of time observers maintained visual contact with marine mammal.
- (vii) Wave height.
- (viii) Visibility.
- (ix) Whether sighting was before, during, or after detonations/exercise, and how many minutes before or after.
- (x) Distance of marine mammal from actual detonations (or target spot if not yet detonated)—use four categories to define distance: (1) The modeled injury threshold radius for the largest explosive used in that exercise type in that OPAREA (738 m for SINKEX in the SOCAL Range Complex); (2) the required exclusion zone (1 nm for SINKEX in SOCAL Range Complex); (3) the required

observation distance (if different than the exclusion zone (2 nm for SINKEX in SOCAL Range Complex); and (4) greater than the required observed distance. For example, in this case, the observer would indicate if < 738 m, from 738 m–1 nm, from 1 nm–2 nm, and > 2 nm.

- (xi) Observed behavior—Watchstanders will report, in plain language and without trying to categorize in any way, the observed behavior of the animals (such as animal closing to bow ride, paralleling course/speed, floating on surface and not swimming etc.), including speed and direction.
- (xii) Resulting mitigation implementation—Indicate whether explosive detonations were delayed, ceased, modified, or not modified due to marine mammal presence and for how long.
- (xiii) If observation occurs while explosives are detonating in the water, indicate munition type in use at time of marine mammal detection.

Improved Extended Echo-Ranging System (IEER) and Advanced Extended Echo-Ranging System (AEER) Summary

This section shall include an annual summary of the following IEER/AEER information:

- (i) Total number of IEER and AEER events conducted in the SOCAL Range Complex.
- (ii) Total expended/detonated rounds (buoys).
- (iii) Total number of self-scuttled IEER rounds.

Explosives Summary

The Navy is in the process of improving the methods used to track explosive use to provide increased granularity. To the extent practicable, the Navy will provide the information described below for all of their explosive exercises. Until the Navy is able to report in full the information below, they will provide an annual update on the Navy's explosive tracking methods, including improvements from the previous year.

- (i) Total annual number of each type of explosive exercise (of those identified as part of the "specified activity" in this final rule) conducted in the SOCAL Range Complex.
- (ii) Total annual expended/detonated rounds (missiles, bombs, etc.) for each explosive type.

Sonar Exercise Notification

The Navy shall submit to the NMFS Office of Protected Resources (specific contact information to be provided in LOA) either an electronic (preferably) or verbal report within fifteen calendar days after the completion of any MTE (Sustainment, IAC2, SHAREM, COMPTUEX, or JTFEX) indicating:

- (1) Location of the exercise.
- (2) Beginning and end dates of the exercise.
- (3) Type of exercise.

SOCAL Range Complex 5-Yr Comprehensive Report

The Navy shall submit to NMFS a draft report that analyzes and summarizes all of the multi-year marine mammal information gathered during ASW and explosive exercises for which annual reports are required (Annual SOCAL Range Complex Exercise Reports and SOCAL Range Complex Monitoring Plan Reports). This report will be submitted at the end of the fourth year of the rule (November 2012), covering activities that have occurred through June 1, 2012.

Comprehensive National ASW Report

By June, 2014, the Navy shall submit a draft National Report that analyzes, compares, and summarizes the active sonar data gathered (through January 1, 2014) from the watchstanders and pursuant to the implementation of the Monitoring Plans for the SOCAL Range Complex, the Atlantic Fleet Active Sonar Training, the HRC, the Marianas Range Complex, the Northwest Training Range, the Gulf of Alaska, and the East Coast Undersea Warfare Training Range.

The Navy shall respond to NMFS comments and requests for additional information or clarification on the SOCAL Range Complex Comprehensive Report, the Comprehensive National ASW report, the Annual SOCAL Range Complex Exercise Report, or the Annual SOCAL Range Complex Monitoring Plan Report (or the multi-Range Complex Annual Monitoring Plan Report, if that is how the Navy chooses to submit the information) if submitted within 3 months of receipt. These reports will be considered final after the Navy has addressed NMFS' comments or provided the requested information, or three months after the submittal of the draft if NMFS does not comment by then.

SOCAL

Comments and Responses

On October 14, 2008 (73 FR 60836), NMFS published a proposed rule in response to the Navy's request to take

marine mammals incidental to military readiness training exercises in SOCAL and requested comments, information and suggestions concerning the request. During the 30-day public comment period, NMFS received 8 comments from private citizens, comments from the Marine Mammal Commission (MMC) and several sets of comments from non-governmental organizations, including, the Natural Resources Defense Council (NRDC) (which commented on behalf of The Humane Society of the United States, the International Fund for Animal Welfare, Whale and Dolphin Conservation Society, Cetacean Society International, Pamlico Tar River Foundation, League for Coastal Protection, and Ocean Futures Society and its founder Jean-Michel Cousteau), the Cascadia Research Collective (CRC), Ziphius EcoServices, and Smultea Environmental Sciences, LLC. The comments are summarized and sorted into general topic areas and are addressed below. Full copies of the comment letters may be accessed at www.regulations.gov.

Monitoring and Reporting

Comment 1: One commenter stated that "It is advisable to hold a multi-day workshop to discuss controversial issues related to the problem." The commenter further indicated that the workshop should include representatives from the Navy, NMFS, relevant marine mammal researchers, NGOs (e.g., NRDC), and invited experts on certain topics of interest. The goal of the workshop should be to move towards consensus on a way forward for the monitoring plan. Another commenter suggested that outside expert review of the ICMP by professional marine mammal biologists was needed.

Response: NMFS believes that a workshop consisting of the Navy, NMFS, researchers, invited experts, and other interested parties, in combination with an adaptive management plan that allows for modification to the monitoring plan, would provide a means for the Navy to potentially make changes to the Monitoring Plan that would more effectively accomplish some of the goals of monitoring set forth earlier in the Monitoring section. NMFS and the Navy have coordinated on this point and the Navy will convene a workshop, to include (among others) outside marine mammal experts, in 2011. The workshop and how it will interact with the adaptive management component are discussed in the Monitoring Workshop section of this final rule. The Monitoring Workshop

participants will be asked to submit individual recommendations to the Navy and NMFS, and both agencies will work together to determine whether modifications to the SOCAL Range Complex monitoring are necessary based on the recommendations. As necessary, NMFS would incorporate any changes into future LOAs and future rules. However, NMFS disagrees with the commenter's suggestion that the workshop participants seek to achieve consensus on a way forward for the monitoring plan. NMFS has statutory responsibility to prescribe regulations pertaining to monitoring and reporting, and will in coordination with the Navy, develop the most effective and appropriate monitoring and reporting protocols for future authorizations.

Comment 2: Two commenters made several recommendations regarding the formatting and understandability of the monitoring plan, including recommending additional text. For example, one commenter recommended the Navy add a list of acronyms and another recommended adding text explaining that dropping sonobuoys from monitoring observation aircraft is another potential method of PAM whose feasibility and utility should be assessed as part of the SCMP.

Response: NMFS and the Navy incorporated these recommendations where appropriate. For example, both of the above examples were incorporated. However, we did not incorporate the commenter's recommendations in all cases, if we believed doing so, for example, would needlessly lengthen and complicate the Plan or generally be duplicative with the analytical contents of the rule.

Comment 3: One commenter stated: "The Navy improperly assumes that they have no impact on the marine mammals. It is clear that the draft plan begins with the assumption that the Navy has no impact on marine mammals, or that the current mitigation is adequate to eliminate impacts. This is not supported by facts, and it invalidates the entire purpose of the plan. The Navy must acknowledge that sonar testing may indeed impact marine mammals and provide references, and must be willing to work as an active partner in a plan to investigate the extent and severity of such impacts, and how to reduce them to insignificant levels. Otherwise, this entire exercise is just 'window dressing' and will be a major waste of taxpayer dollars."

Response: NMFS disagrees with this commenter's assertion. It is possible that the commenter mistook the fact that the Navy phrased some of their goals as null hypotheses ("If marine mammals and

sea turtles are exposed to MFAS, what are their behavioral responses? Are they different at various levels?") to mean that they think there are no effects. The Navy's LOA application and EIS clearly discuss the potential adverse effects that marine mammals may experience when exposed to MFAS/HFAS and explosive detonations. The Navy has and will continue to work as an active partner to investigate the extent and severity of the impacts and how to reduce them (see Navy Research section of this final rule).

Regarding the issue of the mitigation being adequate to eliminate impacts, nowhere does either the Navy or NMFS indicate that the current mitigation will eliminate impacts. The MMPA requires that NMFS put forth the means of effecting the least practicable adverse impacts. As discussed in the Mitigation section of the proposed rule, NMFS has determined that the final required mitigation accomplishes this. If it were possible to eliminate impacts to marine mammals, an MMPA authorization would not be necessary.

Comment 4: Two commenters were concerned that the Navy used the term "relative distance" when describing the data that would be gathered for marine mammals and sound sources and indicated that precise measurements are needed to draw accurate conclusions.

Response: GPS measurements are used for the majority of Navy data, both for ship tracks and marine mammal sightings. The word "relative" was used because in some cases the Navy cannot report exactly where their exercise is for security reasons, but they can report exactly where the marine mammal was relative to the sound source.

Comment 5: A few commenters asked why the Navy did not consider additional survey methods, or modifications to the existing methods, beyond those currently included in the plan, such as: dropping sonobuoys from airplanes, specified focal follows of one animal before, during, and after sonar; photo-identification of marine mammals to look at residency patterns; or doing biopsy sampling to assess stress hormones.

Response: There are many different methods available with which to monitor marine mammals and the Navy considered a wide range of methods in the development of their plan. NMFS considered all of the public comments (including the recommended additional survey methods) received during this rulemaking. Some of the methods suggested by the public, such as the photo-identification method, would likely be feasible and provide useful information (and in fact, the Navy will take photographs whenever feasible),

while other methods, such as biopsy sampling (which would require a new research permit), would be more difficult both financially and operationally. Nevertheless, the Navy must work within the framework of the available resources and the operational constraints associated with doing work in the vicinity of a complex military exercise. NMFS provided input during the development of the plan and believes that results from the required monitoring will provide valuable information regarding the effects of MFAS on marine mammals. Additionally, by including the Monitoring Plan as a requirement of the regulations and LOA, NMFS is compliant with the MMPA requirement to prescribe regulations setting forth the requirements pertaining to the monitoring and reporting of taking. That being said, the Navy and NMFS understand the importance of marine mammal monitoring to determine the effects of MFAS, which is why the Navy agreed to conduct the Workshop referred to in Comment #1 during which the workshop participants will review and assess the monitoring results (from this Monitoring Plan and others from other Range complexes and areas) and make informed recommendations for how to move forward with the best monitoring strategy.

Comment 6: One commenter asked that the Navy specify somewhere in the Monitoring Plan that any potentially stranded animals will be photographed for individual identification purposes.

Response: When possible, every attempt will be made to opportunistically collect concurrent digital video and digital photographs of animals under observation by both vessels and aircraft. Direct experience with aerial monitoring within the Hawaii and SOCAL Range Complexes in 2008 revealed the value of these techniques for on-site and off-site species identification or confirmation, and for assistance in reviewing a given animal's behavioral state after the survey. Language to this effect has been added to the Monitoring Plan.

Comment 7: One commenter questioned who will conduct the Adaptive Management Review and whether professional marine mammal and sea turtle biologists will be involved as advisors on a regular basis.

Response: The NMFS and the Navy will conduct the Adaptive Management Reassessment review to examine the prior year's monitoring lessons learned, integrate new science, and re-direct monitoring based on input from the scientific community. As mentioned in comment 1, professional marine

mammal biologists will be involved in the 2011 Monitoring Workshop.

Comment 8: One commenter noted that there is a lot of emphasis on collection of data by Navy watchstanders, but the Navy must acknowledge the limitation of these kinds of data. The relatively low level of training and experience by these people (in relation to professional marine mammal biologists) will make the data collected of little value. Another commenter similarly notes that the marine species awareness training consists primarily of watching a DVD, which is insufficient to ensure that they accurately detect many species.

Response: The vast majority of the monitoring (pursuant to the monitoring plan) will be conducted by independent marine mammal scientists. Alternately, Navy lookouts are responsible for detecting marine mammal presence within the safety zone so that the mitigation can be implemented. Navy lookouts are specifically trained to detect anomalies in the water around the ship and both the safety of Navy personnel and success in the training exercise depend on the lookout being able to detect objects (or marine mammals) effectively around the ship. NMFS has reviewed the Navy's After Action Reports from previous exercises and they show that lookouts are detecting marine mammals, and implementing sonar shutdowns as required when they do. That said, the SOCAL Range Complex Monitoring Plan contains a study in which Navy lookouts will be on watch simultaneously with non-Navy marine mammal observers and their detection rates will be compared. Though Navy lookouts are not trained biologists and may not always be able to identify a marine mammal to species, NMFS believes that if data is gathered systematically and in sufficient detail (as described in the Reporting section of the rule), Navy lookouts will provide important encounter rate data that will allow comparisons between lookouts and MMOs, as well as between when sonar is on or off.

Comment 9: One commenter stated that it would seem to be a conflict of interest to be using Navy personnel to monitor training activity areas for marine mammals [during their own activities].

Response: The Navy is responsible for both the funding and implementation of a substantial amount of marine mammal and acoustic research and NMFS has no concerns regarding the objectivity of the reported results from either these research projects or the monitoring required pursuant to the MMPA

authorization. It is definitely not a conflict of interest since the statute requires a permit holder to comply with regulations related to the incidental taking of marine mammals, including monitoring and reporting requirements.

Comment 10: During aerial surveys, information on headings/orientation of animals should be collected as these data can later be examined to assess movement/response of animals relative to locations and received sound levels of MFAS and underwater detonations.

Response: As NMFS noted in the proposed rule, additional detail has been added to the Reporting Requirements section of the final rule. A requirement that Navy lookouts report the relative directions of both the marine mammals and the sonar source has been included. NMFS also included a requirement that the MMOs collecting data for the Monitoring Plan collect, at a minimum, the same data outlined in the Reporting Requirements section for the Navy lookouts.

Comment 11: Commenters questioned whether the Navy had considered whether a statistically sound sample size had been developed to answer the questions that monitoring is trying to answer.

Response: The Navy will contract a team of marine mammal experts to implement the monitoring plan and fine-tune the sample size and analysis parameters. The data from the SOCAL Range Complex will be pooled (as appropriate) with data collected from other range complexes to maximize data collection each year. No conclusions will be made without a statistically valid sample size.

Comment 12: One commenter stated: "The Navy should establish a long-term research program, perhaps conducted by NMFS or by an independent agent, on the distribution, abundance, and population structuring of protected species on the SOCAL Range Complex, with the goal of supporting adaptive geographic avoidance of high-value habitat." Another commenter suggests that the Navy should conduct research and development of technologies to reduce the impacts of active acoustic sources on marine mammals.

Response: The MMPA does not require that individuals who have received an incidental take authorization conduct research. As mentioned above, the mitigation EA addresses geographic avoidance of high-value habitat. Separately, the Navy has voluntarily developed and funded a number of research plans that are designed to address technologies to reduce the impacts of active acoustic

sources on marine mammals (see Research section).

Mitigation

Comment 13: The Marine Mammal Commission recommends that NMFS:

(a) Clarify which monitoring and mitigation measures will be required, in light of the fact that a revised Monitoring Plan was posted after the proposed rule was published.

(b) Require performance testing and validation of those measures (and the MMC suggests that NMFS did not review, and the rule does not include reference to, five post-exercise reports that the Navy submitted to us for 2006/2007 exercises in the SOCAL Range Complex).

(c) Require new measures to address remaining monitoring and mitigation shortcomings. The MMC suggests that visual and passive acoustic monitoring offer only limited detection capability but notes that NMFS asserts that more than 60 potential lethal or injurious takes have been mitigated to zero by posting visual observers and opportunistic monitoring using sonobuoys and other existing passive acoustic sensing capabilities.

(d) Work with the Navy to develop a database for storing original records of marine mammal interactions; the database should meet the Navy's security requirements but also maintain what are potentially valuable records about the Navy's interactions with and effects on marine mammals. The MMC notes that the proposed rule indicates that the ship's logs of sightings, power-downs, and other mitigation actions are retained only for 30 days.

Response: Following are responses to MMC's alphabetized sub-comments:

(a) The final required mitigation measures are exactly the same as those described in the proposed rule. As described in the proposed rule, the Monitoring Plan contains a table that generally describes the level of effort that the Navy has committed to in the monitoring, but the Navy continued to develop and improve the Monitoring Plan for the SOCAL Range Complex (based on public comments, among other input) throughout the MMPA and ESA processes. The Monitoring Plan will be finalized prior to the issuance of the first LOA, but we note that flexibility remains for the implementation team (the independent scientist contractors that the Navy will hire to conduct the monitoring) to further refine the specific protocols as appropriate.

(b) Navy lookouts are specifically trained to detect anomalies in the water around the ship and both the safety of

Navy personnel and success in the training exercise depend on the lookout being able to detect objects (or marine mammals) effectively around the ship. NMFS has reviewed the Navy's After Action Reports from previous exercises and they show that lookouts are detecting marine mammals and implementing sonar shutdowns as required. That said, the SOCAL Range Complex Monitoring Plan contains a study in which Navy lookouts will be on watch simultaneously with non-Navy marine mammal observers and their detection rates will be compared. Additionally, the regulations and subsequent authorization would require the Navy to provide "an evaluation (based on data gathered during all of the major training exercises) of the effectiveness of mitigation measures designed to avoid exposing marine mammals to mid-frequency sonar. This evaluation shall identify the specific observations that support any conclusions the Navy reaches about the effectiveness of the mitigation included in the authorization." Last, the rule contains an adaptive management component that specifies that NMFS and the Navy will meet on an annual basis to evaluate the Navy Reports (on both Navy lookout observations as well as Monitoring Plan reporting) and other new information (such as Navy R&D developments or new science) to ascertain whether mitigation or monitoring modifications are appropriate.

Contrary to the MMC's assertion, NMFS included both a summary table of (Table 7 in proposed rule), and general conclusions related to, 12 post exercise reports that the Navy submitted for exercises conducted in 2006 and 2007. NMFS agrees that the review of post-exercise reports is critical, and through the implementation of the more rigorous reporting requirements that have been laid out in the final rule (versus the proposed rule) we should be able to reach well-supported conclusions regarding the effects of MFAS on marine mammals.

(c) As described in the proposed rule, NMFS's analysis does not assert that 60+ injuries or mortalities are completely alleviated by mitigation implementation. Rather, we explain that, in the first place, the model that estimated 60 injuries and mortalities does not take into consideration at all that a subset of animals will avoid operating sound sources (or even vessels without operating sources), which means that fewer than 60 animals would be likely to get close enough to be exposed to levels expected to result in injury or death. For MFAS, animals

would need to approach within 10 m of the sound source to be exposed to levels likely to result in injury. For explosives, the larger charges have effects at greater distances, but they also have very rigorous clearance procedures that include monitoring the area for 2 hours in advance of the exercise. Nonetheless, NMFS acknowledges the opportunity for improvement via the use of dedicated passive or active sonar to detect marine mammals for mitigation implementation. However, current technology does not allow the Navy to detect, identify, and localize marine mammals and transmit this information to operators real-time while also not substantially reducing the effectiveness of the fast-paced and complicated exercises that the Navy must conduct. The Navy is committed, however, to technological development in the area of marine mammal protection and is currently funding multiple research projects towards this goal (see Research section).

