

**RESPONSES TO REGULATORY AGENCY COMMENTS ON THE DRAFT
SUPPLEMENTAL SITE INSPECTION FOR NORTHERN OFFSHORE MUNITIONS
AND EXPLOSIVES OF CONCERN SITES: FLEET RESERVE PIER AND BERTHS 1
AND 2, FORMER MARE ISLAND NAVAL SHIPYARD, VALLEJO, CALIFORNIA**

This document presents the U.S. Department of the Navy's (Navy) responses to comments from the regulatory agencies on the "Draft Supplemental Site Inspection for Northern Offshore Munitions and Explosives of Concern Sites: Fleet Reserve Pier and Berths 1 and 2, Former Mare Island Naval Shipyard, Vallejo, California," dated June 2006. The comments addressed below were received from the California Department of Toxic Substances Control (DTSC) on May 29, 2007, and from the U.S. Environmental Protection Agency (EPA) Region IX on November 27, 2006 and July 27, 2006.

RESPONSES TO COMMENTS FROM CHIP GRIBBLE, DTSC

General Comment:

1. **Comment:** We disagree with the conclusions presented in the report that no further action is warranted for the Fleet Reserve Pier and Berths 1 and 2 areas. Instead, we recommend that the Navy develop an acceptable site investigation that acknowledges contradictory and incomplete historical information, for the northern Mare Island Strait areas.

Response: The Navy will meet with the regulatory agencies to discuss concerns regarding the presence of potential munitions and explosives of concern (MEC) in sediments at the Fleet Reserve Pier and Berths 1 and 2. The purpose of this draft Supplemental Site Inspection (SSI) was to supplement and confirm information presented in the "Unexploded Ordnance Site Investigation of Mare Island Naval Shipyard, Final Summary Report" dated April 28, 1997, that was completed by Supervisor of Shipbuilding, Conversion, and Repair, Portsmouth, Virginia (SSPORTS). Since that time, the Navy identified several inaccuracies and unsubstantiated claims in the 1997 Site Inspection (SI) report and concluded that a supplemental study is necessary to evaluate available evidence more rigorously.

Specific Comments:

1. **Comment:** Page 5, para. 4, lines 7-9: Correspondingly, the dumping of munitions into Mare Island Strait which led to the existence of waste munitions in association with virtually all historical dredge disposal outfalls should have led to the establishment of safety arcs, but in fact were not. These statements in paragraph 4 of page 5 are not logical and should be deleted or revised to not overstate the meaning of the absence of historical safety arcs for this area.

Response: Section 2.2 presents factual information on the history of the identification of Explosive Safety Quantity-Distance (ESQD) arcs as related to the Fleet Reserve Pier and Berths 1 and 2. The lack of ESQD arcs in and of itself does not confirm that munitions were never handled; however, it indicates munitions were not handled on a *regular basis* in the area. The history relating to dredge spoils outfalls is a separate line of evidence presented in a later section of the report (see Section 3.1.3). To present a logical and orderly discussion of the information, the SSI report does not include the history of all aspects of the sites in one section.

2. **Comment:** Page 6, section 2.2.1: As recently as the early 1990's, some of the ships moored at the Fleet Reserve Pier were the subject of internal Navy investigations regarding the illegal storage of waste materials. This suggests a history somewhat more complex than the history presented in this section.

Response: The Naval Criminal Investigative Service (NCIS) investigation referred to in the DTSC comment was an investigation into the storage of non-MEC materials including asbestos that are not relevant to this Site Investigation. No administrative or criminal action resulted from this investigation. The facts related to this investigation do not impact the history of the Fleet Reserve Pier as it relates to the potential for the presence or disposal of MEC in the Fleet Reserve Pier area.

3. **Comment:** Page 6, section 2.2.2: The information in Appendix B is well presented and is useful historical information that should typically be identified in the course of a Preliminary Assessment. However, it should not be mis-interpreted as definitive complete site history. Such flawed logic should have led to a conclusion from the first PA for this site that there is a definitive history of MEC for the Fleet Reserve Pier and Berths 1 and 2 areas which then should not be a retractable conclusion regardless of any subsequent information.

