N00217.AR.005483
NS HUNTERS POINT
5090.3a

RESPONSE TO COMMENTS REGARDING THE DRAFT PIER DEMOLITION WORK PLAN NS HUNTERS POINT CA

10/19/2010

ERS JOINT VENTURE

RESPONSE TO COMMENTS – Draft Pier Demolition Work Plan, Hunters Point Shipyard, San Francisco, California		**PROJECT LEADER:** Tim Yu, ERS JV
COMMENTS BY: California Department of Public Health (Larry Morgan)	PHONE: (916) 324-4804	REVIEW DATE: 10/19/2010
PROJECT TITLE AND LOCATION: Pier Radiological Survey and Removal, Hunters Point Shipyard, San Francisco, California **CONTRACT:** Environmental Multiple Awards Contract, Contract Number N62473-07-D-3219, Task Order 0004		TYPE OF REVIEW: Technical

NO.	REFERENCE	REVIEW COMMENT	RESPONSE
1.	General	It is unclear specifically the boundaries or areas that the Navy is seeking unrestricted for demolitions structures for the Submarine Piers Band C, Submarine Quay Well (Pier C Berth 55, Berth 61, Berth 64 and Wharf No. two. Please describe the specific areas or boundaries for each demolished structures that the Navy is seeking unrestricted release.	Figure 1-2 has been updated to include the exact areas (denoted with hash marks) where demolition work will be performed under this task order.
2.	General	CDPH-EMB will also need confirmation soil samples from the soil dredged from the bottom of the bay around the piers and sediment from the storm drains.	The scope of the demolition work does not include dredging or removal of sediment from the Bay, however, the bay bottom sediments around the piers will be sampled as part of the upcoming Parcel F data gap investigation. Sediment from the storm drains will be sampled and analyzed by the on-site lab for disposal in a manner consistent with the methods described in Section 7.0 of the Final Project Workplan Base-Wide Storm Drain and Sanitary Sewer Removal dated May 2008. The results of these samples will be included in the RACR and will be made available to CDPH-EMB.
3.	Page 2-2, Section 2.4.1 "Submarines Piers Band C and page 2-3 "Wooden Portion of Submarine Quay Wall"	Has the Navy investigated whether Buildings 129, 132 Submarine Pier Band C, Building 133 and Temporary Shed in Pier C Berth 55 radiological impacted?	Table 8-1 in the Historical Radiological Assessment (HRA) provides a list of the impacted buildings at HPS, and these buildings (Buildings 129, 132 Submarine Pier Band C, Building 133 and the Temporary Shed in Pier C Berth 55) are not on this list. However, since these buildings will be deconstructed as a part of the wooden piers that are potentially impacted, , the building materials will be subjected to the same radioactive commodities screening as the piers in accordance with the Work Plan (WP).
4.	Pages 2-7, Section 2.9, "Recent Radiological Investigations and Surveys"	states The Submarines Piers Band C (Berths 55-58), Dry Docks 5-7 (Berths 61 and 64), quay wall, Parcel F Shoreline/Concrete Quay Wall and associated utility closure areas are all located within potentially radiologically	The investigations that led to each area being classified as potentially radiologically contaminated or impacted are documented in the HRA. The HRA does not call out the piers and berths as radiologically contaminated. The HRA does note that the piers and berths are potentially

		impacted areas. However, there is no list of radionuclide of concern and no description conceptual model for each structure to be demolished. This section should summarize the relevant findings that led to each pier being classified as contaminated. At the very least, each pier should be listed along with its related contamination level and the isotopes of concern.	radiologically impacted because of the potential for deck markers or other similar markers to be on the piers.
5.	Page 5-8, Section 5.11, "'As Found' Radiological Survey at North Pier"	states that a pre-demolition survey will be performed on the North Pier conducted with a M251 Radiological Scanning System or equivalent that will document external dose rates. It is recommended that the Navy collect soil samples to determine soil concentration as a background and survey the radiological controlled area with a detector that measures surface activity since background is based on surface activity (cpm) and soil concentration (pci/g) since the release criteria is based on soil concentration and surface activity. Also the SAP Worksheet #15 page 35 of 39 Appendix D lists Radiological Reference Limits as soil concentration and surface activity.	Page 5-8, Section 5.11 of WP has been revised to read "The M251 survey will document the surface and near-surface activity in units of counts/sec." The scope of work includes the demolition of wooden pier structures. There is no dredging and disposal of soil in this projects scope of work. Therefore, the establishment of background radiological soil concentrations will not be needed. SAP Worksheet #15 lists volumetric concentrations for comparison with volumetric sample results, i.e. 500cc of wood material. Worksheet #15 in SAP lists surface activity release limits for free release of equipment.
6.	Page 5-10, Section 5-12, "Radiological Control Area"	which makes up a section of the North Pier will be considered impacted after surveying the demolished debris. A Class 1 survey may be required to release the North Pier area within the radiological control area.	As stated in Section 7.3 "Radiological Survey", a post demolition ("as-left") radiation survey of the RCA will be conducted after completion of work in the same manner as the "as found" survey to document that background radiation levels have not measurably changed from the pre work levels. The survey will be conducted with the M251 radiological scanning system (or equivalent). It is not the intention of this "as-left" survey to free release the North Pier area as free release of the North Pier is not in the scope of work. The survey will only document the "as-left" conditions of the North Pier.
7.	Page 6-7, Section 6.9.2 Determination of Radiological Screening Criteria	states, "MACTEC will perform a survey using a Ludlum Model 193-6 micro R detector or equivalent", per MARSSIM guidelines. It is recommended that the Navy conduct surveys with a radiation detector that measure surface activity (cpm) to measure adequately and quantify a surface activity since the release criteria is based on surface activity. The radiological screening criteria per MARSSIM are based on DCGL (Derive Concentration Guideline Levels) which is in units for	According to the Revised Final Basewide Radiological Removal Action Memorandum, it is unlikely that the piers have been radiologically impacted. As noted in response to comment #4 above, the HRA does not call out the piers and berths as radiologically contaminated. The HRA does note that the piers and berths are potentially radiologically impacted because of the potential for deck markers or other similar markers to be on the piers. Based on this, the screening process is to identify radioactive commodities. Therefore, the decision to use the micro-R detectors was made to determine whether the pier