(d) Though the original ship logs are destroyed after 30 days, the information pertaining to marine mammal observations and mitigation implementation is passed along to environmental compliance staff who are responsible for producing reports for NMFS and who already have a system for retaining the needed information. However, under the ICMP, NMFS will work with the Navy to ensure that all of the needed information is saved (in a standard form across geographic areas), which could potentially include the development of a new database.

Comment 14: One commenter noted that the training exercises that the Navy proposes to conduct in the Southern California range from 2009 to 2014 are apparently very similar to those that have in the past provoked extended litigation against the Navy by environmental groups (e.g., the RIMPAC litigation in 2006 and the ongoing SOCAL case, *NRDC v. Winters*, currently under review by the Supreme Court). The environmental groups have, thus far, been successful in both of their lawsuits against the Navy and the NMFS; each suit has required the Navy to take much more rigorous measures to mitigate the environmental impact of its sonar exercises. And yet neither the Navy nor the NMFS appears to have incorporated the lessons of these legal actions into their practices, as shown by the proposed regulation released for comment. Specifically, the NRDC asserts that NMFS's proposed rule, as well as the Navy's SOCAL Range Complex Draft Environmental Impact Statement ("DEIS") (73 FR 18522 (Apr. 4, 2008)) ignores mitigation measures

imposed specifically for the SOCAL Range Complex by courts in California. See *NRDC v. Winter* 527 F.Supp.2d 1216 (C.D. Cal. 2008), aff'd 518 F.3d 658 (9th Cir. 2008).

Response: The outcome of any litigation is based very specifically on the content of the administrative record for the particular decision that is being litigated. NMFS has worked closely with the Navy, both in the development of the SOCAL Range Complex EIS and in the ESA and MMPA consultations, to build a strong administrative record (both procedure and content-wise) that supports our decisions under the applicable statutes. Both NMFS and the Navy have incorporated lessons from the aforementioned legal actions into our practices. For example, the Navy (with NMFS support as a cooperating agency) chose to develop EISs for their major MFAS training activities instead of relying on an Environmental Assessment as they did in RIMPAC 2006. However, NMFS and the Navy are still bound to make certain findings under different statutes, and just because additional measures were imposed by the court in previous similar cases does not mean that those measures are appropriate in the specific context of the statutes that NMFS or the Navy are endeavoring to comply with in a specific case. More specifically, though, both NMFS and the Navy have considered the types of measures recommended by the courts (see Mitigation EA). Finally, the Supreme Court (*Winter v. NRDC*) recently sided with the Navy in NRDC's challenge to the use of mid-frequency active sonar in the SOCAL Range Complex. The court determined the Navy's need to conduct realistic training with active sonar to respond to the threat posed by enemy submarines plainly outweighs the interests advanced by the plaintiffs.

Comment 15: One commenter asserts that NMFS's analysis ignores or improperly discounts an array of options that have been considered and imposed by other active sonar users, including avoidance of coastal waters, high-value habitat, and complex topography; the employment of a safety zone more protective than the 1000-yard power-down and 200-yard shutdown accepted by NMFS; general passive acoustic monitoring for whales; special rules for surface ducting and low-visibility conditions; monitoring and shutdown procedures for sea turtles and large schools of fish; and many others. The commenter further provides a detailed list of 30 additional measures that should be considered. Other commenters made additional

recommendations of mitigation measures that should be considered.

Response: NMFS considered a wide range of mitigation options in our analysis, including those listed by the commenters. In order to issue an incidental take authorization (ITA) under Section 101(a)(5)(A) of the MMPA, NMFS must set forth the "permissible methods of taking pursuant to such activity, and other means of affecting the least practicable adverse impact on such species or stock and its habitat, paying particular attention to rookeries, mating grounds, and areas of similar significance." The National Defense Authorization Act (NDAA) of 2004 amended the MMPA as it relates to military-readiness activities (which these Navy activities are) and the incidental take authorization process such that "least practicable adverse impact" shall include consideration of personnel safety, practicality of implementation, and impact on the effectiveness of the "military readiness activity". NMFS worked with the Navy to identify practicable and effective mitigation measures, which included a careful balancing of the likely benefit of any particular measure to the marine mammals with the likely effect of that measure on personnel safety, practicality of implementation, and impact on the "military-readiness activity". NMFS developed an Environmental Assessment (EA) that analyzes a suite of possible mitigation measures in regard to potential benefits for marine mammals (see goals of mitigation in the Mitigation section of this proposed rule) and practicability for the Navy. That EA, which considered all of the measures recommended by these public comments, is currently available on the NMFS Web site (<http://www.nmfs.noaa.gov/pr/permits/incidental.htm#applications>) and has been relied upon to inform NMFS's MMPA decision.

Comment 16: One commenter suggests that the graded response steps for MFAS based on the distance at which marine mammals are sighted does not make sense given the high proportion of time many marine mammal species, especially long-divers, spend underwater. A beaked whale sighted in the path of the vessel 600 yards ahead that then dives would only require a decrease in source level by 6 dB, even though the trajectory of the ship would take it directly over the animal while it is underwater.

Response: The next "graded" mitigation measure says "Should the marine mammal be detected within or closing to inside 200 yds (183 m) of the

sonar dome, active sonar transmissions shall cease.” The “or closing” part of this measure ensures that if the Navy vessel is headed straight at an animal, they will use the appropriate measure. Additionally, review of the Navy’s after-action reports shows that in the vast majority of marine mammal detections within 1000 yds, the Navy immediately shuts down the sonar, without going through the power-down step.

Comment 17: NRDC recommends prescription of specific mitigation requirements for individual categories (or sub-categories) of testing and training activities, in order to maximize mitigation given varying sets of operational needs. Also, the Navy should require that other nations abide by U.S. mitigation measures when training in the SOCAL Range Complex, except where their own measures are more stringent.

Response: The Navy’s standard protective measures include measures that are specific to certain categories of activities. For example, different exclusion zones are utilized for hull-mounted sonar and dipping sonar, and different range clearance procedures are used for SINKEXs and IEER sonobuoy exercises. Pursuant to the Navy’s 2000 Policy for Environmental Compliance at Sea, the commander or officer in charge of a major exercise shall provide participating foreign units with a description of the measures to protect the environment required of similar U.S. units as early as reasonable in the exercise planning process and shall encourage them to comply. As a binding international law, foreign sovereign immune vessels may not be compelled to adopt such mitigation measures.

Comment 18: The Marine Mammal Commission recommends that NMFS modify the Navy’s mitigation measures by requiring that the Navy delay resumption of full operational sonar use following a power-down or shutdown for 30 minutes if the sighted animal can be identified to the species level and the species is not deep diving and 60 minutes if it cannot be identified or is known to be a member of a deep-diving species such as sperm and beaked whales. They further recommend that NMFS allow resumption of full operations before the end of the 30-minute period (when the species can be identified and is not a deep diver) or 60-minute period (the species cannot be determined or can be determined but is a deep diver) only when the Navy has good evidence that the marine mammal seen outside the safety zone is the same animal originally sighted within the zone.

Response: NMFS does not concur with the MMC that we should expand the delay (until sonar can be restarted after a shutdown due to a marine mammal sighting) to 60 minutes for deep-diving species for the following reasons:

- The ability of an animal to dive longer than 30 minutes does not mean that it will always do so. Therefore, the 60 minute delay would only potentially add value in instances when animals had remained under water for more than 30 minutes.

- Navy vessels typically move at 10–12 knots (5–6 m/sec) when operating active sonar and potentially much faster when not. Fish et al. (2006) measured speeds of 7 species of odontocetes and found that they ranged from 1.4–7.30 m/sec. Even if a vessel was moving at the slower typical speed associated with active sonar use, an animal would need to be swimming near sustained maximum speed for an hour in the direction of the vessel’s course to stay within the safety zone of the vessel. Increasing the typical speed associated with active sonar use would further narrow the circumstances in which the 60-minute delay would add value.

- Additionally, the times when marine mammals are deep-diving (i.e., the times when they are under the water for longer periods of time) are the same times that a large portion of their motion is in the vertical direction, which means that they are far less likely to keep pace with a horizontally moving vessel.

- Given that, the animal would need to have stayed in the immediate vicinity of the sound source for an hour and considering the maximum area that both the vessel and the animal could cover in an hour, it is improbable that this would randomly occur. Moreover, considering that many animals have been shown to avoid both acoustic sources and ships without acoustic sources, it is improbable that a deep-diving cetacean (as opposed to a dolphin that might bow ride) would choose to remain in the immediate vicinity of the source. NMFS believes that it is unlikely that a single cetacean would remain in the safety zone of a Navy sound source for more than 30 minutes.

- Last, in many cases, the lookouts are not able to differentiate species to the degree that would be necessary to implement this measure. Plus, Navy operators have indicated that increasing the number of mitigation decisions that need to be made based on biological information is more difficult for the lookouts (because it is not their area of expertise).

NMFS does not believe that 60-minute delay would add to the

protection of marine mammals in the vast majority of cases, while it would definitely decrease the effectiveness of the Navy’s training exercises by adding further delay, and therefore we have not required it. Regarding the MMCs second recommendation, the current measure says that sonar transmission will be limited until “the animal is seen to leave the area”—NMFS does not believe that further clarification is needed regarding the fact that the Navy needs to be sure it is the same animal.

Comment 19: One commenter states that the Navy should engage in timely and regular reporting to NOAA, state coastal management authorities, and the public to describe and verify use of mitigation measures during testing and training activities.

Response: The Navy will be required to submit annual reports and these reports will be made available to the public upon the Notice to the public (in the **Federal Register**) of the issuance of subsequent LOAs. The reports will include a description of the mitigation measures implemented during major exercises and will also include an evaluation of the effectiveness if any mitigation measure implemented.

Comment 20: One commenter asserts that the Navy should avoid fish spawning grounds and important fish habitat. It should also avoid high-value sea turtle habitat. The Navy should include sea turtles in other described mitigation measures, including safety zones, for which floating weeds and kelp and algal mats should be taken as proxies for sea turtle presence.

Response: These concerns are outside of the purview of the MMPA. Impacts to fish spawning grounds are dealt with pursuant to the Magnuson-Stevens Act as it relates to Essential Fish Habitat (EFH). NMFS Office of Habitat Conservation found that the Navy’s proposed action would adversely affect EFH, but that the proposed mitigation measures (see the Navy’s EFH assessment in Appendix E of the SOCAL Range Complex FEIS) would adequately address adverse impacts to EFH. Therefore, NMFS made no additional EFH conservation recommendations. Measures to reduce impacts to sea turtles are included in the terms and conditions of the biological opinion that NMFS issued to the Navy (view at: <http://www.nmfs.noaa.gov/pr/permits/incidental.htm#applications>). Finally, it should be noted that the Navy will be required to alter activities if floating weeds or kelp are seen within a particular area (e.g., for Surface-to-Surface Gunnery exercises: “Lookouts shall visually survey for floating weeds

and kelp. Intended impact shall not be within 600 yds (585 m) of known or observed floating weeds and kelp, and algal mats”).

Acoustic Threshold for Behavioral Harassment

Comment 21: The NRDC submitted a comprehensive critique of the risk function (authored by Dr. David Bain), which NMFS has posted on our Web site (<http://www.nmfs.noaa.gov/pr/permits/incidental.htm#applications>). NRDC summarized some general limitations of the risk function and included a fairly detailed critique of the specific structure of and parameters chosen for use in the model. Following are some of the general topics addressed in the letter:

- Factors that Dr. Bain thinks should be addressed by the model, such as social interactions and multiple sources.

- Critique of the datasets that NMFS used to populate the risk function (described Level B Harassment—Risk Function section of the proposed rule): (1) Controlled Laboratory Experiments with Odontocetes (SSC Dataset); (2) Mysticete Field Study (Nowacek et al., 2004), and (3) Odontocete Field Data (Haro Strait—USS Shoup).

- Consideration of some datasets that were considered by NMFS, but not used in the risk function.

- A critique of the parameters (A, B, and K) used in the risk function.

- A sensitivity analysis of the parameters (i.e., takes were modeled while applying variable values for the A, B, and K values).

Dr. Bain included a summary of his concerns and an abbreviated version is included below. Additionally (and not included in the summary), Dr. Bain suggested that the effect of multiple sources may be both different and greater than the effects of fewer sources and provided supporting examples.

Dr. Bain's Summary follows (comments that were in Dr. Bain's summary, but have been addressed elsewhere in this Comment Response section are not included below):

- In summary, development of a function that recognizes individual variation is a step in the right direction.

- The selected equation is likely to produce underestimates of takes due to asymmetries in the number of individuals affected if parameters are either underestimated or overestimated due to uncertainty. Thus it will be important to use the risk function in a precautionary manner.

- The sensitivity analysis reveals the importance of using as many datasets as possible. First, for historical reasons, there has been an emphasis on high

energy noise sources and the species tolerant enough of noise to be observed near them. Exclusion of the rarer datasets demonstrating responses to low levels of noise biases the average parameter values, and hence underestimates effects on sensitive species.

- A similar mistake was made with the right whale data. The level at which 100 percent of individuals responded was used as the value at which 50 percent of individuals responded (B+K). Likewise, the level at which 100 percent of killer whales responded to mid-frequency sonar is less than the value derived for B+K in the HRC SDEIS (Dept. Navy 2008b).

- It is likely that biological B values should be in the range from just detectable above ambient noise to 120 dB re 1 μ Pa. The resulting mathematical B value could be tens of dB lower, not the 120 dB re 1 μ Pa proposed. For many species, risk may approach 100 percent in the range from 120–135 dB re 1 μ Pa, putting K in the 15–45 dB range.

- The A values do not seem well supported by the data, and in any case, are likely to be misleading in social species as the risk function is likely to be asymmetrical with a disproportionate number of individuals responding at low noise levels. Rather than one equation fitting all species well, parameters are likely to be species typical.

- As realistic parameter values are lower than those employed in the HRC SDEIS (Dept. Navy 2008b), AFAST DEIS (Dept. Navy 2008a) and related DEIS's, take numbers should be recalculated to reflect the larger numbers of individuals likely to be taken. The difference between the parameter values estimated here and those used in the SDEIS suggests takes were underestimated by two orders of magnitude.

Response: Many of the limitations outlined in Dr. Bain's document were raised by other commenters and are addressed elsewhere in this Comment and Response Section and will not be addressed again here. Below, NMFS responds to the specific points summarized above.

- *The effects of multiple sources:* Mathematically, the Navy's exposure model has already accounted for takes of animals exposed to multiple sources in the number of estimated takes. NMFS concurs with the commenter, however, in noting that the severity of responses of the small subset of animals that are actually exposed to multiple sources simultaneously could potentially be greater than animals exposed to a single source due to the fact that received level, both SPL and SEL, would be

slightly higher and because contextually it could be perceived as more threatening to an animal to receive multiple stimuli coming from potentially multiple directions at once (for example, marine mammals have been shown to respond more severely to sources coming directly towards them, vs. obliquely (Wartzok, 2004)). However, it is also worth noting that according to information provided by the Navy, surface vessels do not typically operate closer than 10–20 miles from another surface vessel (and greater distance is ideal), and other sonar sources, such as dipping sonar and sonobuoys, are almost always used 20 or more miles away from the surface vessel. This means that if the two most powerful sources were operating at the closest distance they are likely to (10 miles), in the worst case scenario, animals that would have been exposed to 150 dB SPL or less (taken from table 16 of the proposed rule) may be exposed to slightly higher levels or to similar levels or less coming from multiple directions.

- *Underestimates of takes due to asymmetries in the number of individuals affected when parameters are underestimated and overestimated due to uncertainty:* The commenter's point is acknowledged. When a sensitivity analysis is conducted and parameters are varied (both higher and lower values used)—the degree of difference in take estimates is much greater when the parameter is adjusted in one direction than in the other, which suggests the way that this generalized model incorporates uncertainty may not be conservative. However, in all cases when the adjustment of the parameter in a certain direction results in a disproportionately (as compared to an adjustment in the other direction) large increase in the number of takes, it is because the model is now estimating that a larger percentage of animals will be taken at greater distances from the source. This risk function is based completely on the received level of sound. As discussed in the proposed rule, there are other contextual variables that are very important to the way that an animal responds to a sound, such as nearness of the source, relative movement (approaching or retreating), or the animals familiarity with the source. Southall et al. (2007) indicates that the presence of high-frequency components and a lack of reverberation (which are indicative of nearness) may be more relevant acoustic cues of spatial relationship than simply exposure level alone. In the SOCAL Range Complex, an

animal exposed to between 120 and 130 dB may be more than 65 nm from the sonar source. NMFS is not aware of any data that describe the response of any marine mammals to sounds at that distance, much less data that indicate that an animal responded in a way we would classify as harassment at that distance. Because of this, NMFS does not believe it is currently possible or appropriate to modify the model to further address uncertainty if doing so results in the model predicting that much larger numbers of animals will be taken at great distances from the source when we have no data to suggest that that would occur.

- *Using many datasets:* NMFS has explained both in the rule, and then again elsewhere in response to these comments, why we chose the three datasets we did to define the risk function. As Dr. Bain points out, there are datasets that report marine mammal responses to lower levels of received sound. However, because of the structure of the curve NMFS is using and what it predicts (Level B Harassment), we need datasets that show a response that we have determined qualifies as harassment (in addition to needing a source that is adequately representative of MFAS and reliable specific received level information), which many of the lower level examples do not.

- *50 percent vs. 100 percent response:* Dr. Bain asserts that two of the three datasets (Nowacek et al., 2004 and Haro Strait—USS SHOUP) that NMFS uses to derive the 50 percent response probability in the risk function actually report a 100 percent response at the indicated received levels. For the Haro Strait dataset, a range of estimated received levels at the closest approach to the J Pod were estimated. Given that neither the number of individual exposures or responses were available, the mean of this range was used as a surrogate for the 50 percent response probability in the development of the risk function. For the Nowacek data, NMFS used 139.2 dB, which is the mean of the received levels at which 5 of 6 animals showed a significant response to the signal. However, viewed another way, of 6 animals, one animal did not respond to the signal and the other five responded at received levels of 133 dB, 135 dB, 137 dB, 143 dB, and 148 dB, which means that 3 of the 6 animals (50 percent) showed a significant response at 139.2 dB or less.

- *120 dB basement value:* When the broad array of data reported from exposures across taxa and to varied sources are reviewed, NMFS believes that 120 dB is an appropriate B value for

a curve designed to predict responses that rise to the level of an MMPA harassment (not just any response). The available data do not support the commenter's assertion that risk may approach 100 percent in the range from 120–135 dB for many species. For example, the Southall et al. (2007) summary of behavioral response data clearly shows, in almost every table (for all sound types), reports of events in which animals showed no observable response, or low-level responses NMFS would not likely consider harassment, in the 120 to 135-dB range. For the species (the harbor porpoise) for which the data do support that assertion, which the Southall et al. (2007) paper considers "particularly sensitive", NMFS has implemented the use of a species-specific step function threshold of 120 dB SPL.