Response: Navy research identified key information presented in the SSPORTS SI report as inaccurate. Because some questionable information regarding the SI led directly to a recommendation for additional investigation, the Navy considers it essential to revisit the past recommendations for the Fleet Reserve Pier and Berths 1 and 2.

The goal of this SSI was to confirm and clarify all past information from prior investigations and when possible, to present additional information for the Fleet Reserve Pier and Berths 1 and 2. In the course of the research, the Navy identified some lines of evidence, which could not be confirmed or were inaccurate. The Navy attempted to correct the inaccuracies and identify the truth regarding the historic practices at these sites. The Navy believes that the information used to make recommendations for the sites needs to be from documented and verifiable sources. Some information from the prior reports could not be documented or verified as presented in the draft SSI. The Navy

considers it essential to identify and correct previously inaccurate data for the regulatory agencies and for the public record.

4. **Comment:** Page 7, section 2.3.2: DTSC also has questioned some of the conclusions of previous offshore geophysical surveys in Mare Island Strait because of the likely significant sedimentation overlying strata corresponding to past decades where the practice of dumping munitions overboard into the Strait was relatively common and the limitations of the survey equipment to detect anomalies at these depths below the sediment surface at the time of the survey. Conclusions based on these surveys that MEC items are not present are unfounded. We also understand that EOD divers in past efforts to identify anomalies in sediments in the northern Mare Island Strait areas along the Navy side of the channel had asserted that some of the anomalies were MEC items.

Response: The Navy acknowledges that any potential MEC or other metal debris from former operations at the piers could be buried at depths below the geophysical survey detection limits; however, there is no evidence indicating that MEC was disposed of at the Fleet Reserve Pier or Berths 1 and 2. As stated in Section 2.3.2, the Navy identifies that geophysical data was previously used to support a recommendation for additional investigation; however, there were concerns with the quality of the geophysical survey and it is not possible to determine how many of the metal anomalies were actually MEC and not just scrap metal. Therefore, this line of evidence does not justify the need for additional MEC investigation.

In addition, as indicated in Section 4.2 of the draft SSI the anecdotal reports of MEC items found by an explosive ordnance disposal (EOD) diver during training at the Fleet Reserve Pier can not be confirmed (the divers' name is not cited in the earlier documents) and are contradicted or refuted by other reliable sources such as Michael Murray, a retired Navy Captain (O-6). Mr. Murray was last assigned as Commander of the EOD Group Two. He led all Navy EOD forces in the Atlantic Fleet and Mediterranean. Mr. Murray oversaw EOD training dives at Mare Island and participated in four training dives at the Fleet Reserve Pier, he did not know of any reports of MEC being found during EOD dives around the Fleet Reserve Piers.

5. **Comment:** Page 8, section 2.4: It is our understanding that the City of Vallejo and LMI lease out the waterfront areas and several berthing spaces have been occupied post-base closure for many years, by DoD as well as non-DoD vessels. It is also our understanding that the Navy and the COV and LMI do not have use restrictions in place to address offshore environmental issues. This section contains several inaccuracies regarding current land use. Future land use and the relationship to offshore environmental issues is very dependent on the future activity largely defined by the future sediment depth

necessary to support those activities. The post-closure site use history suggests a significant likelihood of deep water uses.

Response: According to Neil Silar, a representative from Lennar Mare Island, currently there are no future offshore uses planned for the areas of the Fleet Reserve Pier and Berths 1 and 2; however, since there are no use restrictions in place for these areas, they could potentially be used or dredged at some time in the future. The report will be edited to take into account the uncertainty of future uses for areas which do not currently have use restrictions in place.

6. **Comment:** MEC was discovered in 2006 in dredge disposal sediments in River Park along the Vallejo side of Mare Island Strait. Given the history of dredge disposal in River Park, which is across the strait from the Fleet Reserve Pier, these sites should not be ruled out from the possibility of the presence of MEC. Indeed, this report also states on page 10 in section 3.1.3 that dredge material from the Fleet Reserve Piers and Berths 1 and 2 area appears to have been placed in Dredge Ponds 3W and 3E, both of which have a history of MEC contaminated outfalls.