		surface activity (dpm/Cm2) or soil concentration (pCi/g).	materials are radiologically impacted as compared to the background exposure rate levels. The micro-R detectors will be measuring the exposure rate produced by gamma emissions originating from the pier material. As noted in Section 6.9.2, if the pier materials are above the screening level of background exposure rate plus 3-sigma, further laboratory analysis will be performed by the DON's base-wide radiological contractor to determine the exact concentrations and types of radiological contaminants. In addition to the radiological screening, the contractor will be collecting at least 30 material samples which will be analyzed in a laboratory to determine the baseline bulk material radiological concentrations to justify the level/extent of personnel radiological controls required during the demolition activities.
8.	Page 6-7, Section 6.9.3, "Radiological Screening", paragraph 1	states that only a small portion of the North Pier will be screened for radiological contamination. What isotopes are expected to be present, if any? What MARSSIM release limits will be used for these surveys? Why is only a small portion of the pier being sampled? How does this small section of the pier fulfill the requirements of MARSSIM?	As noted in Response to Comment 6, it is not the intention of the "as-is" and "as-left" surveys to free release the North Pier area as free release of the North Pier is not in the scope of work. The survey will only document the "as-is" and "as-left" conditions of the North Pier. As stated in Section 5.11, the North Pier will be surveyed with the M251 for radiological contamination to provide a background for comparison as part of the 'as is' condition of the North Pier prior to material staging as part of pier demolition activities. Section 6.9.3 addresses radiologically screening the demolished pier material that will be brought to the designated screening and segregation areas on the North Pier. Figure 1-3 (referenced in Section 6.9.3) shows the area of the Radiological Control Area, which comprises the entire North Pier, that will be surveyed to document the 'as-is' and 'as-left' conditions of the North Pier. No MARSSIM release limits will be used. It is not the intention of this survey to fulfill MARSSIM free release requirements.
9.	Page 6-7, Section 6.9.3 "Radiological Screening"	states that once the debris has been spread, the entire debris pile will be hand screened by waving a Ludlum Model 193-6 micro-R detector. The micro-R detector only measure exposure units and not surface activity. Per MARSSIM radiological screening is based on surface activity (dpm/cm2). It is recommended to use a radiological detector that measures surface contamination.	See response to Comment 7.
10.	Page 7-10, Section 7.3, "Radiological Survey"	states that after demolition of the pier a radiological survey will be performed. What contaminates will be expected, if	As noted above, pier berths discussed in the WP have been identified as radiologically impacted, not radiologically contaminated. Surveys have