- *The A value:* Please see the second bullet of this response for the first part of the answer. NMFS concurs with the commenter that species-specific parameters would likely be ideal, however there are not currently enough applicable data to support separate curves for each species. We note, though, that even with species-specific parameters, the context of the exposure will still likely result in a substantive variability of behavioral responses to the same received level by the same species.

- *Recalculation:* For the reasons described in the bullets above in this response, NMFS disagrees with the commenter's assertion that the parameters used in the proposed rule and the EIS are unrealistic and that they result in take estimates that are too small by two orders of magnitude. We do not believe that a recalculation is necessary.

The science in the field of marine mammals and underwater sound is evolving relatively rapidly. NMFS is in the process of revisiting our acoustic criteria with the goal of developing a framework (Acoustic Guidelines) that allows for the regular and scientifically valid incorporation of new data into our acoustic criteria. We acknowledge that this model has limitations, however, the limitations are primarily based on the lack of applicable quantitative data. We believe that the best available science has been used in the development of the criteria used in this and other concurrent Navy rules and that this behavioral harassment threshold far more accurately represents the number of marine mammals that will be taken than the criteria used in the RIMPAC 2006 authorization. We appreciate the input from the public and intend to consider it further as we move forward and develop the Acoustic Guidelines.

Comment 22: One commenter expressed the concern that NMFS blindly relies on TTS studies conducted on 7 captive animals of two species (to the exclusion of copious data on animals in the wild) as a primary source of data for the behavioral harassment threshold. The commenter further asserts that these studies (on highly trained animals that do not represent a normal range of variation within their own species, as they have been housed in a noisy bay for most of their lives) have major deficiencies, which NMFS ignores by using the data.

Response: The SSC Dataset (Controlled Laboratory Experiments with Odontocetes) is not the primary source of data for the behavioral harassment threshold; rather, it is one of three datasets (the other two datasets are from wild species exposed to noise in the field) treated equally in the determination of the K value (equates to midpoint) of the behavioral risk function. NMFS recognizes that certain limitations may exist when one develops and applies a risk function to animals in the field based on captive animal behavioral data. However, we note that for the SSC Dataset: (1) Researchers had superior control over and ability to quantify noise exposure conditions; (2) behavioral patterns of exposed marine mammals were readily observable and definable; and, (3) fatiguing noise consisted of tonal noise exposures with frequencies contained in the tactical mid-frequency sonar bandwidth. NMFS does not ignore the deficiencies of these data, rather we weighed them against the value of the data and compared the dataset to the other available datasets and decided that the SSC dataset was one of the three appropriate datasets to use in the development of the risk function.

Comment 23: NMFS fails to include data from the July 2004 Hanalei Bay event, in which 150–200 melon-headed whales were embayed for more than 24 hours during the Navy's Rim of the Pacific exercise. According to the Navy's analysis, predicted mean received levels (from mid-frequency sonar) inside and at the mouth of Hanalei Bay ranged from 137.9 dB to 149.2 dB. NMFS' failure to incorporate these numbers into its methodology as another data set is not justifiable.

Response: NMFS' investigation of the Hanalei event concluded that there was insufficient evidence to determine causality. There are a number of uncertainties about sonar exposure and other potential contributing factors and assumptions inherent to a reconstruction of events in which sonar was the causative agent that simply

preclude this determination. Because of this, NMFS did not use the numbers (137.9–149.2 dB) in our methodology. Additionally, even if NMFS had concluded that MFAS were the causative agent, insufficient evidence exists regarding the received level when the animals responded (there is no information regarding where they were when they would have first heard the sound).

Comment 24: One commenter stated “NMFS excludes a substantial body of research on wild animals (and some research on other experimental animals as well, within a behavioral experimental protocol). Perhaps most glaringly, while the related DEIS prepared for the Navy’s Atlantic Fleet Active Sonar Training activities appears to acknowledge the strong sensitivity of harbor porpoises by setting an absolute take threshold of 120 dB (SPL)—a sensitivity that, as NMFS has noted, is reflected in numerous wild and captive animal studies—the agencies improperly fail to include any of these studies in their data set. The result is clear bias, for even if one assumes (for argument’s sake) that the SPAWAR data has value, NMFS has included a relatively insensitive species in setting its general standard for marine mammals while excluding a relatively sensitive one.”

Response: As explained in the Level B Harassment (Risk Function) section of the proposed rule the risk function is based primarily on three datasets (SSC dataset, Nowacek et al. (2004), and Haro Strait—USS Shoup) in which marine mammals exposed to mid-frequency sound sources were reported to respond in a manner that NMFS would classify as Level B Harassment. NMFS considered the “substantial body of research” that the commenter refers to but was unable to find other datasets that were suitable in terms of all of the following: The equivalency of the sound source to MFAS, a reported behavioral response that NMFS would definitively consider Level B Harassment, and a received level reported with high confidence. The SSC dataset is only one of three used and, in fact, the other 2 datasets (which are from wild animals—killer whales and North Atlantic right whales) both report behavioral responses at substantively lower levels (i.e., the “relatively insensitive” species is not driving the values in the function).

Separately, combined wild and captive data support the conclusion that harbor porpoises (high-frequency hearing specialists) are quite sensitive to a variety of anthropogenic sounds at very low exposures (Southall et al.,

2007). Southall et al. (which refer to harbor porpoises as particularly sensitive species) report that all recorded exposures exceeding 140 dB SPL induced profound and sustained avoidance behavior in wild harbor porpoises. Unlike for the mid-frequency and low-frequency species, there are also no reported instances where harbor porpoises were exposed to higher levels and did not have a high response score. For these reasons, harbor porpoises are considered especially sensitive and NMFS determined that it is appropriate to apply a more conservative threshold.

Comment 25: The risk function must take into account the social ecology of some marine mammal species. For species that travel in tight-knit groups, an effect on certain individuals can adversely influence the behavior of the whole. Should those individuals fall on the more sensitive end of the spectrum, the entire group or pod can suffer significant harm at levels below what the Navy would use as the mean. In developing its “K” parameter, NMFS must take into account the potential for indirect effects.

Response: The risk function is intended to define the received level of MFAS at which exposed marine mammals will experience behavioral harassment. The issue the commenter raises is related to the Navy’s exposure model—not the risk function. However, because of a lack of related data there is no way to numerically address this issue in the model. Although the point the commenter raises could potentially apply, one could also assert that if certain animals in a tight knit group were less sensitive it would have the opposite effect on the group. Additionally, the modeling is based on uniform marine mammal density (distributed evenly over the entire area of potential effect), which does not consider the fact that marine mammals appearing in pods will be easier to detect and therefore the Navy will be more likely to implement mitigation measures that avoid exposing the animals to the higher levels received within 1000m of the source.

Comment 26: One commenter asserts that NMFS’ threshold is applied in such a way as to preclude any assessment of long-term behavioral impacts on marine mammals. It does not account, to any degree, for the problem of repetition: The way that apparently insignificant impacts, such as subtle changes in dive times or vocalization patterns, can become significant if experienced repeatedly or over time.

Response: NMFS threshold does not preclude any assessment of long-term behavioral impacts on marine mammals.

The threshold is a quantitative tool that NMFS uses to estimate individual behavioral harassment events. Quantitative data relating to long-term behavioral impacts are limited, and therefore NMFS’ assessment of long-term behavioral impacts is qualitative in nature (see Diel Cycle section in Negligible Impact Analysis section). NMFS analysis discusses the potential significance of impacts that continue more than 24 hours and/or are repeated on subsequent days and, though it does not quantify those impacts, further indicates that these types of impacts are not likely to occur because of the nature of the Navy’s training activities and the large area over which they are conducted.

Comment 27: One commenter stated “NMFS appears to have misused data garnered from the Haro Strait incident—one of only three data sets it considers—by including only those levels of sound received by the “J” pod of killer whales when the USS Shoup was at its closest approach. These numbers represent the maximum level at which the pod was harassed; in fact, the whales were reported to have broken off their foraging and to have engaged in significant avoidance behavior at far greater distances from the ship, where received levels would have been orders of magnitude lower. We must insist that NMFS provide the public with the Navy’s propagation analysis for the Haro Strait event, which it used in preparing its 2005 Assessment of the incident.”

Response: For the specific application in the risk function for behavioral harassment, NMFS used the levels of sound received by the “J” pod when the USS Shoup was at its closest approach because a review of the videotapes and other materials by NMFS detailing the behavior of the animals in relation to the location of the Navy vessels showed that it was after the closest approach of the vessel that the whales were observed responding in a manner that NMFS would classify as “harassed.” Though animals were observed potentially responding to the source at greater distances, NMFS scientists believed that the responses observed at greater distances were notably less severe and would not rise to the level of MMPA harassment. Though the received levels observed in relation to the lesser responses could be used in some types of analytical tools, the risk continuum specifically requires that we use received sound levels that are representative of when MMPA harassment likely occurred. The Navy’s report may be viewed at: <http://www.acousticecology.org/docs/SHOUPNavyReport0204.pdf>.

Acoustic Thresholds for TTS and PTS

Comment 28: One commenter notes that in the SOCAL proposed rule, NMFS sets its threshold for temporary hearing loss and behavioral effects, or “temporary threshold shift” (“TTS”), at 183 dB re 1 $\mu\text{Pa}^2\text{-s}$ for harbor seals, 204 dB re 1 $\mu\text{Pa}^2\text{-s}$ for northern elephant seals, and 206 dB re 1 $\mu\text{Pa}^2\text{-s}$ for California sea lions (73 FR 60878). However, the commenter notes, in the proposed rule for AFAST, NMFS indicates that the TTS threshold for pinnipeds is 183 dB re 1 $\mu\text{Pa}^2\text{-s}$. NMFS does not explain the difference in thresholds. The commenter makes the same comment for the PTS thresholds (which are 20 dB higher than the TTS thresholds).

Response: As noted in the SOCAL proposed rule, the TTS thresholds are 183 dB re 1 $\text{FPa}^2\text{-s}$ for harbor seals (and closely related species), 204 dB re 1 $\mu\text{Pa}^2\text{-s}$ for northern elephant seals (and closely related species), and 206 dB re 1 $\mu\text{Pa}^2\text{-s}$ for California sea lions (and closely related species) (73 FR 60878). The commenter is correct, in the AFAST rule, NMFS did not fully explain that all of the pinnipeds that might be exposed to MFAS are “closely related” to harbor seals. Therefore, the 183 dB SEL is the pinniped threshold applied in AFAST. The AFAST final rule will be amended to clarify this issue and be consistent with the SOCAL final rule. The same answer applies to the comment about PTS thresholds.

Comment 29: One commenter stated that NMFS’ take estimates do not reflect other non-auditory physiological impacts, such as from chronic exposure during development, stress, ship collisions, and exposure to toxic chemicals.

Response: The commenter is correct that the Navy’s estimated take numbers do not reflect non-auditory physiological impacts because the quantitative data necessary to address those factors in the exposure model do not exist. However, NMFS acknowledges that a subset of the animals that are taken by harassment will also likely experience non-auditory physiological effects (stress, etc.) and these effects are addressed in the proposed rule (see Stress Responses section). Regarding toxins, the Navy concluded that the potential ingestion of toxins, such as the small amount of propellant or stimulant remaining in the spent boosters or on pieces of missile debris, by marine mammals or fish species would be remote because of (1) atmospheric dispersion, (2) the diluting and neutralizing effects of seawater, and (3) the relatively small area that could

potentially be affected. Therefore, the Navy determined that marine mammals would not be taken via the ingestion of toxins and they did not request (nor did NMFS grant) authorization for take of marine mammals from toxin ingestion. Similarly, regarding ship strikes, the Navy’s EIS indicated that the Navy does not expect marine mammals to be struck because of standard operating procedures to reduce the likelihood of collisions, to include: (1) Use of lookouts trained to detect all objects on the surface of the water (including marine mammals); (2) reasonable and prudent actions to avoid the close interactions of Navy assets and marine mammals; and (3) maneuvering to keep away from any observed marine mammal. Therefore, the Navy did not request (nor did NMFS grant) authorization for take of marine mammals from ship strikes.

Comment 30: The Navy’s exclusive reliance on energy flux density as its unit of analysis does not take other potentially relevant acoustic characteristics into account. Reflecting this uncertainty, the Navy should establish a dual threshold for marine mammal injury.

Response: NMFS currently uses the injury threshold recommended by Southall et al. (2007) for MFAS. Specifically, NMFS uses the 215-dB SEL sound exposure level threshold (the commenter refers to it as energy flux density level). Southall et al. (2007) presents a dual threshold for injury, which also includes a 230-dB peak pressure level threshold. NMFS discussed this issue with the Navy early in the MMPA process and determined that the 215-dB SEL injury threshold was the more conservative of the two thresholds (i.e., the 230-dB peak pressure threshold occurs much closer to the source than the 215-dB SEL threshold) and therefore it was not necessary to consider the 230-dB peak pressure threshold further. For example, an animal will be within the 215-dB SEL threshold and counted as a take before it is exposed to the 230-dB threshold. NMFS concurs with Southall et al. (2007), which asserts that for an exposed individual, whichever criterion is exceeded first, the more precautionary of the two measures should be used as the operative injury criterion.

Comment 31: One commenter asserts that NMFS disregards data gained from actual whale mortalities. The commenter cites to peer-reviewed literature that indicates that sound levels at the most likely locations of beaked whales beached in the Bahamas strandings run far lower than the Navy’s

threshold for injury here:

Approximately 150–160 dB re 1 μPa for 50–150 seconds, over the course of the transit. A further modeling effort, undertaken in part by the Office of Naval Research, the commenter states, suggests that the mean exposure level of beaked whales, given their likely distribution in the Bahamas’ Providence Channels and averaging results from various assumptions, may have been lower than 140 dB re 1 μPa . Last the commenter suggests that when duration is factored in, evidence would support a maximum energy level (“EL”) threshold for serious injury on the order of 182 dB re 1 $\mu\text{Pa}^2\text{-s}$, at least for beaked whales.

Response: No one knows where the beaked whales were when they were first exposed to MFAS in the Bahamas or the duration of exposure for individuals (in regards to maximum EL) and, therefore, we cannot accurately estimate the received level that triggered the response that ultimately led to the stranding. Therefore, NMFS is unable to quantitatively utilize any data from this event in the mathematical model utilized to estimate the number of animals that will be “taken” incidental to the Navy’s proposed action. However, NMFS does not disregard the data. The proposed rule includes a qualitative discussion of the Bahamas stranding and four other strandings that NMFS and the Navy concur that the operation of MFAS likely contributed to. These data illustrate a “worst case scenario” of the range of potential effects from sonar and the analysis of these strandings supports the Navy’s request for authorization to take 10 individuals of several species by mortality over the 5-yr. period.

Comment 32: One commenter states that NMFS’ and the Navy’s assessment of the risk of marine mammal injury and mortality is astonishingly poor. Although NMFS briefly discusses stranding events (73 FR 60859), the Marine Mammal Protection Act requires NMFS to fully consider the impacts of sonar on marine mammals to determine there is no more than a negligible impact before issuing an incidental take authorization.

Response: NMFS disagrees. The proposed rule contains a detailed discussion of stranding events (those that were merely coincident with MFAS use, as well as those for which the evidence suggests that MFAS exposure was a contributing factor), a detailed discussion of the multiple hypotheses that describe how acoustically-mediated or behaviorally-mediated bubble growth can lead to marine mammal strandings, as well as a comprehensive discussion

of the more general potential effects to marine mammals of MFAS exposure. NMFS analyses fully considers the impacts to marine mammals, which allows us to determine that the specified activities will have a negligible impact on the affected species or stocks.

Comment 33: One commenter states: "NMFS fails to take proper account of published research on bubble growth in marine mammals, which separately indicates the potential for injury and death at lower [received sound] levels. According to the best available scientific evidence, gas bubble growth is the causal mechanism most consistent with the observed injuries. NMFS' argument to the contrary simply misrepresents the available literature."

Response: The proposed rule contained a detailed discussion of the many hypotheses involving both acoustically-mediated and behaviorally-mediated bubble growth. NMFS concluded that there is not sufficient evidence to definitively say that any of these hypotheses accurately describe the exact mechanism that leads from sonar exposure to a stranding. Despite the many theories involving bubble formation (both as a direct cause of injury and an indirect cause of stranding), Southall et al., (2007) summarizes that scientific disagreement or complete lack of information exists regarding the following important points: (1) Received acoustical exposure conditions for animals involved in stranding events; (2) pathological interpretation of observed lesions in stranded marine mammals; (3) acoustic exposure conditions required to induce such physical trauma directly; (4) whether noise exposure may cause behavioral reactions (such as atypical diving behavior) that secondarily cause bubble formation and tissue damage; and (5) the extent the post mortem artifacts introduced by decomposition before sampling, handling, freezing, or necropsy procedures affect interpretation of observed lesions.

Comment 34: One commenter states that the calculation of PTS (which is equated to the onset of injury) is based on studies of TTS that, as discussed below, are significantly limited.

Response: NMFS addressed this issue in response to comments 22, 24, and 27.

Effects Analysis

Comment 35: One commenter asserts that NMFS does not properly incorporate the latest available data on marine mammal population structure and abundance into its analysis. NMFS' (and the Navy's) analysis of marine mammal distribution, habitat abundance, population structure and

ecology contains false, misleading or outdated assumptions that tend to both underestimate impacts on species and to impede consideration of mitigation measures. Specifically, commenters point to errors in the reported abundance of blue whales, Baird's beaked whales, and sei whales.

Response: The Navy began drafting and submitted the SOCAL Range Complex LOA application to NMFS prior to wide dissemination of the NMFS' 2007 U.S. Pacific Stock Assessment Reports (SAR). Information on estimated population size was obtained from the 2006 SAR and these numbers were carried forward into the Proposed Rule. Table 3 of this final rule shows updated population estimates based on both the 2007 and 2008 DRAFT U.S. Pacific SARs. Discussion of population abundance is for general review of relative population size since these estimates can vary every year based on new survey information, or a revision of previous statistical analysis by NMFS. Alternately, for the estimated density of the affected marine mammal stocks reported in both the proposed rule and SOCAL EIS, the Navy used a different calculation provided by NMFS Southwest Fisheries Science Center (SWFSC). SWFSC provided a multi-year statistical analysis of potential marine mammal densities stratified on visual ship sightings from south of Point Conception, California. The density estimates used in the impact analysis described in the Proposed and Final rule are based on NMFS sighting data stratified for species specific sightings only occurring within SOCAL. Sighting data across a species or stock range, which can often be much broader than SOCAL, is used for calculating potential abundance for that stock in the Pacific SARs. NMFS feels that this approach to regional density calculation is more realistic and scientific given limitations to at-sea marine mammal surveys. Unlike the abundance numbers, these NMFS density estimates were directly used by the Navy in the model and analysis that generated the take estimates shown in table 4 of this final rule. In short, this error neither caused NMFS to underestimate impacts nor impeded consideration of mitigation measures.