Response: The draft SSI presents a rigorous and detailed review of all documentation pertinent to establishing the potential presence of MEC at the Fleet Reserves Pier and at Berths 1 and 2. The finding of MEC along Wilson Avenue (River Park) neither rules out nor indicates the presence of MEC at the Fleet Reserve Pier. The Wilson Avenue site is a formerly used defense (FUD) site that is not being evaluated under the Navy's Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Program.

The presence of MEC at the outfalls of dredge ponds 3W and 3E is not diagnostic in that it is not possible to establish the source of those MEC items because multiple dredged areas provided dredge spoils to these ponds. Dredge Pond 3W accepted dredge spoils from both the Fleet Reserve Pier and Berths 1 and 2, along with spoils from other dredged areas. Dredge Pond 3E accepted spoils from the Fleet Reserve Pier and other areas north of the causeway (Harding Lawson Associates 1976; Dames and Moore 1987; Roy F. Weston Inc. 2001).

7. **Comment:** Page 20, section 7: DTSC disagrees with many of the statements presented in this report. Some useful additional Preliminary Assessment information is included but many statements regarding the interpretation of the newly presented historical records are unfounded. Further, DTSC does not agree with the conclusions and recommendations presented in section 7.

Response: The goal of this SSI was to confirm and clarify all past information from prior investigations and when possible, to present additional information for these sites. Based on the draft SSI, the Navy reapplied the assessment of the facts and lines of evidence for the sites. The draft SSI calls to

question some information in the previous assessment of the potential presence of MEC at the Fleet Reserve Pier and Berths 1 and 2 and in particular the primary justifications for recommending additional investigation of this study area.

At the Fleet Reserve Pier, the SSI identified some information that is more current and more verifiable which contradicts previously presented information. At Berths 1 and 2, the SSI also identified information that contradicts previously presented information. The additional information found during this SSI is verifiable and the Navy believes it is pertinent for developing conclusions and making recommendations for these sites.

The Navy acknowledges DTSC's disagreement with the conclusions and recommendations of the SSI report and would like to have a meeting to discuss an approach forward for these sites.

8. **Comment:** **We do not recommend a revision to this report due to the extensive revision necessary to resolve all statements in disagreement and the value of such an effort. Rather, we recommend the Navy acknowledge the fundamental disagreements involved and move to develop an acceptable site investigation for the northern Mare Island Strait areas.**

Response: The Navy agrees that DTSC comments indicate fundamental disagreement and would like to have a meeting to discuss these comments and the approach forward for these sites with a broader regulatory agency team to resolve outstanding issues.

RESPONSES TO COMMENTS FROM CAROLYN D'ALMEIDA, EPA (NOVEMBER 27, 2006)

General Comment

1. **Comment:** In a letter dated July 27, 2006, we submitted to you EPA's comments on your Draft Supplemental Site Inspection Report for Northern Offshore Munitions and Explosives of Concern Sites, Fleet Reserve Pier and Berths 1 and 2, (June 2006) in which the Navy recommended no further action for these sites.

On October 11, 2006 the Vallejo Times Herald reported that construction workers found a 6" diameter projectile during the course of construction work along Wilson Avenue in Vallejo, adjacent to Mare Island Strait. Travis Explosive Ordnance Disposal (EOD) personnel removed and disposed of the item the next day. Travis EOD personnel described the item to EPA as a 3" 2 ½ to 3 foot long WWII era Navy anti-aircraft round. It was treated and disposed of as live ordnance; they believed it was live.

The enclosed 1959 USGS map (revised 1980) identifies this property along Wilson Avenue where the item was found as "Naval Reservation." Apparently this property belongs to the Navy or did at one time in the past, and may have received dredge spoils. It is currently a public park. EPA is concerned that more ordnance items may also be present in this area and may pose a hazard to the safety of Vallejo residents.