		any? And what MARSSIM contamination limits will be used? Also, all piers are stated as being contaminated, so what reasonable area can be surveyed to provide a sufficient background to pier surveys?	not been performed on the piers or berths to be demolished due to their poor condition however other berths located in the Gun Mole Pier area (not part of this WP) had Cs-137 levels slightly exceeding established limits. The piers have been only identified as potentially radiologically impacted. No MARSSIM limits will be used during radiological survey of the pier material. Surface release limits listed in Worksheet 15 in the SAP are applicable criteria for free release of equipment. Background reference material will be obtained from the center portion of Wharf #2 (not touching the water) as the internal portions of the wharf are not likely to have been exposed to radiological contamination. Since these structures may have been used for loading and unloading only the outer edges of these structures are considered to be potentially radiologically impacted. However, from a safety and structural standpoint, the outer edges of the structures cannot be removed without removal of the entire wooden structure. Figure 8.3.3.2, page 316, of the Historical Radiological Assessment (NAVSEA 2004) shows that the only impacted site with designation is the building located on Wharf 2. Section 8.3.7 (page 495) of the HRA further explains that underwater areas that encompass the property line of the shipyard and waterways under ships' docking and berthing areas may have been radiologically impacted by OPERATION CROSSRAODS operations. Therefore, the portion of Wharf 2 that is not underwater is not likely to be impacted. Reference background material (mostly wood) will be spread to a thickness equivalent to approximately one layer, which is equivalent to not thicker than the thickest single piece of pier material. Once the debris has been spread, the entire debris pile will be hand scanned by waving a Ludlum Model 193-6 micro-R detector over the up-facing exposed surfaces as described in the "Screening of Demolition Debris" SOP-005. Static measurements of the material will also be made with the micro-R detectors to establish a mean exposure rate.
11.	Page 7-11, Section 7.5, first paragraph	states the scoping survey will identify radiological anomalies that may be present on the surface area such that the radiological data collected will support DON's radiological final status goal. Second paragraph states that ERS-JV will develop a Task Specific Plan. It would be prudent to write a remedial	The term "as left" will be deleted from Section 7.5, paragraph 3. Section 7.5 has been revised to state, "ERS will prepare a Final Status Survey Report documenting the radiological conditions and compliance with the applicable clean closure and radiological free release requirements for the HPS." As noted in Response to Comment 6 and 8, it is

		investigation plan and removal action completion report as stated in section 7-4. It is also recommended that the Navy follow MARSSIM guidelines Class 1 Final Status Survey if the demolition structures are impacted and selecting the number of media and scans for areas seeking free release. Since the Navy states in paragraph 3 that the Final Status Survey report will document "as left radiological conditions" the Radiological Health Branch of the California Department of Public Health may require a radiological license.	not the intention of the "as-is" and "as-left" surveys to free release the North Pier area as free release of the North Pier is not in the scope of work. The survey will only document the "as-is" and "as-left" conditions of the North Pier.
12	Appendix A, "Draft Radioactive Materials Management Plan, Pier Radiological Surveys and Removal", Page 4, "Demolition Activities", Second paragraph	states, "All Debris will be spread one layer thick within the designated North Pier screening area and expose surface areas will be hand screened using a Ludlum Model 196-3 micro-R detector or similar detector". How will the Ludlum Model 196-3 micro-R detector be capable of measuring surface and subsurface contamination for the one layer thickness? How thick is a one layer?	The Ludlum Model 196-3 micro-R detector (or equivalent) will be measuring the exposure rate produced by gamma emissions originating from the pier material. One layer of material is not dimensionally specific but will be no thicker than the thickest single piece of debris for each layer. For instance, if the thickest single piece of debris is an 8 inch by 8 inch piece of decking, the entire layer to be surveyed will be no thicker than 8 inches. The thickest layer anticipated would be that of a wood piling, which is anticipated to be approximately 12 – 14 inches in thickness. It is included as a basic condition of the material lay down process such that the up-facing surfaces of the debris are available for measurement. In other words, the debris will be laid out in the scanning area such that it is not substantially "shielded" or obscured from measurement by other pieces of debris overlying it.
13	Appendix A, Attachment A, "Radiological Screening of Demolition Debris"	it is recommended to include a scan with a radiological instrument that measures surface contamination (cpm/dpm2). It also follows that the procedure detailed Section 5.1.1 Table 5-2 Criteria for Determining Radioactive Material Page 5 of 10 "Control of Radioactive Materials".	See Response to Comment 7.
14	Appendix D, Draft Sampling and Analysis Plan Worksheet Number 17 "Sampling Design and Rationale" Page 54 of 93	As Found Radiological Scan Survey and Background Reference Survey should include a radiological detector that measures for surface contamination (cpm/dpm2) per MARSSIM release criteria is based on surface contamination.	Characterization of the reference background material will be accomplished using the same detectors that will be used to screen the potentially-impacted pier material. Reference background material will be spread to a thickness equivalent to approximately one layer. Once the debris has been spread, the entire debris pile will be hand scanned by waving a Ludlum Model 193-6 micro-R detector (or equivalent) over all the exposed surfaces as described in the "Screening of Demolition Debris" SOP-005. Static measurements of the material will also be made

			with the micro-R detectors to establish a mean exposure rate. MARSSIM is a statistically based analytical approach to perform radiological measurements of the "as left" radiological conditions used to demonstrate compliance with decommissioning criteria. The results from the Ludlum Model 193-6 micro-R detector can be incorporated within the MARSSIM framework.
End of comments.			

Distribution:

Ms. Jacqueline Dunn, Remedial Project Manager, NAVFAC SW
Project File