Comment 36: The Navy compiled table of occurrence of marine mammals (page 60848 of the proposed rule) overstates the absence of some species during certain periods. For example, both humpback and blue whales are listed as not occurring November-April, when in fact lower numbers are present throughout this time, particularly in the early and late period of that range. This

table also cites only one confirmed sighting of Bryde's whales in California; however we observed this species on two occasions in 2006 at SOAR.

Response: Table 4 was meant to be a generalized summary of SOCAL marine mammal presence subject to a number of caveats. Oceanographic variations within a season could impact relative occurrence of certain more migratory species such as blue whales, humpback whales, and some dolphin species. The main purpose of the warm and cold designations was to indicate if enough sighting data was available within the specified time in which to calculate a species density for use in the impact analysis. Species-specific densities were provided to the Navy by NMFS Southwest Fisheries Science Center based on best available science derived from NMFS marine mammal surveys and are shown in Table 4 of this final rule (same as table 13 in proposed rule). Status of Bryde's whales within SOCAL is perhaps more accurately defined as rarely documented and status of blue and humpback whales would more accurately be generalized by "YES less". The extent of this species occurrence within SOCAL is poorly known, primarily because morphologically Bryde's whales and fin whales are very similar when observed at sea. At the time of the Navy's LOA application and Proposed Rule, 1993 was the last known confirmed Bryde's whale sighting prior to the unpublished sighting reported by the commenter. Regardless of the words used in the generalized Table 4 of the proposed rule, a low density of Bryde's whale, as well as densities for blue and humpback whales, were incorporated into the impact analysis.

Comment 37: One commenter states that preliminary results of recent visual-acoustic surveys at SOAR (sponsored by the Navy) suggest that the population densities used to calculate takes may seriously underestimate the number of individuals to be exposed to MFAS/HFAS. This is most relevant for Cuvier's beaked whales, which (with acoustic direction from the M3R system) were among the most frequently encountered species in surveys conducted in 2007 and 2008. The group sizes of Cuvier's beaked whales at SOAR were larger on average than were reported in the line-transect surveys from which take estimates were derived, and a minimum 30 unique individuals were photo-identified within a limited area of the SOAR array in a 5-day period in October 2007 (Falcone et al., submitted).

Response: As discussed in the SOCAL Monitoring Plan, the Navy already has a funded marine mammal research program within SOCAL specifically

looking at science issues related to beaked whales. Data collection, analysis, and reporting are ongoing over the next few years. The commenter is referring to preliminary data from this program that was not available to the Navy or NMFS at the time of the SOCAL proposed rule. For the SOCAL EIS and the proposed rule impact analysis, the Navy and NMFS used the latest beaked whale density provided by the NMFS Southwest Fisheries Science Center as the best available science as of rule making publication deadlines. As new small scale density data becomes published in peer-review literature, the Navy will consider this information for future NEPA documentation. Increased knowledge of beaked whale distribution within SOCAL is an important science gap to be filled. This is the intent of both the ongoing Navy funded research and the SOCAL Monitoring Plan. Therefore while quantitative re-analysis may not be currently warranted based on the preliminary unpublished data collected to date, it is interesting to note the frequency and visual re-sighting rate of Cuvier's beaked whales in an area that has been subject to Navy operations for over 40 years.

Comment 38: One commenter states that there are also a number of marine mammal populations (e.g., bottlenose dolphins, short-finned pilot whale, transient killer whale, and minke whale) in the Southern California region that, while not threatened or endangered, have very low abundance and are therefore particularly vulnerable to human impact. They are concerned that a lack of information has biased NMFS and the Navy's effects analysis and thus the potential risk to these species has been significantly underestimated. They cite the most recent NOAA stock assessments which indicate that the loss of 0.98 individual short-finned pilot whales and 5.4 individual minke whales would compromise survival of those species, and note that NMFS has authorized 45 and 126 respective takes of those whales per year.

Response: The NOAA stock assessment reports are referring to the loss, or death, of individuals. The takes that NMFS is authorizing as part of the current MMPA process are all Level B Harassment takes which are not expected to lead to the loss of any of these animals. Additionally, though these species have low abundance, the animals span the entire West Coast and beyond. The small numbers of these animals are not all focused in SOCAL and they are not experiencing repeated or regular exposures to sonar. NMFS does not believe that potential risk to these species has been underestimated

and for the reasons discussed in the Negligible Impact Analysis section, we have determined that the Navy's activities in SOCAL will have a negligible impact on these species or stocks.

Comment 39: One commenter is concerned that by adopting the Navy's analysis wholesale—and finding that the “there will be few, and more likely no, impacts” on fish—NMFS disregards relevant scientific literature.

Response: The commenter misquotes the proposed rule. In the Effects on Marine Mammal habitat section, after some discussion, NMFS concludes that there “will be few, and more likely no, impacts on the behavior of fish from active sonar.” NMFS also discusses the potential for both threshold shifts and mortality to fish from MFAS, though we conclude that these impacts would be short-term (threshold shift) and insignificant to the population as a whole in light of natural daily mortality rates.

Comment 40: One commenter noted that the migratory range of gray whales is a well documented part of the SOCAL Range Complex, and is an area of specific importance for reproduction for pregnant females (who are documented to give birth in the area, and newly pregnant females transit the area) and calves, all of who are more vulnerable to adverse effects and impacts. The commenter stated that these impacts need to be included in the rule.

Response: As indicated in the Navy's SOCAL EIS and referenced in the proposed rule, gray whales have a well-defined north-south migratory path that takes them through SOCAL twice a year, and they do not spend much time, if any, feeding within SOCAL. Some calves are born along the coast of California, however, most are born in the shallow protected waters on the Pacific coast on Baja California from Morro de Santo Domingo south to Isla Creciente. These areas are well south of the SOCAL areas used for the majority of Navy operations. The potential impacts to mother-calf pairs from sonar are specifically discussed in the Potential Effects of Specified Activities on Marine Mammals section of the proposed rule. Given the transient nature of gray whale inshore mother-calf occurrence, which is on the order of hours to a day while moving along a more inshore migration path through SOCAL, and in light of the Navy's mitigation measures, though some mother-calf pairs may be behaviorally disturbed, more severe responses are not anticipated and NMFS determined that the take will have a negligible impact on the stock.

Comment 41: One commenter felt that the rule discounts the potential impacts on beaked whales within SOCAL based on assumptions that are unfounded. The first is that strandings are unlikely to occur because events are not planned “in a location having a constricted channel less than 35 miles wide or with limited egress similar to the Bahamas (because none exist in the SOCAL Range Complex)” (73 FR 60863). The commenter notes that sonar-associated beaked whale mortalities have occurred in other areas (e.g. the Canary Islands in 2002 and 2004) where such bathymetry was not present, suggesting this as not a requisite characteristic for sonar-influenced strandings. The second is the observation that unusual strandings have not been recorded to date in the region is not an indication that mortalities have not occurred. Given that most species of cetaceans sink upon death, and that most beaked whales occur in very deep water which would prevent decomposing carcasses from eventually refloating, it is highly unlikely that whales suffering mortal injury at sea would have been detected. This is especially true in offshore/island regions, where there is limited shoreline throughout much of the operational area, and much of it is steep or rocky and not conducive to holding moribund individuals or carcasses.

Response: The rule does not discount the potential impacts on beaked whales from sonar. NMFS specifically addresses the potential impacts to beaked whales in the “Acoustically Mediated Bubble Growth”, “Behaviorally Mediated Responses to MFAS That May Lead to Stranding”, “Stranding and Mortality”, and “Association Between Mass Stranding Events and Exposure to MFAS” sections of the proposed rule. Specifically, in recognition of potential impacts to beaked whales and the scientific uncertainty surrounding the exact mechanisms that lead to strandings, the Navy requested, and NMFS has authorized, the mortality of 10 beaked whales over the course of 5 years in the unlikely event that a stranding occurs as a result of Navy training exercises. Additionally, the commenter is misrepresenting a piece of text from the proposed rule—though NMFS points out that the five factors that contributed to the stranding in the Bahamas are not all present in southern California, we do not say that that alone means strandings are unlikely to occur. We also further suggest that caution is recommended when any of the three environmental factors are present (constricted channels, steep bathymetry, or surface

ducts) in the presence of MFAS and beaked whales. Also, NMFS does not ever say that the fact that strandings have not been recorded to date in the region is not an indication that mortalities have not occurred. Rather, we say “Though not all dead or injured animals are expected to end up on the shore (some may be eaten or float out to sea), one might expect that if marine mammals were being harmed by active sonar with any regularity, more evidence would have been detected over the 40-yr period” (25 of which, people have actively been collecting stranding data).

Comment 42: One commenter asserts that the Navy’s exposure model fails to consider the following important points:

- Possible synergistic effects of using multiple sources in the same exercise, or the combined effects of multiple exercises.
- Indirect effects, such as the potential for mother-calf separation, that can result from short-term disturbance.
- In assuming animals are evenly distributed—the magnifying effects of social structure, whereby impacts on a single animal within a pod, herd, or other unit may affect the entire group.
- In assuming that every whale encountered during subsequent exercises is essentially a new whale—the cumulative impacts on the breeding, feeding, and other activities of species and stocks.

Response: Though the Navy’s model does not quantitatively consider the points listed above (because the quantitative data necessary to include those concepts in a mathematical model do not currently exist), NMFS and the Navy have qualitatively addressed those concerns in their effects analyses in the rule and in the Navy’s EIS.

Comment 43: One commenter stated: “NMFS does not properly account for reasonably foreseeable reverberation effects (as in the Haro Strait incident), giving no indication that its modeling sufficiently represents areas in which the risk of reverberation is greatest.”

Response: The model does indirectly incorporate surface-ducting (surface reverberation), as conditions in the model are based on nominal conditions calculated from a generalized digitalized monthly average. Though the model does not directly consider reverberations, these effects are generally at received levels many orders of magnitude below those of direct exposures (as demonstrated in the Haro Strait analysis associated with bottom reverberation) and thus contribute essentially nothing to the cumulative SEL exposure and would not result in the exposure of an animal to a higher

SPL than the direct exposure, which is already considered by the model. Additionally, within SOCAL, many of the modeling areas, defined based on regional bathymetry, are relatively deep (>1000 feet) and may not be as influenced by bottom revelation as the more shallow Haro Strait.

Comment 44: One commenter stated that NMFS does not consider the potential for acute synergistic [indirect] effects from sonar training. For example, the agency does not consider the greater susceptibility to vessel strike of animals that have been temporarily harassed or disoriented. The absence of analysis is particularly glaring in light of the 2004 Nowacek *et al.* study, which indicates that mid-frequency sources provoke surfacing and other behavior in North Atlantic right whales that increases the risk of vessel strike.

Response: In the proposed rule, NMFS refers the reader to a conceptual framework that illustrates the variety of avenues of effects that can result from sonar exposure, to include “risk prone behavior” resulting somewhat indirectly from attempting to avoid certain received levels. Though we consider the potential for this type of interaction, NMFS does not include detailed analysis of potential indirect effects that have not been empirically demonstrated. Though Nowacek showed that right whales responded to a signal with mid-frequency components (not an actual MFAS signal) in a way that appeared likely to put them at greater risk for ship strike, we do not have evidence that the hypothesized sequence of behaviors has actually led to a ship strike. Additionally, in general and if affected, marine mammals may be affected by (or respond to) sonar in more than one single way when exposed. However, when analyzing impacts, NMFS “counts” the most severe response. In the example given by the commenter, NMFS considers the overall possibility of ship strikes resulting from Navy activities, regardless of whether or not they would be preceded by a lesser response.

Comment 45: One commenter asked how oceanographic conditions (e.g., water temperature profiles, water depth, salinity, etc.) will be factored into the modeling of received sound levels of MFAS and underwater detonations. Which oceanographic data sources will be used?

Response: The Take Calculation section of the proposed rule generally discusses how these and other variables are factored into the take estimates and references the Navy’s FEIS for the SOCAL Range Complex, which contains

the details of the model and how these variables are incorporated. Due to the importance that propagation loss plays in ASW, the Navy has invested heavily over the last four to five decades in measuring and modeling environmental parameters. The result of this effort is the following collection of global databases of environmental parameters that are accepted as standards for all Navy modeling efforts:

- Water depth—Digital Bathymetry Data Base Variable Resolution (DBDBV),
- Sound speed—Generalized Dynamic Environmental Model (GDEM),
- Bottom loss—Low-Frequency Bottom Loss (LFBL), Sediment Thickness Database, and High-Frequency Bottom Loss (HFBL), and
- Wind speed—U.S. Navy Marine Climatic Atlas of the World.

In terms of predicting potential MFAS exposure to marine mammals sighted during Navy training events and in context of the research goals of the SOCAL Monitoring Plan, there are a number of general and classified Navy models using the databases listed above and real-world measurements that may be used to predict likely exposure to compare with concurrent scientific observation of marine mammal behavior conducted under the Monitoring Plan.

General Opposition

Comment 46: The NRDC urged NMFS to withdraw its proposed rule on SOCAL and to revise the document prior to its recirculation for public comment. They suggested NMFS revisit its profoundly flawed analysis of environmental impacts and prescribe mitigation measures that truly result in the least practicable adverse impact on marine species.

Response: NMFS has addressed specific comments related to the effects analysis here and the mitigation measures in the Mitigation Environmental Assessment. We do not believe that the analysis is flawed and we believe that the prescribed measures will result in the least practicable adverse impacts on the affected species or stock. Therefore, NMFS does not intend to withdraw its rule on SOCAL.

Comment 47: A few commenters expressed general opposition to Navy activities and NMFS’ issuance of an MMPA authorization and presented several reasons why MFAS was not necessary.

Response: NMFS appreciates the commenter’s concern for the marine mammals that live in the area of the proposed activities. However, the MMPA directs NMFS to issue an incidental take authorization if certain findings can be made. Under the

MMPA, NMFS must make the decision of whether or not to issue an authorization based on the proposed action that the applicant submits—the MMPA does not contain a mechanism for NMFS to question the need for the action that the applicant has proposed (unless the action is illegal). Similarly, any U.S. citizen (including the Navy) can request and receive an MMPA authorization as long as all of the necessary findings can be made. NMFS has determined that the Navy training activities in the SOCAL Range Complex will have a negligible impact on the affected species or stocks and, therefore, we plan to issue the requested MMPA authorization.

Other

Comment 48: Two commenters voiced general opposition to the Navy's capture, caging, or harnessing of marine mammals.

Response: The Navy does not intend to capture marine mammals during these activities and this rule does not authorize the capture of marine mammals.

Comment 49: A few members of the public submitted comments on the Navy's EIS that they did not clearly tie to the proposed rule.

Response: The purpose of this comment period was for the public to provide comments on the proposed rule. Responses were not provided to comments on the EIS if their bearing on the MMPA authorization was not clear.

Comment 50: One commenter noted that in the second column of 73 FR 60860, NMFS correctly asserts that "As discussed in the Bahamas report, there is no likely association between the minke whale and spotted dolphin strandings and the operation of MFAS" However, on page 60861, third column under Association of Strandings and MFAS, the NMFS incorrectly still lists these species (minke whale and spotted dolphin) as associated with MFAS." This is incorrect as NMFS previously states. The sentence reads, "Other species (*Stenella coeruleoalba*, *Kogia breviceps* and *Balaenoptera acutorostrata*) have stranded, but in much lower numbers and less consistently than beaked whales" This sentence should be removed from the NMFS' Final Rule.

Response: NMFS concurs that this sentence is incorrect in the context of discussing the 5 strandings associated with MFAS use and has modified the final rule.

Comment 51: On the third column of 73 FR 60883, after the last sentence in this section, another sentence should be inserted to accurately frame the

biological distribution for the species (harbor porpoise) in question. The harbor porpoise is more commonly found in near shore water from Central California north of Point Conception to Alaska.

Response: The commenter is correct. To add clarity, though the harbor porpoise criteria were discussed in the rule, no harbor porpoises are expected to be harassed incidental to the SOCAL action, since SOCAL is outside the normal range of harbor porpoise distribution.

Comment 52: The MMC recommends that NMFS work with the Navy to prepare an adequate analysis under the National Environmental Policy Act of proposed operations at Tanner Bank, but until such an analysis has been completed, NMFS withhold authorization for the taking of marine mammals at that site. MMC noted that the biological importance of Tanner Banks is well documented and any plans to increase naval activity in that area should be carefully evaluated and weighed against the options of increasing the use of alternative, existing countermeasure sites or placing the new minefield site elsewhere where it would be less likely to have a significant biological impact.

Response: The Navy adequately considered alternative minefield sites to the new minefield site at Tanner Banks. As discussed in the SOCAL Draft and Final EIS, the Navy proposed to establish an offshore shallow water minefield in the SOCAL Range Complex to support an overall increased requirement for mine countermeasure training. The EIS proposed an increase in mine warfare training operations at the existing sites, as well as new sites based on expanding mine warfare training requirements in SOCAL associated with:

- Introduction of the MH-60S Helicopters (which have a new mine warfare mission focus),
- Introduction of the Littoral Combat Ship (LCS),
- Transfer of the Navy's mine warfare surface ships to San Diego from other homeports based on BRAC decision, and
- Overall increased emphasis on mine warfare training as a result of concerns about moored mines

Two existing shallow water minefields were considered as alternatives to new proposed sites: ARPA off La Jolla, California and the Kingfisher Range northwest of Eel Point at San Clemente Island. In addition, the Navy evaluated new sites at Tanner Banks, offshore of Camp Pendleton, and off the southern end of San Clemente

Island. The feasibility of each of these proposed alternatives were evaluated to determine if they satisfied the following environmental, infrastructure, and operationally-related criteria:

- Provide enough training opportunities and sites to accommodate all the various mine warfare training requirements which may overlap in time and space.

- Provide the unique oceanographic characteristics (depths less than 150 feet and offshore bathymetry with steep sloping canyons) that is representative of real world potential mine warfare operational areas.

- Provide the unique oceanographic characteristics where shallower water depths occur in a relatively open ocean area well away from land masses thereby offering minimal interference from civilian activities.

- Provide proximity to existing undersea ranges to include other mine warfare and anti-submarine ranges with complimentary features such that training opportunities could be optimized in one area reducing time/costs/personnel tempo and fuel (primarily aviation but also fuel costs for ships).

- Geography that optimizes use of the SOCAL Range Complex space during exercises and enhances realism of training (as compared to any other site) by providing a mine warfare training opportunity in the same area where units would be doing other operations at the same time as could be expected while deployed.

The sites off Camp Pendleton and off San Clemente Islands meet several of the sighting requirements and were considered by the Navy. The Tanner Bank site, however, was found to meet all five of the necessary environmental, infrastructure, and operational criteria:

- The new Tanner Bank site ensures that there would be enough sites to provide the required increase mine warfare training by providing a new site away from the existing sites near San Clemente Island and offshore of La Jolla significantly enhancing the availability of training opportunities for the expanded mine warfare training requirements.

- The Tanner Bank site provides a realistic mine warfare environment that contains a series of underwater escarpments, canyons, banks, and sea mounts. Tanner Bank is the highest peak of the undersea ridges.

- The proposed site is approximately 90 nautical miles from the California coastline at San Diego and over 10 miles from San Clemente Island. This location is sufficiently distant to ensure minimal interference from civilian activities.