As this location is immediately adjacent to the Fleet Reserve piers on Mare Island and it is uncertain how the ordnance item came to be located on Wilson Avenue, EPA is unable to concur with Navy's recommendation for NFA for the Fleet Reserve Piers and Berths 1 and 2 until this area has been thoroughly investigated.

- Response:** The finding of MEC along Wilson Avenue (River Park) neither rules out nor indicates the presence of MEC at the Fleet Reserve Pier. The Wilson Avenue site is a FUD site that is not being evaluated under the Navy's CERCLA Program.

The Navy would like have a meeting to discuss these comments and the approach forward for these sites with a broader regulatory agency team to resolve outstanding issues.

RESPONSES TO COMMENTS FROM CAROLYN D'ALMEIDA, EPA (JULY 27, 2006)

General Comment

1. **Comment:** EPA has reviewed the above referenced report and offers the following comments. In general, the Draft SSI presents a good case for the recommendation for no further action with respect to munitions and explosives of concern (MEC) at the Fleet Reserve Pier and Berths 1 and 2.

There are instances where the Draft Supplemental Site Inspection for Northern Offshore Munitions and Explosives of Concern Sites: Fleet Reserve Pier and Berths 1 and 2 (hereinafter referred to as the "Draft SSI") contains a somewhat contradictory statement as to the likelihood of an explosive hazard from munitions and explosives of concern (MEC) being present on the sites under inspection. Two of these statements read, "Because it is unlikely that MEC is present at the Fleet Reserve Pier, there is no explosive hazard from MEC at this site." and "Because it is unlikely that MEC is present at Berths 1 and 2, there is no explosive hazard from MEC at this area." These statements are found on pages ES-1, ES-2, and 17 of the Draft SSI.

These statements are considered to have an internal conflict because they contain a qualified statement that says, "...it is unlikely that MEC is present..." followed by the absolute statement that "...there is no explosive hazard from MEC at this site (or area)." If there is no MEC at the cited locations, then there also is no explosive hazard from MEC at these locations. However, if it is "unlikely" that MEC is present, then it is also just "unlikely" that there is an explosive hazard from MEC at these locations.

Since it cannot be absolutely stated that there is no MEC present at any of the cited locations, it likewise cannot be stated that there is no explosion hazard from MEC present. Please review the cited sentences and correct them as necessary to reflect the possibility that an explosive hazard from MEC may exist at the listed sites.

Response: The Navy agrees with the statement that it cannot be absolutely stated that there is no MEC present at the cited locations and therefore it cannot be absolutely stated that there is no explosive hazard from that MEC. The statements listed above and contained on pages ES-1, ES-2, and 17 will be revised to read, "Because it is unlikely the MEC is present at the Fleet Reserve Pier, it is also highly unlikely that an explosive hazard for MEC exists in this area." In the case of Berths 1 and 2, the sentence will be revised to read, "Because it is unlikely MEC is present at Berths 1 and 2, it is also highly unlikely that an explosive hazard for MEC exists in this area."

Specific Comments

- Comment:** Executive Summary, Page ES-1: In the next-to-last sentence in the second paragraph on this page, it is stated that, "This SSI concludes that no evidence exists that MEC was disposed of at the Fleet Reserve Pier and Berths 1 and 2." This would seem to contradict the previous statements in this paragraph, where it is noted that, "The 1997 site investigation report recommended additional investigation of the Fleet Reserve Pier and berths 1 and 2, which was mainly based on prior statements of Mare Island personnel that MEC had been disposed of at these locations." It would also seem to contradict a statement on page B-8 of Appendix B, Interview Forms, which indicates that there were, "...Reports (not first-hand) of naval divers reporting the presence of ordnance observed during training dives."

These statements would seem to constitute evidence that MEC was disposed of at the cited locations. However, further analysis and additional statements cast significant doubt on the veracity of the evidence presented in the noted statements. It would, therefore, seem that evidence of a very questionable quality was presented that was not supported by the completed investigation. But questionable evidence is still evidence, and the statement that "...no evidence exists" is incorrect. Therefore, the cited statement should be changed to read "no credible evidence exists..." Please make this change to better reflect the existing situation concerning evidence that MEC was disposed of at the listed sites.