- The Tanner Bank site is in proximity to the existing Southern California Anti-Submarine Warfare Range (SOAR) and is within the area proposed for expansion of the SOAR, as well as the other ranges available on and around San Clemente Island Offshore Range (SCIUR). This location would allow the co-location of anti-submarine warfare and mine countermeasures training thereby optimizing the undersea warfare training available to a Strike Group, thereby saving time and fuel.

- Overall, the geographic location of the Tanner Bank site would enhance the quality and realism of training available in the SOCAL Range Complex. Significant portions of advanced Strike Group exercise training activities are concentrated in the areas southwest of San Clemente Island; adding a mine warfare range in this area at Tanner Banks allows mine warfare training to be conducted with other training enhancing realism.

Estimated Take of Marine Mammals

As mentioned previously, with respect to the MMPA, NMFS' effects assessments serve three primary purposes: (1) To put forth the permissible methods of taking (i.e., Level B Harassment (behavioral harassment), Level A Harassment (injury), or mortality, including an identification of the number and types of take that could occur by Level A or B harassment or mortality) and to prescribe other means of effecting the least practicable adverse impact on such species or stock and its habitat (i.e., mitigation); (2) to determine whether the specified activity will have a negligible impact on the affected species or stocks of marine mammals (based on the likelihood that the activity will adversely affect the species or stock through effects on annual rates of recruitment or survival); (3) to determine whether the specified activity will have an unmitigable adverse impact on the availability of the species or stock(s) for subsistence uses (however, there are no subsistence communities that would be affected in southern California, so this determination is inapplicable for this rulemaking); and (4) to prescribe requirements pertaining to monitoring and reporting.

In the Estimated Take of Marine Mammals section of the proposed rule, NMFS related the potential effects to marine mammals from MFAS/HFAS and underwater detonation of explosives (discussed in the Potential Effects of Specified Activities on Marine Mammals Section) to the MMPA definitions of Level A and Level B

Harassment and quantified (estimated) the effects on marine mammals that could result from the specific activities that the Navy intends to conduct. The subsections of this analysis are discussed individually below.

Definition of Harassment

The Definition of Harassment section of the proposed rule contained the definitions of Level A and Level B Harassments, and a discussion of which of the previously discussed potential effects of MFAS/HFAS or explosive detonations fall into the categories of Level A Harassment (permanent threshold shift (PTS), acoustically mediated bubble growth, behaviorally mediated bubble growth, and physical disruption of tissues resulting from explosive shock wave) or Level B Harassment (temporary threshold shift (TTS), acoustic masking and communication impairment, and behavioral disturbance rising to the level of harassment). See 73 FR 60836, pages 60876–60877. No changes have been made to the discussion contained in this section of the proposed rule.

Acoustic Take Criteria

In the Acoustic Take Criteria section of the proposed rule, NMFS described the development and application of the acoustic criteria for both MFAS/HFAS and explosive detonations. See 73 FR 60836, pages 60877–60883. No changes have been made to the discussion contained in this section of the proposed rule. NMFS has also summarized the acoustic criteria below.

For MFAS/HFAS, NMFS uses acoustic criteria for PTS, TTS, and behavioral harassment.

NMFS' TTS criteria (which indicate the received level at which onset TTS (>6dB) is induced) for MFAS/HFAS are as follows:

- Cetaceans—195 dB re 1 $\mu\text{Pa}^2\text{-s}$ (based on mid-frequency cetaceans—no published data exist on auditory effects of noise in low or high frequency cetaceans (Southall *et al.* (2007))
 - Harbor Seals (and closely related species)—183 dB re 1 $\mu\text{Pa}^2\text{-s}$
 - Northern Elephant Seals (and closely related species)—204 dB re 1 $\mu\text{Pa}^2\text{-s}$
 - California Sea Lions (and closely related species)—206 dB re 1 $\mu\text{Pa}^2\text{-s}$
- NMFS uses the following acoustic criteria for injury (Level A Harassment):
- Cetaceans—215 dB re 1 $\mu\text{Pa}^2\text{-s}$ (based on mid-frequency cetaceans—no published data exist on auditory effects of noise in low or high frequency cetaceans (Southall *et al.* (2007))
 - Harbor Seals (and closely related species)—203 dB re 1 $\mu\text{Pa}^2\text{-s}$

- Northern Elephant Seals (and closely related species)—224 dB re 1 $\mu\text{Pa}^2\text{-s}$

- California Sea Lions (and closely related species)—226 dB re 1 $\mu\text{Pa}^2\text{-s}$

For the behavioral harassment criteria, NMFS uses acoustic risk functions developed by NMFS, with input from the Navy, to estimate the probability of behavioral responses to MFAS/HFAS (interpreted as the percentage of the exposed population) that NMFS would classify as harassment for the purposes of the MMPA given exposure to specific received levels of MFA sonar. See 73 FR 60836, pages 60879–60883.

Table 13 in the proposed rule summarizes the acoustic criteria for explosive detonations. See 73 FR 60836, page 60883.

Estimates of Potential Marine Mammal Exposures and Authorized Take

Estimating the take that will result from the proposed activities entails the following four general steps: (1) Propagation model estimates animals exposed to sources at different levels; (2) further modeling determines number of exposures to levels indicated in criteria above (i.e., number of takes); (3) post-modeling corrections refine estimates to make them more accurate; and, (4) mitigation is taken into consideration. More information regarding the models used, the assumptions used in the models, and the process of estimating take is available in Appendix F of the Navy's SOCAL Range Complex FEIS.

(1) In order to quantify the types of take described in previous sections that are predicted to result from the Navy's specified activities, the Navy first uses a sound propagation model that predicts the number of animals that will be exposed to a range of levels of pressure and energy (of the metrics used in the criteria) from MFAS/HFAS and explosive detonations based on several important pieces of information, including:

- Characteristics of the sound sources
 - Active sonar source characteristics include: Source level (with horizontal and vertical directivity corrections), source depth, center frequency, source directivity (horizontal/vertical beam width and horizontal/vertical steer direction), and ping spacing.
 - Explosive source characteristics include: The net explosive weight (NEW) of an explosive, the type of explosive, the detonation depth, number of successive explosions.
- Transmission loss (in 13 representative environmental provinces across 8 sonar modeling areas in two

seasons) based on: water depth; sound speed variability throughout the water column (warm season exhibits a weak surface duct, cold season exhibits a relatively strong surface duct); bottom geo-acoustic properties (bathymetry); and wind speed.

- The estimated density of each marine mammal species in the SOCAL Range Complex (see Table 4), horizontally distributed uniformly and vertically distributed according to dive profiles based on field data.

(2) Next, the criteria discussed in the previous section are applied to the estimated exposures to predict the number of exposures that exceed the criteria, i.e., the number of takes by Level B Harassment, Level A Harassment, and mortality.

(3) During the development of the EIS for the SOCAL Range Complex, NMFS and the Navy determined that the output of the model could be made more realistic by applying post-modeling corrections to account for the following:

- Acoustic footprints for active sonar sources must account for land masses (by subtracting them out).

- Acoustic footprints for active sonar sources should not be added independently, rather, the degree to which the footprints from multiple ships participating in the same exercise would typically overlap needs to be taken into consideration.

- Acoustic modeling should account for the maximum number of individuals of a species that could potentially be exposed to active sonar within the course of 1 day or a discreet continuous sonar event if less than 24 hours.

(4) Mitigation measures are taken into consideration by NMFS and adjustments may be applied to the numbers produced by the Navy's modeled estimates. For example, in some cases the raw modeled numbers of exposures to levels predicted to result in Level A Harassment from exposure to MFAS/HFAS might indicate that 1 blue whale would be exposed to levels of active sonar anticipated to result in PTS. However, a blue whale would need to be within approximately 10 m of the

source vessel in order to be exposed to these levels. Because of the mitigation measures (watchstanders and shutdown zone), size of blue whales, and nature of blue whale behavior, it is highly unlikely that a blue whale would be exposed to those levels, and therefore the Navy would not request authorization for Level A Harassment of 1 blue whale. Table 6 contains the Navy's modeled take estimates and the number of takes that NMFS is authorizing in these regulations.

(5) Last, the Navy's specified activities have been described based on best estimates of the number of MFAS/HFAS hours that the Navy will conduct. The exact number of hours may vary from year to year, but will not exceed the 5-year total indicated in Table 2 (by multiplying the yearly estimate by 5) by more than 10 percent. NMFS estimates that a 10-percent increase in active sonar hours would result in approximately a 10-percent increase in the number of takes, and we have considered this possibility in our analysis.

Species	Navy's Estimated Sonar Exposures at Indicated Threshold			Navy's Estimated Explosive Exposures at Indicated Thresholds				NMFS Proposed Take Authorization		
	Level B Take		Level A Take	Level B Take		Level A Take	Mortality	Level B	Level A	Mortality
	behavioral	TTS	PTS	sub-TTS	TTS					
Mysticetes										
Blue whale	545	67	1	2	2	0	0	617 (0-1)	0	0
Fin whale	159	12	0	2	1	0	0	174 (0-1)	0	0
Humpback whale	20	2	0	0	0	0	0	22	0	0
Sei whale	0	0	0	0	0	0	0	0	0	0
Bryde's whale	0	0	0	0	0	0	0	0	0	0
Gray whale	4,910	544	1	6	7	0	0	5468 (0-4)	0	0
Minke whale	117	16	0	0	0	0	0	133 (0-16)	0	0
Odontocetes										
Sperm whale	144	8	0	2	1	0	0	155 (0-9)	0	0
Bottlenose dolphin	1,298	194	0	14	10	0	0	1516 (0-101)	0	0
Long beaked common dolphin	4,090	435	1	61	41	1	0	4629 (0-236)	0	0
Northern right whale dolphin	1,347	169	0	19	12	0	0	1547	0	0
Pacific white-sided dolphin	1,191	192	0	12	9	0	0	1404 (0-100)	0	0
Pantropical spotted dolphin	N/A	N/A	N/A	N/A	N/A	N/A	N/A	20*	0	0
Risso's dolphin	3,164	343	0	57	34	1	0	3599 (0-187)	0	0
Rough-toothed dolphin	N/A	N/A	N/A	N/A	N/A	N/A	N/A	20*	0	0
Short beaked common dolphin	34,836	3,730	6	528	354	12	4	39470 (0-1940)	0	0
Spinner dolphin	N/A	N/A	N/A	N/A	N/A	N/A	N/A	20*	0	0
Striped dolphin	1,576	249	1	6	6	0	0	1838 (0-128)	0	0
Dall's porpoise	537	88	0	2	2	0	0	629	0	0
False killer whale	N/A	N/A	N/A	N/A	N/A	N/A	N/A	20*	0	0
Killer whale	13	1	0	0	0	0	0	14	0	0
Melon-headed whale	N/A	N/A	N/A	N/A	N/A	N/A	N/A	20*	0	0
Pygmy killer whale	N/A	N/A	N/A	N/A	N/A	N/A	N/A	20*	0	0
Short-finned pilot whale	46	6	0	0	0	0	0	52	0	0
Dwarf sperm whale	N/A	N/A	N/A	N/A	N/A	N/A	N/A	20*	0	0
Pygmy sperm whale	148	16	0	1	1	0	0	166 (8-17)	0	0
Baird's beaked whale	19	1	0	0	0	0	0	20 (0-1)	0	10 (over 5 years)
Cuvier's beaked whale	390	37	0	5	3	0	0	435 (18-40)	0	
Mesopodion spp.	122	13	0	2	1	0	0	138(6-14)	0	
Ziphiid whales	93	8	0	2	1	0	0	104 (4-9)	0	0
Finnipeds										
Guadalupe fur seal	874	190	0	2	2	0	0	1068 (0-1)	0	0
Northern elephant seal	837	5	0	76	41	0	0	959 (30-44)	0	0
Pacific harbor seal	1,052	4,562	9	26	26	1	0	5676 (2863-4559)	0	0
California sea lion	54,384	6	0	584	510	16	6	55506 (0-255)	0	0
Northern fur seal	1,076	3	0	90	64	3	1	1237 (0-32)	0	0
Total	112,988	10,897	19	1,499	1,128	34	11	126,576	0	10

Table 7. Navy's estimated exposures to indicated criteria and NMFS proposed take authorization. Though exposures are predicted by the model, NMFS does not anticipate any injury/PTS to occur because of the mitigation measures (as related to certain characteristics of animals, such as size, gregariousness, or group size) and likely avoidance behavior of marine mammals. As discussed in the Estimated Take of Marine Mammals Section of the proposed rule for SOCAL, NMFS also anticipates fewer takes by TTS will actually occur than were modeled. Anticipated TTS occurrences are indicated in parentheses in the last column (and are already counted within the broad Level B harassment number that NMFS proposes to authorize)

Mortality

Evidence from five beaked whale strandings, all of which have taken place outside of the SOCAL Range Complex, and have occurred over approximately a decade, suggests that the exposure of beaked whales to mid-frequency sonar in the presence of certain conditions (e.g., multiple units using tactical sonar, steep bathymetry, constricted channels, strong surface ducts, etc.) may result in strandings, potentially leading to mortality. Although these physical factors believed to contribute to the likelihood of beaked whale strandings are not present in southern California in the aggregate, scientific uncertainty exists regarding

what other factors, or combination of factors, may contribute to beaked whale strandings. Accordingly, to allow for scientific uncertainty regarding contributing causes of beaked whale strandings and the exact behavioral or physiological mechanisms that can lead to the ultimate physical effects (stranding and/or death), the Navy has requested authorization for (and NMFS is authorizing) take, by injury or mortality. Although the Navy has requested take by injury or mortality of 10 beaked whales over the course of the 5-yr regulations, the Navy's model did not predict injurious takes of beaked whales and neither NMFS, nor the Navy anticipates that marine mammal

strandings or mortality will result from the operation of MFAS during Navy exercises within the SOCAL Range Complex.

Effects on Marine Mammal Habitat

NMFS' SOCAL Range Complex proposed rule included a detailed section that addressed the effects of the Navy's activities on Marine Mammal Habitat. See 73 FR 60836, pages 60886-60888. The analysis concluded that the Navy's activities would have minimal effects on fish or invertebrates (in their roles as food sources for marine mammals), or water quality in the SOCAL Range Complex. No changes have been made to the discussion

contained in this section of the proposed rule.

Analysis and Negligible Impact Determination

Pursuant to NMFS' regulations implementing the MMPA, an applicant is required to estimate the number of animals that will be "taken" by the specified activities (i.e., takes by harassment only, or takes by harassment, injury, and/or death). This estimate informs the analysis that NMFS must perform to determine whether the activity will have a "negligible impact" on the species or stock. Level B (behavioral) harassment occurs at the level of the individual(s) and does not assume any resulting population-level consequences, though there are known avenues through which behavioral disturbance of individuals can result in population-level effects (for example: pink-footed geese (*Anser brachyrhynchus*) in undisturbed habitat gained body mass and had about a 46-percent reproductive success compared with geese in disturbed habitat (being consistently scared off the fields on which they were foraging) which did not gain mass and had a 17-percent reproductive success). A negligible impact finding is based on the lack of likely adverse effects on annual rates of recruitment or survival (i.e., population-level effects). An estimate of the number of Level B harassment takes, alone, is not enough information on which to base an impact determination. In addition to considering estimates of the number of marine mammals that might be "taken" through behavioral harassment, NMFS must consider other factors, such as the likely nature of any responses (their intensity, duration, etc.), the context of any responses (critical reproductive time or location, migration, etc.), or any of the other variables mentioned in the first paragraph (if known), as well as the number and nature of estimated Level A takes, the number of estimated mortalities, and effects on habitat. Generally speaking, and especially with other factors being equal, the Navy and NMFS anticipate more severe effects from takes resulting from exposure to higher received levels (though this is in no way a strictly linear relationship throughout species, individuals, or circumstances) and less severe effects from takes resulting from exposure to lower received levels.

In the Analysis and Negligible Impact Determination section of the proposed rule, NMFS addressed the issues identified in the preceding paragraph in combination with additional detailed analysis regarding the severity of the

anticipated effects, and including species (or group)-specific discussions, to determine that Navy activities utilizing MFAS/HFAS and underwater detonations will have a negligible impact on the marine mammal species and stocks present in the SOCAL Range Complex. No changes have been made to the discussion contained in this section of the proposed rule. See 73 FR 60836, pages 60889–60899.

Subsistence Harvest of Marine Mammals

NMFS has determined that the issuance of these regulations and subsequent LOAs for Navy activities in the SOCAL Range Complex would not have an unmitigable adverse impact on the availability of the affected species or stocks for taking for subsistence uses, since there are no such uses in the specified area.

ESA

There are nine marine mammal species and four sea turtle species listed as threatened or endangered under the ESA with confirmed or possible occurrence in the study area: Humpback whale, North Pacific right whale, sei whale, fin whale, blue whale, sperm whale, southern resident killer whale, Guadalupe fur seal, Steller sea lion, loggerhead sea turtle, the green sea turtle, leatherback sea turtle, and olive ridley sea turtle. White Abalone (*Haliotis sorenseni*) are also present in the Navy's action area. Pursuant to Section 7 of the ESA, the Navy has consulted with NMFS on this action. NMFS has also consulted internally on the issuance of regulations under section 101(a)(5)(A) of the MMPA for this activity. In a Biological Opinion (BiOp), NMFS concluded that the Navy's activities in the SOCAL Range Complex and NMFS' issuance of these regulations are not likely to jeopardize the continued existence of threatened or endangered species or destroy or adversely modify any designated critical habitat.

NMFS (the Endangered Species Division) will also issue BiOps and associated incidental take statements (ITSS) to NMFS (the Permits, Conservation, and Recreation Division) to exempt the take (under the ESA) that NMFS authorizes in the LOAs under the MMPA. Because of the difference between the statutes, it is possible that ESA analysis of the applicant's action could produce a take estimate that is different than the takes requested by the applicant (and analyzed for authorization by NMFS under the MMPA process), despite the fact that the same proposed action (i.e. number of

sonar hours and explosive detonations) was being analyzed under each statute. When this occurs, NMFS staff coordinate to ensure that the most conservative (lowest) number of takes are authorized. For the Navy's proposed training in the SOCAL Range Complex, coordination with the Endangered Species Division indicates that they will likely allow for a lower level of take of ESA-listed marine mammals than were requested by the applicant (because their analysis indicates that fewer will be taken than estimated by the applicant). Therefore, the number of authorized takes in NMFS' LOA(s) will reflect the lower take numbers from the ESA consultation, though the specified activities (i.e., number of sonar hours, etc.) will remain the same. Alternately, these regulations indicate the maximum number of takes that may be authorized under the MMPA.

The ITS(s) issued for each LOA will contain implementing terms and conditions to minimize the effect of the marine mammal take authorized through the 2009 LOA (and subsequent LOAs in 2010, 2011, 2012, and 2013). With respect to listed marine mammals, the terms and conditions of the ITSs will be incorporated into the LOAs.

NEPA

NMFS participated as a cooperating agency on the Navy's Final Environmental Impact Statement (FEIS) for the Southern California Range Complex. NMFS subsequently adopted the Navy's EIS for the purpose of complying with the MMPA. Additionally, NMFS prepared an Environmental Assessment (EA) that tiered off the Navy's FEIS. The EA analyzed the environmental effects of several different mitigation alternatives for the issuance of the SOCAL Range Complex rule and subsequent LOAs. A finding of no significant impact for the mitigation EA was issued in January, 2009.

Determination

Based on the analysis contained herein and in the proposed rule (and other related documents) of the likely effects of the specified activity on marine mammals and their habitat and dependent upon the implementation of the mitigation measures, NMFS finds that the total taking from Navy training, maintenance, and RDT&E activities utilizing MFAS/HFAS and underwater explosives in the SOCAL Range Complex over the 5 year period will have a negligible impact on the affected species or stocks and will not result in an unmitigable adverse impact on the availability of marine mammal species

or stocks for taking for subsistence uses because no subsistence uses exist in the SOCAL Range Complex. NMFS has issued regulations for these exercises that prescribe the means of effecting the least practicable adverse impact on marine mammals and their habitat and set forth requirements pertaining to the monitoring and reporting of that taking.

Classification

This action does not contain a collection of information requirement for purposes of the Paperwork Reduction Act.

Pursuant to the procedures established to implement section 6 of Executive Order 12866, the Office of Management and Budget has determined that this final rule is significant.

Pursuant to the Regulatory Flexibility Act, the Chief Counsel for Regulation of the Department of Commerce certified at the proposed rule stage to the Chief Counsel for Advocacy of the Small Business Administration that this final rule, if adopted, would not have a significant economic impact on a substantial number of small entities. The Regulatory Flexibility Act requires Federal agencies to prepare an analysis of a rule's impact on small entities whenever the agency is required to publish a notice of proposed rulemaking. However, a Federal agency may certify, pursuant to 5 U.S.C. section 605(b), that the action will not have a significant economic impact on a substantial number of small entities. The Navy is the entity that will be affected by this rulemaking, not a small governmental jurisdiction, small organization or small business, as defined by the Regulatory Flexibility Act. Any requirements imposed by a Letter of Authorization issued pursuant to these regulations, and any monitoring or reporting requirements imposed by these regulations, will be applicable only to the Navy. Because this action, if adopted, would directly affect the Navy and not a small entity, NMFS concludes the action would not result in a significant economic impact on a substantial number of small entities.

The Assistant Administrator for Fisheries has determined that there is good cause under the Administrative Procedure Act (5 U.S.C. 553(d)(3)) to waive the 30-day delay in effective date of the measures contained in the final rule. Since January 23, 2007, the Navy has been conducting military readiness activities employing mid-frequency active sonar (MFAS) pursuant to a 2-year MMPA National Defense Exemption (NDE). The NDE served as a bridge to long-term compliance with the

MMPA while the Navy prepared its Environmental Impact Statement and pursued the necessary MMPA incidental take authorization for the SOCAL Range Complex. The NDE will expire on January 23, 2009, by which time it is imperative that the regulations and the measures identified in a subsequent LOA become effective. Any delay of these measures would result in either: (1) A suspension of ongoing or planned naval exercises, which would disrupt vital sequential training and certification processes essential to national security; or (2) the Navy's non-compliance with the MMPA (should the Navy conduct exercises without an LOA), thereby resulting in the potential for unauthorized takes of marine mammals upon expiration of the NDE. National security and NMFS' and Navy's preference that the Navy be in compliance with the MMPA after January 23, 2009, dictate that these measures go into effect immediately. The Navy is the entity subject to the regulations and has informed NMFS that it is imperative that these measures be effective on or before January 23, 2009. Finally, as recognized by the President when issuing the Presidential Exemption under the CZMA for the SOCAL COMPTUEX/JTFEX exercises, the training proposed to be conducted in SOCAL is in the paramount interest of the United States. Also, the Supreme Court noted SOCAL is an ideal location for conducting integrated training exercises as the only area on the west coast that is relatively close to land, air and sea bases as well as amphibious landings areas. Any delay in the implementation of these measures would raise serious national security implications. Therefore, these measures will become effective upon filing.

List of Subjects in 50 CFR Part 216

Exports, Fish, Imports, Incidental take, Indians, Labeling, Marine mammals, Navy, Penalties, Reporting and recordkeeping requirements, Seafood, Sonar, Transportation.

Dated: January 14, 2009.

Samuel D. Rauch III,

Deputy Administrator for Regulatory Programs, National Marine Fisheries Service.

■ For reasons set forth in the preamble, 50 CFR Part 216 is amended as follows:

PART 216—REGULATIONS GOVERNING THE TAKING AND IMPORTING OF MARINE MAMMALS

■ 1. The authority citation for part 216 continues to read as follows:

Authority: 16 U.S.C. 1361 *et seq.*

■ 2. Subpart X is added to part 216 to read as follows:

Subpart X—Taking Marine Mammals Incidental to U.S. Navy Training in the Southern California Range Complex

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Subpart X—Taking Marine Mammals Incidental to U.S. Navy Training in the Southern California Range Complex (SOCAL Range Complex)

§ 216.270 Specified activity and specified geographical region.

(a) Regulations in this subpart apply only to the U.S. Navy for the taking of marine mammals that occurs in the area outlined in paragraph (b) of this section and that occurs incidental to the activities described in paragraph (c) of this section.

(b) The taking of marine mammals by the Navy is only authorized if it occurs within the SOCAL Range Complex (as depicted in Figure ES-1 in the Navy's Final Environmental Impact Statement for the SOCAL Range Complex), which extends southwest from southern California in an approximately 700 by 200 nm rectangle with the seaward corners at 27°30'00" N. lat.; 127°10'04" W. long. and 24°00'01" N. lat.; 125°00'03" W. long.

(c) The taking of marine mammals by the Navy is only authorized if it occurs incidental to the following activities within the designated amounts of use:

(1) The use of the following mid-frequency active sonar (MFAS) sources, high frequency active sonar (HFAS) sources for U.S. Navy anti-submarine warfare (ASW), mine warfare (MIW) training, maintenance, or research, development, testing, and evaluation (RDT&E) in the amounts indicated below (+/- 10 percent):

- (i) AN/SQS-53 (hull-mounted active sonar)—up to 9885 hours over the course of 5 years (an average of 1977 hours per year)
- (ii) AN/SQS-56 (hull-mounted active sonar)—up to 2470 hours over the course of 5 years (an average of 494 hours per year)

- (iii) AN/BQQ-10 (submarine active sonar)—up to 4075 hours over the course of 5 years (an average of 815 hours per year)(an average of 2 pings per hour during training events, 60 pings per hour for maintenance)
- (iv) AN/AQS-22 or 13 (active helicopter dipping sonar)—up to 13595 dips over the course of 5 years (an average of 2719 dips per year—10 pings per dip)
- (v) SSQ-62 (Directional Command Activated Sonobuoy System (DICASS) sonobuoys)—up to 21275 sonobuoys over the course of 5 years (an average of 4255 sonobuoys per year)
- (vi) MK-48 (heavyweight torpedoes)—up to 435 torpedoes over the course of 5 years (an average of 87 torpedoes per year)
- (vii) AN/BQQ-15 (submarine navigational sonar)—up to 610 hours over the course of 5 years (an average of 122 hours per year)
- (viii) MK-46 (lightweight torpedoes)—up to 420 torpedoes over the course of 5 years (an average of 84 torpedoes per year)
- (ix) AN/SLQ-25A NIXIE—up to 1135 hours over the course of 5 years (an average of 227 hours per year)
- (x) AN/SSQ-125 (AEER sonar sonobuoy)—up to 540 sonobuoys (total, of EER/IEER and AEER) over the course of 5 years (an average of 108 per year)

(2) The detonation of the underwater explosives identified in paragraph (c)(2)(i) conducted as part of the training exercises identified in paragraph (c)(2)(ii):

(i) Underwater Explosives:

- (A) 5" Naval Gunfire (9.5 lbs)
- (B) 76 mm rounds (1.6 lbs)
- (C) Maverick (78.5 lbs)
- (D) Harpoon (448 lbs)
- (E) MK-82 (238 lbs)
- (F) MK-83 (574 lbs)
- (G) MK-84 (945 lbs)
- (H) MK-48 (851 lbs)
- (I) Demolition Charges (20 lbs)
- (J) AN/SSQ-110A (IEER explosive sonobuoy—5 lbs)

(ii) Training Events:

- (A) Surface-to-surface Gunnery Exercises (S-S GUNEX)—up to 2010 exercises over the course of 5 years (an average of 402 per year)
- (B) Air-to-surface Missile Exercises (A-S MISSILEX)—up to 250 exercises over the course of 5 years (an average of 50 per year)
- (C) Bombing Exercises (BOMBEX)—up to 200 exercises over the course of 5 years (an average of 40 per year)
- (D) Sinking Exercises (SINKEX)—up

to 10 exercises over the course of 5 years (an average of 2 per year)

(E) Extended Echo Ranging and Improved Extended Echo Ranging (EER/IEER) Systems—up to 15 exercises (total, of EER/IEER and AEER combined) over the course of 5 years (an average of 3 exercises, or 108 sonobuoy deployments, per year).

§ 216.271 Effective dates and definitions.

(a) Regulations are effective January 14, 2009 through January 14, 2014.

(b) The following definitions are utilized in these regulations:

(1) Uncommon Stranding Event (USE)—A stranding event that takes place during an integrated, coordinated, or major training exercise (MTE) and involves any one of the following:

(i) Two or more individuals of any cetacean species (not including mother/calf pairs, unless of species of concern listed in § 216.271(b)(1)(ii) found dead or live on shore within a two day period and occurring within 30 miles of one another.

(ii) A single individual or mother/calf pair of any of the following marine mammals of concern: Beaked whale of any species, dwarf or pygmy sperm whales, short-finned pilot whales, humpback whales, sperm whales, blue whales, fin whales, or sei whales.

(iii) A group of 2 or more cetaceans of any species exhibiting indicators of distress as defined in the SOCAL Range Complex Stranding Response Plan.

(2) Shutdown—The cessation of MFAS/HFAS operation or detonation of explosives within 14 nm of any live, in the water, animal involved in a USE.

§ 216.272 Permissible methods of taking.

(a) Under Letters of Authorization issued pursuant to §§ 216.106 and 216.277, the Holder of the Letter of Authorization may incidentally, but not intentionally, take marine mammals within the area described in § 216.270(b), provided the activity is in compliance with all terms, conditions, and requirements of these regulations and the appropriate Letter of Authorization.

(b) The activities identified in § 216.270(c) must be conducted in a manner that minimizes, to the greatest extent practicable, any adverse impacts on marine mammals and their habitat.

(c) The incidental take of marine mammals under the activities identified in § 216.270(c) is limited to the following species, by the indicated method of take and the indicated number of times:

(1) Level B Harassment (+/- 10 percent of the number of takes indicated below):

- (i) Mysticetes:
 - (A) Humpback whale (*Megaptera novaeangliae*)—110 (an average of 22 annually)
 - (B) Fin whale (*Balaenoptera physalus*)—870 (an average of 174 annually)
 - (C) Blue whale (*Balaenoptera musculus*)—3085 (an average of 617 annually)
 - (D) Minke whale (*Balaenoptera acutorostrata*)—665 (an average of 133 annually)
 - (E) Gray whale (*Eschrichtius robustus*)—27340 (an average of 5468 annually)
- (ii) Odontocetes:
 - (A) Sperm whales (*Physeter macrocephalus*)—775 (an average of 155 annually)
 - (B) Pygmy sperm whales (*Kogia breviceps*)—830 (an average of 166 annually)
 - (C) Dwarf sperm whale (*Kogia sima*)—100 (an average of 20 annually)
 - (D) Mesoplodont beaked whales (Blainville's, Hubb's, Perrin's, pygmy, and ginkgo-toothed) (*Mesoplodon densirostris*, *M. carlhubbsi*, *M. perrini*, *M. peruvianus*, *M. ginkgodens*)—690 (an average of 138 annually)
 - (E) Cuvier's beaked whales (*Ziphius cavirostris*)—2175 (an average of 435 annually)
 - (F) Baird's beaked whales (*Berardius bairdii*)—100 (an average of 20 annually)
 - (G) Unidentified beaked whales—555 (an average of 104 annually)
 - (H) Rough-toothed dolphin (*Steno bredanensis*)—100 (an average of 20 annually)
 - (I) Bottlenose dolphin (*Tursiops truncatus*)—7480 (an average of 1516 annually)
 - (J) Pan-tropical spotted dolphin (*Stenella attenuata*)—100 (an average of 20 annually)
 - (K) Spinner dolphin (*Stenella longirostris*)—100 (an average of 20 annually)
 - (L) Striped dolphin (*Stenella coeruleoalba*)—9190 (an average of 1838 annually)
 - (M) Long-beaked common dolphin (*Delphinus capensis*)—23145 (an average of 4629 annually)
 - (N) Risso's dolphin (*Grampus griseus*)—17995 (an average of 3599 annually)
 - (O) Northern right whale dolphin (*Lissodelphis borealis*)—7935 (an average of 1547 annually)
 - (P) Pacific white-sided dolphin (*Lagenorhynchus obliquidens*)—7020 (an average of 1404 annually)
 - (Q) Short-beaked common dolphin (*Delphinus delphis*)—197350 (an

- average of 39470 annually)
- (R) Melon-headed whale (*Peponocephala electra*)—100 (an average of 20 annually)
- (S) Pygmy killer whale (*Feresa attenuata*)—100 (an average of 20 annually)
- (T) False killer whale (*Pseudorca crassidens*)—100 (an average of 20 annually)
- (U) Killer whale (*Orcinus orca*)—70 (an average of 14 annually)
- (V) Short-finned pilot whale (*Globicephala macrorhynchus*)—260 (an average of 52 annually)
- (W) Dall's porpoise (*Phocoenoides dalli*)—3145 (an average of 629 annually)
- (iii) Pinnipeds:
- (A) Northern elephant seal (*Mirounga angustirostris*)—4795 (an average of 959 annually)
- (B) Pacific harbor seal (*Phoca vitulina*)—28380 (an average of 5676 annually)
- (C) California sea lion (*Zalophus californianus*)—277530 (an average of 55506 annually)
- (D) Northern fur seal (*Callorhinus ursinus*)—6185 (an average of 1237 annually)
- (E) Guadalupe fur seal (*Arctocephalus townsendi*)—5340 (an average of 1068 annually)
- (2) Level A Harassment and/or mortality of no more than 10 beaked whales (total), of any of the species listed in § 216.272(c)(1)(ii)(D) through (G) over the course of the 5-year regulations.

§ 216.273 Prohibitions.

Notwithstanding takings contemplated in § 216.272 and authorized by a Letter of Authorization issued under §§ 216.106 and 216.277, no person in connection with the activities described in § 216.270 may:

- (a) Take any marine mammal not specified in § 216.272(c);
- (b) Take any marine mammal specified in § 216.272(c) other than by incidental take as specified in § 216.272(c)(1) and (2);
- (c) Take a marine mammal specified in § 216.272(c) if such taking results in more than a negligible impact on the species or stocks of such marine mammal; or
- (d) Violate, or fail to comply with, the terms, conditions, and requirements of these regulations or a Letter of Authorization issued under §§ 216.106 and 216.277.

§ 216.274 Mitigation.

- (a) When conducting activities identified in § 216.270(c), the mitigation measures contained in the Letter of

Authorization issued under §§ 216.106 and 216.277 must be implemented. These mitigation measures include, but are not limited to:

- (1) Navy's General SOCAL Maritime Measures for All Training at Sea:
 - (i) Personnel Training (for all Training Types):

(A) All commanding officers (COs), executive officers (XOs), lookouts, Officers of the Deck (OODs), junior OODs (JOODs), maritime patrol aircraft aircrews, and Anti-submarine Warfare (ASW)/Mine Warfare (MIW) helicopter crews shall complete the NMFS-approved Marine Species Awareness Training (MSAT) by viewing the U.S. Navy MSAT digital versatile disk (DVD). All bridge lookouts shall complete both parts one and two of the MSAT; part two is optional for other personnel.

(B) Navy lookouts shall undertake extensive training in order to qualify as a watchstander in accordance with the Lookout Training Handbook (Naval Education and Training Command [NAVEDTRA] 12968-D).

(C) Lookout training shall include on-the-job instruction under the supervision of a qualified, experienced lookout. Following successful completion of this supervised training period, lookouts shall complete the Personal Qualification Standard Program, certifying that they have demonstrated the necessary skills (such as detection and reporting of partially submerged objects). Personnel being trained as lookouts can be counted among required lookouts as long as supervisors monitor their progress and performance.

(D) Lookouts shall be trained in the most effective means to ensure quick and effective communication within the command structure in order to facilitate implementation of mitigation measures if marine species are spotted.

- (ii) Operating Procedures and Collision Avoidance:

(A) Prior to major exercises, a Letter of Instruction, Mitigation Measures Message or Environmental Annex to the Operational Order shall be issued to further disseminate the personnel training requirement and general marine species mitigation measures.

(B) COs shall make use of marine species detection cues and information to limit interaction with marine species to the maximum extent possible consistent with safety of the ship.

(C) While underway, surface vessels shall have at least two lookouts with binoculars; surfaced submarines shall have at least one lookout with binoculars. Lookouts already posted for safety of navigation and man-overboard precautions may be used to fill this

requirement. As part of their regular duties, lookouts will watch for and report to the OOD the presence of marine mammals.

(D) On surface vessels equipped with a mid-frequency active sensor, pedestal mounted "Big Eye" (20x110) binoculars shall be properly installed and in good working order to assist in the detection of marine mammals in the vicinity of the vessel.

(E) Personnel on lookout shall employ visual search procedures employing a scanning methodology in accordance with the Lookout Training Handbook (NAVEDTRA 12968-D).

(F) After sunset and prior to sunrise, lookouts shall employ Night Lookout Techniques in accordance with the Lookout Training Handbook. (NAVEDTRA 12968-D).

(G) While in transit, naval vessels shall be alert at all times, use extreme caution, and proceed at a "safe speed" so that the vessel can take proper and effective action to avoid a collision with any marine animal and can be stopped within a distance appropriate to the prevailing circumstances and conditions.

(H) When marine mammals have been sighted in the area, Navy vessels shall increase vigilance and take reasonable and practicable actions to avoid collisions and activities that might result in close interaction of naval assets and marine mammals. Actions may include changing speed and/or direction and are dictated by environmental and other conditions (e.g., safety, weather).

(I) Floating weeds and kelp, algal mats, clusters of seabirds, and jellyfish are good indicators of marine mammals. Therefore, where these circumstances are present, the Navy shall exercise increased vigilance in watching for marine mammals.

(J) Navy aircraft participating in exercises at sea shall conduct and maintain, when operationally feasible and safe, surveillance for marine mammals as long as it does not violate safety constraints or interfere with the accomplishment of primary operational duties. Marine mammal detections shall be immediately reported to assigned Aircraft Control Unit for further dissemination to ships in the vicinity of the marine species as appropriate when it is reasonable to conclude that the course of the ship will likely result in a closing of the distance to the detected marine mammal.