Response: The Navy agrees with the rationale provided above concerning the weight that should be placed on each of the lines of evidence evaluated in the draft SSI. The sentence on page ES-1 of the Executive Summary will be changed to read "This SSI concludes that no credible evidence exists that MEC was disposed of at the Fleet Reserve Pier and Berths 1 and 2."

- Comment:** Section 2.2, Site History, Page 4: The third paragraph of this section contains a statement that, "Munitions handled at the southern end of the shipyard included bulk explosives such as black powder, smokeless powder, ammonium picrate, TNT, RDX, cyclotetramethylene tetranitramine, gun ammunition (including 5-, 8-, 12-, 14-, and 16-inch projectiles), pyrotechnics, propellants, missiles, small caliber ammunition (such as 0.50 millimeter [mm], 20 mm, and 40 mm rounds), demolition materials, and fragmentation devices (including grenades and cannonballs) (PRC Environmental Management, Inc. [PRC] 1995)." The statement that "...0.50 millimeter [mm]..." ordnance was handled at the shipyard is questionable, in that 0.50 mm is very small (it is the

diameter of the lead used in many mechanical pencils today). It appears that the ordnance in question is very likely the 0.50 caliber (not millimeter) ammunition used by the Browning heavy machine guns. Please review the noted sentence and correct it as necessary.

Response: The sentence will be revised to read, "Munitions handled at the southern end of the shipyard included bulk explosives such as black powder, smokeless powder, ammonium picrate, TNT, RDX, cyclotetramethylene tetranitramine, gun ammunition (including 5-, 8-, 12-, 14-, and 16-inch projectiles), pyrotechnics, propellants, missiles, small caliber ammunition, demolition materials, and fragmentation devices (including grenades and cannonballs) (PRC Environmental Management, Inc. [PRC] 1995)."

3. **Comment:** Section 2.2 Site History, Page 5: The fourth paragraph states that "no ESQD arcs were established in the areas of the Fleet Reserve Pier on Berths 1 and 2 ..." Please identify the areas on Mare Island where ESQD arcs have been established.

Response: A map of the ESQD arcs will be included in the Draft Final SSI.

4. **Comment:** Section 4.1.1, Fleet Reserve Pier, Page 12: The second paragraph of this section refers to "...79 rounds of 0.045 CAL BLANK M32..." As no such caliber of ammunition (0.045 caliber, which is approximately 1.15 millimeters in diameter) has ever been standardized by the United States military, it would appear that this is a reference to the 0.45 caliber line throwing cartridge, M32. Please correct this listing.

Response: The sentence in question is a direct quote from an ammunition memorandum for the Commanding Officer of the *USS Besugo* to the Commander of the Pacific Reserve Fleet and can not be altered. After this statement in Section 4.1.1 on page 12, a sentence will be added to the paragraph stating, "The correspondence may be referring to the 0.45 caliber line throwing cartridge, M32, because no such caliber of ammunition has ever been standardized by the United States military."

REFERENCES

- Dames & Moore. 1987. "Operation and Maintenance Plan, Dredge Spoil Disposal Ponds Operations, NAVSHIPYD Mare Island, Vallejo, California." October.
- Harding-Lawson Associates. 1976. "Maintenance Dredging and Land Disposal Site Improvements, Mare Island Naval Shipyard, Vallejo, California." October 12.
- Lennar Mare Island. 2007. Personal communication between Neil Silar of Lennar Mare Island and Dennis Kelly regarding the future land use of the Fleet Reserve Pier and Berths 1 and 2. June 12.
- Roy F. Weston, Inc. 2001. "Unexploded Ordnance Intrusive Investigation, Dredge Spoils Ponds, Mare Island, Vallejo, California." December 7.
- Supervisor of Shipbuilding, Conversion, and Repair, Portsmouth, Virginia (SSPORTS). 1997. "Unexploded Ordnance Site Investigation of Mare Island Naval Shipyard, Final Summary Report." April 28.
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