(K) All vessels shall maintain logs and records documenting training operations should they be required for event reconstruction purposes. Logs and records will be kept for a period of 30

days following completion of a major training exercise.

(2) Navy's Measures for MFAS

Operations:

(i) Personnel Training (for MFAS

Operations):

(A) All lookouts onboard platforms involved in ASW training events shall review the NMFS-approved Marine Species Awareness Training material prior to use of mid-frequency active sonar.

(B) All COs, XOs, and officers standing watch on the bridge shall have reviewed the Marine Species Awareness Training material prior to a training event employing the use of mid-frequency active sonar.

(C) Navy lookouts shall undertake extensive training in order to qualify as a watchstander in accordance with the Lookout Training Handbook (Naval Educational Training [NAVEDTRA], 12968-D).

(D) Lookout training shall include on-the-job instruction under the supervision of a qualified, experienced watchstander. Following successful completion of this supervised training period, lookouts shall complete the Personal Qualification Standard program, certifying that they have demonstrated the necessary skills (such as detection and reporting of partially submerged objects). This does not forbid personnel being trained as lookouts from being counted as those listed in previous measures so long as supervisors monitor their progress and performance.

(E) Lookouts shall be trained in the most effective means to ensure quick and effective communication within the command structure in order to facilitate implementation of mitigation measures if marine species are spotted.

(ii) Lookout and Watchstander

Responsibilities:

(A) On the bridge of surface ships, there shall always be at least three people on watch whose duties include observing the water surface around the vessel.

(B) All surface ships participating in ASW training events shall, in addition to the three personnel on watch noted previously, have at all times during the exercise at least two additional personnel on watch as marine mammal lookouts.

(C) Personnel on lookout and officers on watch on the bridge shall have at least one set of binoculars available for each person to aid in the detection of marine mammals.

(D) On surface vessels equipped with mid-frequency active sonar, pedestal mounted "Big Eye" (20x110) binoculars shall be present and in good working

order to assist in the detection of marine mammals in the vicinity of the vessel.

(E) Personnel on lookout shall employ visual search procedures employing a scanning methodology in accordance with the Lookout Training Handbook (NAVEDTRA 12968-D).

(F) After sunset and prior to sunrise, lookouts shall employ Night Lookouts Techniques in accordance with the Lookout Training Handbook.

(G) Personnel on lookout shall be responsible for reporting all objects or anomalies sighted in the water (regardless of the distance from the vessel) to the Officer of the Deck, since any object or disturbance (e.g., trash, periscope, surface disturbance, discoloration) in the water may be indicative of a threat to the vessel and its crew or indicative of a marine species that may need to be avoided as warranted.

(iii) Operating Procedures:

(A) Navy will distribute final mitigation measures contained in the LOA and the Incidental take statement of NMFS' biological opinion to the Fleet.

(B) COs shall make use of marine species detection cues and information to limit interaction with marine species to the maximum extent possible consistent with safety of the ship.

(C) All personnel engaged in passive acoustic sonar operation (including aircraft, surface ships, or submarines) shall monitor for marine mammal vocalizations and report the detection of any marine mammal to the appropriate watch station for dissemination and appropriate action.

(D) During mid-frequency active sonar operations, personnel shall utilize all available sensor and optical systems (such as night vision goggles) to aid in the detection of marine mammals.

(E) Navy aircraft participating in exercises at sea shall conduct and maintain, when operationally feasible and safe, surveillance for marine species of concern as long as it does not violate safety constraints or interfere with the accomplishment of primary operational duties.

(F) Aircraft with deployed sonobuoys shall use only the passive capability of sonobuoys when marine mammals are detected within 200 yds (183 m) of the sonobuoy.

(G) Marine mammal detections shall be immediately reported to assigned Aircraft Control Unit for further dissemination to ships in the vicinity of the marine species as appropriate where it is reasonable to conclude that the course of the ship will likely result in a closing of the distance to the detected marine mammal.

(H) Safety Zones—When marine mammals are detected by any means (aircraft, shipboard lookout, or acoustically) within or closing to inside 1,000 yds (914 m) of the sonar dome (the bow), the ship or submarine shall limit active transmission levels to at least 6 decibels (dB) below normal operating levels.

(1) Ships and submarines shall continue to limit maximum transmission levels by this 6-dB factor until the animal has been seen to leave the area, has not been detected for 30 minutes, or the vessel has transited more than 2,000 yds (1829 m) beyond the location of the last detection.

(2) Should a marine mammal be detected within or closing to inside 500 yds (457 m) of the sonar dome, active sonar transmissions shall be limited to at least 10-dB below the equipment's normal operating level. Ships and submarines shall continue to limit maximum ping levels by this 10-dB factor until the animal has been seen to leave the area, has not been detected for 30 minutes, or the vessel has transited more than 2,000 yds (1829 m) beyond the location of the last detection.

(3) Should the marine mammal be detected within or closing to inside 200 yds (183 m) of the sonar dome, active sonar transmissions shall cease. Sonar shall not resume until the animal has been seen to leave the area, has not been detected for 30 minutes, or the vessel has transited more than 2,000 yds (1829 m) beyond the location of the last detection.

(4) Special conditions applicable for dolphins and porpoises only: If, after conducting an initial maneuver to avoid close quarters with dolphins or porpoises, the OOD concludes that dolphins or porpoises are deliberately closing to ride the vessel's bow wave, no further mitigation actions are necessary while the dolphins or porpoises continue to exhibit bow wave riding behavior.

(5) If the need for power-down should arise as detailed in paragraph (a)(2)(iii)(H) of this section, the Navy shall follow the requirements as though they were operating at 235 dB—the normal operating level (i.e., the first power-down will be to 229 dB, regardless of at what level above 235 dB active sonar was being operated).

(I) Prior to start up or restart of active sonar, operators will check that the Safety Zone radius around the sound source is clear of marine mammals.

(J) Active sonar levels (generally)—Navy shall operate active sonar at the lowest practicable level, not to exceed 235 dB, except as required to meet tactical training objectives.

(K) Helicopters shall observe/survey the vicinity of an ASW training event for 10 minutes before the first deployment of active (dipping) sonar in the water.

(L) Helicopters shall not dip their active sonar within 200 yds (183 m) of a marine mammal and shall cease pinging if a marine mammal closes within 200 yds (183 m) after pinging has begun.

(M) Submarine sonar operators shall review detection indicators of close-aboard marine mammals prior to the commencement of ASW training events involving active mid-frequency sonar.

(N) Night vision goggles shall be available to all ships and air crews, for use as appropriate.

(3) Navy's Measures for Underwater Detonations:

(i) Surface-to-Surface Gunnery (explosive rounds):

(A) Lookouts shall visually survey for floating weeds and kelp. Intended impact (i.e., where the Navy is aiming) shall not be within 600 yds (585 m) of known or observed floating weeds and kelp, and algal mats.

(B) For exercises using targets towed by a vessel or aircraft, target-towing vessels/aircraft shall maintain a trained lookout for marine mammals, if applicable. If a marine mammal is sighted in the vicinity, the tow aircraft/vessel shall immediately notify the firing vessel, which shall suspend the exercise until the area is clear.

(C) A 600-yard radius buffer zone shall be established around the intended target.

(D) From the intended firing position, trained lookouts shall survey the buffer zone for marine mammals prior to commencement and during the exercise as long as practicable.

(E) The exercise shall be conducted only when the buffer zone is visible and marine mammals are not detected within it.

(ii) Surface-to-Surface Gunnery (non-explosive rounds):

(A) Lookouts shall visually survey for floating weeds and kelp, and algal mats. Intended impact will not be within 200 yds (183 m) of known or observed floating weeds and kelp, and algal mats.

(B) A 200-yd (183 m) radius buffer zone shall be established around the intended target.

(C) From the intended firing position, trained lookouts shall survey the buffer zone for marine mammals prior to commencement and during the exercise as long as practicable.

(D) If applicable, target towing vessels shall maintain a lookout. If a marine mammal is sighted in the vicinity of the exercise, the tow vessel shall

immediately notify the firing vessel in order to secure gunnery firing until the area is clear.

(E) The exercise shall be conducted only when the buffer zone is visible and marine mammals are not detected within the target area and the buffer zone.

(iii) Surface-to-Air Gunnery (explosive and non-explosive rounds):

(A) Vessels shall orient the geometry of gunnery exercises in order to prevent debris from falling in the area of sighted marine mammals.

(B) Vessels will expedite the recovery of any parachute deploying aerial targets to reduce the potential for entanglement of marine mammals.

(C) Target towing aircraft shall maintain a lookout, if applicable. If a marine mammal is sighted in the vicinity of the exercise, the tow aircraft shall immediately notify the firing vessel in order to secure gunnery firing until the area is clear.

(iv) Air-to-Surface Gunnery (explosive and non-explosive rounds)

(A) If surface vessels are involved, lookouts will visually survey for floating kelp in the target area. Impact shall not occur within 200 yds (183 m) of known or observed floating weeds and kelp or algal mats.

(B) A 200 yd (183 m) radius buffer zone shall be established around the intended target.

(C) If surface vessels are involved, lookout(s) shall visually survey the buffer zone for marine mammals prior to and during the exercise.

(D) Aerial surveillance of the buffer zone for marine mammals shall be conducted prior to commencement of the exercise. Aircraft crew/pilot shall maintain visual watch during exercises. Release of ordnance through cloud cover is prohibited: aircraft must be able to actually see ordnance impact areas.

(E) The exercise shall be conducted only if marine mammals are not visible within the buffer zone.

(v) Small Arms Training—(grenades, explosive and non-explosive rounds)—Lookouts will visually survey for floating weeds or kelp, algal mats, and marine mammals. Weapons shall not be fired in the direction of known or observed floating weeds or kelp, algal mats, or marine mammals.

(vi) Air-to-Surface At-sea Bombing Exercises (explosive and non-explosive):

(A) If surface vessels are involved, trained lookouts shall survey for floating kelp and marine mammals. Ordnance shall not be targeted to impact within 1,000 yds (914 m) of known or observed floating kelp or marine mammals.

(B) A 1,000 yd (914 m) radius buffer zone shall be established around the intended target.

(C) Aircraft shall visually survey the target and buffer zone for marine mammals prior to and during the exercise. The survey of the impact area shall be made by flying at 1,500 ft (152 m) or lower, if safe to do so, and at the slowest safe speed. Release of ordnance through cloud cover is prohibited: aircraft must be able to actually see ordnance impact areas. Survey aircraft should employ most effective search tactics and capabilities.

(D) The exercise will be conducted only if marine mammals are not visible within the buffer zone.

(vii) Air-to-Surface Missile Exercises (explosive and non-explosive):

(A) Ordnance shall not be targeted to impact within 1,800 yds (1646 m) of known or observed floating kelp.

(B) Aircraft shall visually survey the target area for marine mammals. Visual inspection of the target area shall be made by flying at 1,500 (457 m) feet or lower, if safe to do so, and at slowest safe speed. Firing or range clearance aircraft must be able to actually see ordnance impact areas. Explosive ordnance shall not be targeted to impact within 1,800 yds (1646 m) of sighted marine mammals.

(viii) Demolitions, Mine Warfare, and Mine Countermeasures (up to a 20-lb NEW charge):

(A) Exclusion Zones—All Demolitions, Mine Warfare and Mine Countermeasures Operations involving the use of explosive charges must include exclusion zones for marine mammals to prevent physical and/or acoustic effects to those species. These exclusion zones shall extend in a 700-yard arc radius around the detonation site.

(B) Pre-Exercise Surveys—For Demolition and Ship Mine Countermeasures Operations, pre-exercise survey shall be conducted within 30 minutes prior to the commencement of the scheduled explosive event. The survey may be conducted from the surface, by divers, and/or from the air, and personnel shall be alert to the presence of any marine mammal. Should a marine mammal be present within the survey area, the exercise shall be paused until the animal voluntarily leaves the area. The Navy shall suspend detonation exercises and ensure the area is clear for a full 30 minutes prior to detonation. Personnel shall record any marine mammal observations during the exercise.

(C) Post-Exercise Surveys—Surveys within the same radius shall also be

conducted within 30 minutes after the completion of the explosive event.

(D) Reporting—If there is evidence that a marine mammal may have been stranded, injured or killed by the action, Navy activities shall be immediately suspended and the situation immediately reported by the participating unit to the Officer in Charge of the Exercise (OCE), who will follow Navy procedures for reporting the incident to Commander, Pacific Fleet, Commander, Third Fleet, Commander, Navy Region Southwest, Environmental Director, and the chain-of-command. The situation shall also be reported to NMFS (see Stranding Plan for details).

(ix) Mining Operations—Initial target points shall be briefly surveyed prior to inert ordnance (no live ordnance used) release from an aircraft to ensure the intended drop area is clear of marine mammals. To the extent feasible, the Navy shall retrieve inert mine shapes dropped during Mining Operations.

(x) Sink Exercise:

(A) All weapons firing shall be conducted during the period 1 hour after official sunrise to 30 minutes before official sunset.

(B) An exclusion zone with a radius of 1.5 nm shall be established around each target. This 1.5 nm zone includes a buffer of 0.5 nm to account for errors, target drift, and animal movement. In addition to the 1.5 nm exclusion zone, a further safety zone, which extends from the exclusion zone at 1.5 nm out an additional 0.5 nm, shall be surveyed. Together, the zones (exclusion and safety) extend out 2 nm from the target.

(C) A series of surveillance overflights shall be conducted within the exclusion and the safety zones, prior to and during the exercise, when feasible. Survey protocol shall be as follows:

(1) Overflights within the exclusion zone shall be conducted in a manner that optimizes the surface area of the water observed. This may be accomplished through the use of the Navy's Search and Rescue Tactical Aid, which provides the best search altitude, ground speed, and track spacing for the discovery of small, possibly dark objects in the water based on the environmental conditions of the day. These environmental conditions include the angle of sun inclination, amount of daylight, cloud cover, visibility, and sea state.

(2) All visual surveillance activities shall be conducted by Navy personnel trained in visual surveillance. At least one member of the mitigation team shall have completed the Navy's marine mammal training program for lookouts.

(3) In addition to the overflights, the exclusion zone shall be monitored by passive acoustic means, when assets are available. This passive acoustic monitoring would be maintained throughout the exercise. Potential assets include sonobuoys, which can be utilized to detect any vocalizing marine mammals (particularly sperm whales) in the vicinity of the exercise. The sonobuoys shall be re-seeded as necessary throughout the exercise. Additionally, passive sonar onboard submarines may be utilized to detect any vocalizing marine mammals in the area. The OCE would be informed of any aural detection of marine mammals and would include this information in the determination of when it is safe to commence the exercise.

(4) On each day of the exercise, aerial surveillance of the exclusion and safety zones shall commence 2 hours prior to the first firing.

(5) The results of all visual, aerial, and acoustic searches shall be reported immediately to the OCE. No weapons launches or firing may commence until the OCE declares the safety and exclusion zones free of marine mammals.

(6) If a protected species observed within the exclusion zone is diving, firing shall be delayed until the animal is re-sighted outside the exclusion zone, or 30 minutes have elapsed. After 30 minutes, if the animal has not been re-sighted it would be assumed to have left the exclusion zone.

(7) During breaks in the exercise of 30 minutes or more, the exclusion zone shall again be surveyed for any protected species. If marine mammals are sighted within the exclusion zone, the OCE shall be notified, and the procedure described in paragraph (a)(3)(x)(C)(6) of this section would be followed.

(8) Upon sinking of the vessel, a final surveillance of the exclusion zone shall be monitored for 2 hours, or until sunset, to verify that no marine mammals were harmed.

(D) Aerial surveillance shall be conducted using helicopters or other aircraft based on necessity and availability. The Navy has several types of aircraft capable of performing this task; however, not all types are available for every exercise. For each exercise, the available asset best suited for identifying objects on and near the surface of the ocean would be used. These aircraft would be capable of flying at the slow safe speeds necessary to enable viewing of marine vertebrates with unobstructed, or minimally obstructed, downward and outward visibility. The exclusion and safety zone

surveys may be cancelled in the event that a mechanical problem, emergency search and rescue, or other similar and unexpected event preempts the use of one of the aircraft onsite for the exercise.

(E) Where practicable, the Navy shall conduct the exercise in sea states that are ideal for marine mammal sighting, i.e., Beaufort Sea State 3 or less. In the event of a 4 or above, survey efforts shall be increased within the zones. This shall be accomplished through the use of an additional aircraft, if available, and conducting tight search patterns.

(F) The exercise shall not be conducted unless the exclusion zone can be adequately monitored visually.

(G) In the event that any marine mammals are observed to be harmed in the area, a detailed description of the animal shall be taken, the location noted, and if possible, photos taken. This information shall be provided to NMFS via the Navy's regional environmental coordinator for purposes of identification (see the Stranding Plan for detail).

(H) An after action report detailing the exercise's time line, the time the surveys commenced and terminated, amount, and types of all ordnance expended, and the results of survey efforts for each event shall be submitted to NMFS.

(xi) Extended Echo Ranging/Improved Extended Echo Ranging (EER/IEER/AEER):

(A) Crews shall conduct visual reconnaissance of the drop area prior to laying their intended sonobuoy pattern. This search shall be conducted at an altitude below 457 m (500 yd) at a slow speed, if operationally feasible and weather conditions permit. In dual aircraft operations, crews are allowed to conduct coordinated area clearances.

(B) For IEER (AN/SSQ-110A), crews shall conduct a minimum of 30 minutes of visual and aural monitoring of the search area prior to commanding the first post detonation. This 30-minute observation period may include pattern deployment time.

(C) For any part of the briefed pattern where a post (source/receiver sonobuoy pair) will be deployed within 914 m (1,000 yd) of observed marine mammal activity, the Navy shall deploy the receiver ONLY and monitor while conducting a visual search. When marine mammals are no longer detected within 914 m (1,000 yd) of the intended post position, the Navy shall co-locate the explosive source sonobuoy (AN/SSQ-110A) (source) with the receiver.

(D) When able, Navy crews shall conduct continuous visual and aural monitoring of marine mammal activity. This is to include monitoring of own-

aircraft sensors from first sensor placement to checking off station and out of RF range of these sensors.

(E) Aural Detection—If the presence of marine mammals is detected aurally, then that shall cue the Navy aircrew to increase the diligence of their visual surveillance. Subsequently, if no marine mammals are visually detected, then the crew may continue multi-static active search.

(F) Visual Detection—If marine mammals are visually detected within 914 m (1,000 yd) of the explosive source sonobuoy (AN/SSQ-110A) intended for use, then that payload shall not be detonated. Aircrews may utilize this post once the marine mammals have not been re-sighted for 30 minutes, or are observed to have moved outside the 914 m (1,000 yd) safety buffer. Aircrews may shift their multi-static active search to another post, where marine mammals are outside the 914 m (1,000 yd) safety buffer.

(G) For IEER (AN/SSQ-110A), aircrews shall make every attempt to manually detonate the unexploded charges at each post in the pattern prior to departing the operations area by using the “Payload 1 Release” command followed by the “Payload 2 Release” command. Aircrews shall refrain from using the “Scuttle” command when two payloads remain at a given post. Aircrews will ensure that a 914 m (1,000 yd) safety buffer, visually clear of marine mammals, is maintained around each post as is done during active search operations.

(H) Aircrews shall only leave posts with unexploded charges in the event of a sonobuoy malfunction, an aircraft system malfunction, or when an aircraft must immediately depart the area due to issues such as fuel constraints, inclement weather, and in-flight emergencies. In these cases, the sonobuoy will self-scuttle using the secondary or tertiary method.

(I) The Navy shall ensure all payloads are accounted for. Explosive source sonobuoys (AN/SSQ-110A) that can not be scuttled shall be reported as unexploded ordnance via voice communications while airborne, then upon landing via naval message.

(J) Marine mammal monitoring shall continue until out of own-aircraft sensor range.

(4) The Navy shall abide by the letter of the “Stranding Response Plan for Major Navy Training Exercises in the SOCAL Range Complex” (available at: <http://www.nmfs.noaa.gov/pr/permits/incidental.htm>), which is incorporated herein by reference, to include the following measures:

(i) Shutdown Procedures—When an Uncommon Stranding Event (USE—defined in § 216.271) occurs during a Major Training Exercise (MTE) (as defined in the Stranding Plan, meaning including Sustainment, SHAREM, IAC2, JTFEX, or COMPTUEX) in the SOCAL Range Complex, the Navy shall implement the procedures described below.

(A) The Navy shall implement a Shutdown (as defined § 216.271) when advised by a NMFS Office of Protected Resources Headquarters Senior Official designated in the SOCAL Range Complex Stranding Communication Protocol that a USE involving live animals has been identified and that at least one live animal is located in the water. NMFS and Navy shall communicate, as needed, regarding the identification of the USE and the potential need to implement shutdown procedures.

(B) Any shutdown in a given area shall remain in effect in that area until NMFS advises the Navy that the subject(s) of the USE at that area die or are euthanized, or that all live animals involved in the USE at that area have left the area (either of their own volition or herded).

(C) If the Navy finds an injured or dead marine mammal floating at sea during an MTE, the Navy shall notify NMFS immediately or as soon as operational security considerations allow. The Navy shall provide NMFS with species or description of the animal(s), the condition of the animal(s) including carcass condition if the animal(s) is/are dead, location, time of first discovery, observed behaviors (if alive), and photo or video (if available). Based on the information provided, NMFS shall determine if, and advise the Navy whether a modified shutdown is appropriate on a case-by-case basis.

(D) In the event, following a USE, that: (a) Qualified individuals are attempting to herd animals back out to the open ocean and animals are not willing to leave, or (b) animals are seen repeatedly heading for the open ocean but turning back to shore, NMFS and the Navy shall coordinate (including an investigation of other potential anthropogenic stressors in the area) to determine if the proximity of MFAS/HFAS activities or explosive detonations, though farther than 14 nm from the distressed animal(s), is likely decreasing the likelihood that the animals return to the open water. If so, NMFS and the Navy shall further coordinate to determine what measures are necessary to further minimize that likelihood and implement those measures as appropriate.

(ii) Within 72 hours of NMFS notifying the Navy of the presence of a USE, the Navy shall provide available information to NMFS (per the SOCAL Range Complex Communication Protocol) regarding the location, number and types of acoustic/explosive sources, direction and speed of units using MFAS/HFAS, and marine mammal sightings information associated with training activities occurring within 80 nm (148 km) and 72 hours prior to the USE event. Information not initially available regarding the 80 nm (148 km), 72 hours, period prior to the event shall be provided as soon as it becomes available. The Navy shall provide NMFS investigative teams with additional relevant unclassified information as requested, if available.

(iii) Memorandum of Agreement (MOA)—The Navy and NMFS shall develop a MOA, or other mechanism consistent with federal fiscal law requirements (and all other applicable laws), that will establish a framework whereby the Navy can (and provide the Navy examples of how they can best) assist NMFS with stranding investigations in certain circumstances.

§ 216.275 Requirements for monitoring and reporting.

(a) As outlined in the SOCAL Range Complex Stranding Communication Plan, the Navy must notify NMFS immediately (or as soon as clearance procedures allow) if the specified activity identified in § 216.270(c) is thought to have resulted in the mortality or injury of any marine mammals, or in any take of marine mammals not identified in § 216.272(c).

(b) The Navy must conduct all monitoring and required reporting under the Letter of Authorization, including abiding by the SOCAL Range Complex Monitoring Plan.

(c) The Navy shall complete an Integrated Comprehensive Monitoring Plan (ICMP) in 2009. This planning and adaptive management tool shall include:

(1) A method for prioritizing monitoring projects that clearly describes the characteristics of a proposal that factor into its priority.

(2) A method for annually reviewing, with NMFS, monitoring results, Navy R&D, and current science to use for potential modification of mitigation or monitoring methods.

(3) A detailed description of the Monitoring Workshop to be convened in 2011 and how and when Navy/NMFS will subsequently utilize the findings of the Monitoring Workshop to potentially modify subsequent monitoring and mitigation.

(4) An adaptive management plan.

(5) A method for standardizing data collection across Range Complexes.

(d) General Notification of Injured or Dead Marine Mammals—Navy personnel shall ensure that NMFS (regional stranding coordinator) is notified immediately (or as soon as clearance procedures allow) if an injured or dead marine mammal is found during or shortly after, and in the vicinity of, any Navy training exercise utilizing MFAS, HFAS, or underwater explosive detonations. The Navy shall provide NMFS with species or description of the animal(s), the condition of the animal(s) (including carcass condition if the animal is dead), location, time of first discovery, observed behaviors (if alive), and photo or video (if available). The Navy shall consult the Stranding Response Plan to obtain more specific reporting requirements for specific circumstances.

(e) Annual SOCAL Range Complex Monitoring Plan Report—The Navy shall submit a report annually on October 1 describing the implementation and results (through August 1 of the same year) of the SOCAL Range Complex Monitoring Plan. Data collection methods will be standardized across range complexes to allow for comparison in different geographic locations. Although additional information will also be gathered, the marine mammal observers (MMOs) collecting marine mammal data pursuant to the SOCAL Range Complex Monitoring Plan shall, at a minimum, provide the same marine mammal observation data required in the data required in § 216.275(f)(1). The SOCAL Range Complex Monitoring Plan Report may be provided to NMFS within a larger report that includes the required Monitoring Plan Reports from multiple Range Complexes.

(f) Annual SOCAL Range Complex Exercise Report—The Navy shall submit an Annual SOCAL Range Complex Exercise Report on October 1 of every year (covering data gathered through August 1 of the same year). This report shall contain information identified in § 216.275(f)(1) through (5).

(1) MFAS/HFAS Major Training Exercises—This section shall contain the following information for Integrated, Coordinated, and Major Training Exercises (MTEs), which include Ship ASW Readiness and Evaluation Measuring (SHAREM), Sustainment Exercises, Integrated ASW Course Phase II (IAC2), Composite Training Unit Exercises (COMPTUEX), and Joint Task Force Exercises (JTFEX) conducted in the SOCAL Range Complex:

(i) Exercise Information (for each MTE):

(A) Exercise designator

(B) Date that exercise began and ended

(C) Location

(D) Number and types of active sources used in the exercise

(E) Number and types of passive acoustic sources used in exercise

(F) Number and types of vessels, aircraft, etc., participating in exercise

(G) Total hours of observation by watchstanders

(H) Total hours of all active sonar source operation

(I) Total hours of each active sonar source (along with explanation of how hours are calculated for sources typically quantified in alternate way (buoys, torpedoes, etc.)).

(J) Wave height (high, low, and average during exercise)

(ii) Individual marine mammal sighting info (for each sighting in each MTE)

(A) Location of sighting

(B) Species (if not possible—indication of whale/dolphin/pinniped)

(C) Number of individuals

(D) Calves observed (y/n)

(E) Initial Detection Sensor

(F) Indication of specific type of platform observation made from (including, for example, what type of surface vessel, i.e., FFG, DDG, or CG)

(G) Length of time observers maintained visual contact with marine mammal

(H) Wave height (in feet)

(I) Visibility

(J) Sonar source in use (y/n).

(K) Indication of whether animal is < 200 yd, 200–500 yd, 500–1000 yd, 1000–2000 yd, or > 2000 yd from sonar source in paragraph (f)(1)(ii)(J) of this section.

(L) Mitigation Implementation—Whether operation of sonar sensor was delayed, or sonar was powered or shut down, and how long the delay was.

(M) If source in use (i.e., in paragraph (f)(1)(ii)(J) of this section) is hull-mounted, true bearing of animal from ship, true direction of ship's travel, and estimation of animal's motion relative to ship (opening, closing, parallel)

(N) Observed behavior—Watchstanders shall report, in plain language and without trying to categorize in any way, the observed behavior of the animals (such as animal closing to bow ride, paralleling course/speed, floating on surface and not swimming, etc.)

(iii) An evaluation (based on data gathered during all of the MTEs) of

the effectiveness of mitigation measures designed to avoid exposing marine mammals to mid-frequency sonar. This evaluation shall identify the specific observations that support any conclusions the Navy reaches about the effectiveness of the mitigation.

(2) ASW Summary—This section shall include the following information as summarized from both MTEs and non-major training exercises (unit-level exercises, such as TRACKEXs):

(i) Total annual hours of each type of sonar source (along with explanation of how hours are calculated for sources typically quantified in alternate way (buoys, torpedoes, etc.))

(ii) Cumulative Impact Report—To the extent practicable, the Navy, in coordination with NMFS, shall develop and implement a method of annually reporting non-major (i.e., other than MTEs) training exercises utilizing hull-mounted sonar. The report shall present an annual (and seasonal, where practicable) depiction of non-major training exercises geographically across the SOCAL Range Complex. The Navy shall include (in the SOCAL Range Complex annual report) a brief annual progress update on the status of the development of an effective and unclassified method to report this information until an agreed-upon (with NMFS) method has been developed and implemented.

(3) SINKEXs—This section shall include the following information for each SINKEX completed that year:

(i) Exercise information (gathered for each SINKEX):

(A) Location

(B) Date and time exercise began and ended

(C) Total hours of observation by watchstanders before, during, and after exercise

(D) Total number and types of rounds expended / explosives detonated

(E) Number and types of passive acoustic sources used in exercise

(F) Total hours of passive acoustic search time

(G) Number and types of vessels, aircraft, etc., participating in exercise

(H) Wave height in feet (high, low and average during exercise)

(I) Narrative description of sensors and platforms utilized for marine mammal detection and timeline illustrating how marine mammal detection was conducted

(ii) Individual marine mammal observation (by Navy lookouts) information (gathered for each marine mammal sighting)

(A) Location of sighting

- (B) Species (if not possible, indicate whale, dolphin or pinniped)
- (C) Number of individuals
- (D) Whether calves were observed
- (E) Initial detection sensor
- (F) Length of time observers maintained visual contact with marine mammal
- (G) Wave height
- (H) Visibility
- (I) Whether sighting was before, during, or after detonations/exercise, and how many minutes before or after
- (J) Distance of marine mammal from actual detonations (or target spot if not yet detonated)—use four categories to define distance:
- (1) The modeled injury threshold radius for the largest explosive used in that exercise type in that OPAREA (738 m for SINKEX in the SOCAL Range Complex);
- (2) The required exclusion zone (1 nm for SINKEX in the SOCAL Range Complex);
- (3) The required observation distance (if different than the exclusion zone (2 nm for SINKEX in the SOCAL Range Complex); and
- (4) Greater than the required observed distance. For example, in this case, the observer would indicate if < 738 m, from 738 m to 1 nm, from 1 nm to 2 nm, and > 2 nm.
- (K) Observed behavior—Watchstanders will report, in plain language and without trying to categorize in any way, the observed behavior of the animal(s) (such as animal closing to bow ride, paralleling course/speed, floating on surface and not swimming etc.), including speed and direction.
- (L) Resulting mitigation implementation—Indicate whether explosive detonations were delayed, ceased, modified, or not modified due to marine mammal presence and for how long.
- (M) If observation occurs while explosives are detonating in the water, indicate munition type in use at time of marine mammal detection.
- (4) IEER Summary—This section shall include an annual summary of the following IEER information:
- (i) Total number of IEER events conducted in the SOCAL Range Complex
- (ii) Total expended/detonated rounds (buoys)
- (iii) Total number of self-scuttled IEER rounds
- (5) Explosives Summary—To the extent practicable, the Navy will provide the information described below for all of their explosive exercises. Until the Navy is able to report in full the information below, they will provide an annual update on the Navy's explosive tracking methods, including improvements from the previous year.
- (i) Total annual number of each type of explosive exercises (of those identified as part of the "specified activity" in this final rule) conducted in the SOCAL Range Complex.
- (ii) Total annual expended/detonated rounds (missiles, bombs, etc.) for each explosive type.
- (g) Sonar Exercise Notification—The Navy shall submit to the NMFS Office of Protected Resources (specific contact information to be provided in LOA) either an electronic (preferably) or verbal report within fifteen calendar days after the completion of any MTE (Sustainment, IAC2, SHAREM, COMPTUEX, or JTFEX) indicating:
- (1) Location of the exercise
- (2) Beginning and end dates of the exercise
- (3) Type of exercise (e.g., SHAREM, JTFEX, etc.)
- (h) SOCAL Range Complex 5-yr Comprehensive Report—The Navy shall submit to NMFS a draft report that analyzes and summarizes all of the multi-year marine mammal information gathered during ASW and explosive exercises for which annual reports are required (Annual SOCAL Range Complex Exercise Reports and SOCAL Range Complex Monitoring Plan Reports). This report will be submitted at the end of the fourth year of the rule (November 2012), covering activities that have occurred through June 1, 2012
- (i) Comprehensive National ASW Report—By June, 2014, the Navy shall submit a draft National Report that analyzes, compares, and summarizes the active sonar data gathered (through January 1, 2014) from the watchstanders and pursuant to the implementation of the Monitoring Plans for the SOCAL Range Complex, the Atlantic Fleet Active Sonar Training, the HRC, the Marianas Range Complex, the Northwest Training Range, the Gulf of Alaska, and the East Coast Undersea Warfare Training Range.
- (j) The Navy shall respond to NMFS comments and requests for additional information or clarification on the SOCAL Range Complex Comprehensive Report, the Comprehensive National ASW report, the Annual SOCAL Range Complex Exercise Report, or the Annual SOCAL Range Complex Monitoring Plan Report (or the multi-Range Complex Annual Monitoring Plan Report, if that is how the Navy chooses to submit the information) if submitted within 3 months of receipt. These reports will be considered final after the Navy has addressed NMFS' comments or provided the requested information, or three months after the submittal of the draft if NMFS does not comment by then.
- (k) In 2011, the Navy shall convene a Monitoring Workshop in which the Monitoring Workshop participants will be asked to review the Navy's Monitoring Plans and monitoring results and make individual recommendations (to the Navy and NMFS) of ways of improving the Monitoring Plans. The recommendations shall be reviewed by the Navy, in consultation with NMFS, and modifications to the Monitoring Plan shall be made, as appropriate.

§ 216.276 Applications for Letters of Authorization.

To incidentally take marine mammals pursuant to the regulations in this subpart, the U.S. citizen (as defined by § 216.103) conducting the activity identified in § 216.270(c) (the U.S. Navy) must apply for and obtain either an initial Letter of Authorization in accordance with § 216.277 or a renewal under § 216.278.

§ 216.277 Letters of Authorization.

(a) A Letter of Authorization, unless suspended or revoked, will be valid for a period of time not to exceed the period of validity of this subpart, but must be renewed annually subject to annual renewal conditions in § 216.278.

(b) Each Letter of Authorization will set forth:

(1) Permissible methods of incidental taking;

(2) Means of effecting the least practicable adverse impact on the species, its habitat, and on the availability of the species for subsistence uses (i.e., mitigation); and

(3) Requirements for mitigation, monitoring and reporting.

(c) Issuance and renewal of the Letter of Authorization will be based on a determination that the total number of marine mammals taken by the activity as a whole will have no more than a negligible impact on the affected species or stock of marine mammal(s).

§ 216.278 Renewal of Letters of Authorization and Adaptive Management.

(a) A Letter of Authorization issued under § 216.106 and § 216.277 for the activity identified in § 216.270(c) will be renewed annually upon:

(1) Notification to NMFS that the activity described in the application submitted under § 216.276 will be undertaken and that there will not be a substantial modification to the described work, mitigation or monitoring undertaken during the upcoming 12 months;

(2) Timely receipt (by the dates indicated in these regulations) of the monitoring reports required under § 216.275(c) through (j); and

(3) A determination by the NMFS that the mitigation, monitoring and reporting measures required under § 216.274 and the Letter of Authorization issued under §§ 216.106 and 216.277, were undertaken and will be undertaken during the upcoming annual period of validity of a renewed Letter of Authorization.

(b) If a request for a renewal of a Letter of Authorization issued under §§ 216.106 and 216.278 indicates that a substantial modification, as determined by NMFS, to the described work, mitigation or monitoring undertaken during the upcoming season will occur, the NMFS will provide the public a period of 30 days for review and comment on the request. Review and comment on renewals of Letters of Authorization are restricted to:

(1) New cited information and data indicating that the determinations made

in this document are in need of reconsideration, and

(2) Proposed changes to the mitigation and monitoring requirements contained in these regulations or in the current Letter of Authorization.

(c) A notice of issuance or denial of a renewal of a Letter of Authorization will be published in the **Federal Register**.

(d) NMFS, in response to new information and in consultation with the Navy, may modify the mitigation or monitoring measures in subsequent LOAs if doing so creates a reasonable likelihood of more effectively accomplishing the goals of mitigation and monitoring set forth in the preamble of these regulations. Below are some of the possible sources of new data that could contribute to the decision to modify the mitigation or monitoring measures:

(1) Results from the Navy's monitoring from the previous year (either from the SOCAL Range Complex or other locations).

(2) Findings of the Monitoring Workshop that the Navy will convene in 2011 (§ 216.275(l)).

(3) Compiled results of Navy funded research and development (R&D) studies (presented pursuant to the ICMP (§ 216.275(d))).

(4) Results from specific stranding investigations (either from the SOCAL Range Complex or other locations, and involving coincident MFAS/HFAS or explosives training or not involving coincident use).

(5) Results from the Long Term Prospective Study described in the preamble to these regulations.

(6) Results from general marine mammal and sound research (funded by the Navy (described below) or otherwise).

§ 216.279 Modifications to Letters of Authorization.

(a) Except as provided in paragraph (b) of this section, no substantive modification (including withdrawal or suspension) to the Letter of Authorization by NMFS, issued pursuant to §§ 216.106 and 216.277 and subject to the provisions of this subpart shall be made until after notification and an opportunity for public comment has been provided. For purposes of this paragraph, a renewal of a Letter of Authorization under § 216.278, without modification (except for the period of validity), is not considered a substantive modification.

(b) If the Assistant Administrator determines that an emergency exists that poses a significant risk to the well-being of the species or stocks of marine mammals specified in § 216.272(c), a Letter of Authorization issued pursuant to §§ 216.106 and 216.277 may be substantively modified without prior notification and an opportunity for public comment. Notification will be published in the **Federal Register** within 30 days subsequent to the action.

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