



DEPARTMENT OF THE NAVY
SOUTHWEST DIVISION
NAVAL FACILITIES ENGINEERING COMMAND
1220 PACIFIC HIGHWAY
SAN DIEGO, CA 92132-5190

M60050.000552
MCAS EL TORO
SSIC # 5090.3

5090
Ser 06CC.DG/865
20 October, 2000

Mr. John Broderick
California Regional Water Quality Control Board
Santa Anna Region
3737 Main Street, Suite 500
Riverside, CA 92501-3339

Subj: RESPONSE TO COMMENTS FOR THE DRAFT PROJECT WORK PLAN, PRE- DESIGN
ACTIVITIES AT INSTALATION RESTORATION SITES 3 AND 5, AND DEBRIS REMOVAL
FROM SITE 1, MARINE CORPS AIR STATION (MCAS), EL TORO

Dear BCT:

On August 8, 2000, we submitted the subject document for BCT review and comment. Comments were then received between 23 August 2000 and 11 September 2000. On 27 September 2000, we presented a status report for this project at the BRAC Cleanup Team (BCT) meeting, which was held at MCAS El Toro. To facilitate the radiological survey, it was agreed to at this meeting to split the work into three separate projects:

1. Surface debris removal and demolition at Sites 1 and 3
2. Pre-design trenching activities at Sites 3 and 5
3. Removal/disposal of SVE pipes located at Site 24

Enclosed are the Navy's responses to your comments on the subject work plan. However, because issues remain between the Navy and U.S. EPA regarding trench locations at Sites 3 and 5, those specific comments will be addressed at a later date. We believe that we have addressed all comments related to the surface debris removal and demolition at Sites 1 and 3, and we are requesting your concurrence on these responses. Once we have your concurrence, we will proceed with finalizing the work plan for the surface debris removal and demolition at Sites 1 and 3. Again, the surface debris removal and demolition at Sites 1 and 3 is needed to facilitate the pending radiological assessment.

A revised work plan for the pre-design trenching activities at Sites 3 and 5 will not be prepared until we have resolved all of EPA's comments, prepared our response to comments and received your concurrence on those responses. Furthermore, the work plan for the removal/disposal of SVE pipes located at Site 24 will be postponed until the SVE system is formally deactivated and closed.

If possible, we are requesting that you provide your concurrence with the attached responses within 7 calendar days. If you have any questions or need additional information, please call me at (619) 532-0784.

Sincerely,

DEAN GOULD
Base Realignment and Closure
Environmental Coordinator
By direction of the Commander

Enclosure: 1. Draft Project Work Plan response to Comments



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Ms. Triss Chesney
California Environmental Protection Agency
Department of Toxic Substances Control
5796 Corporate Avenue
Cypress, CA 90630-4700

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Mr. Glenn R. Kistner
U.S. Environmental Protection Agency
Region IX, (SFD 8-2)
Hazardous Waste Management Division
75 Hawthorne Street
San Francisco, CA 94105-3901

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Copy to: (w/encl)
Mr. Rob Richardson, Interim Executive Director, MCAS LRA
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Manager, Closure and Technical Services Section
California Integrated Waste Management Board
8800 Cal Center Drive
Sacramento, CA 95826

Foster Wheeler Environmental Corporation
Attn: Mr. Hamlet H. Hamparsumian
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Ms. Julie Kim
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DTSC, Industrial Hygiene and Field Safety Section
1011 N. Grandview Avenue
Glendale, CA 91201

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AND DEBRIS DISPOSAL FROM SITE 1
MARINE CORPS AIR STATION, EL TORO, CALIFORNIA**

DCN: FWSD-RAC-01-0019

October 6, 2000

Comments by: Glenn Kistner, US Environmental Protection Agency

Dated: August 23, 2000

Response by: Hamlet H. Hamparsumian, Foster Wheeler Environmental Corporation, and Roger Margotto (PESM), Foster Wheeler Environmental Corporation

Number	Comment	Response
	General Comments	
1	<p>The overall process as described on Section 4.6 (Site 1 (EOD Range) Debris Segregation and Disposal Activities) does not address the possible presence of hazardous UXO on the site that should not be disturbed or moved. It is a common EOD practice to consider all ordnance items found on an EOD range to be in the armed condition until inspection and analysis proves otherwise. This is done because subject items are most likely kickouts that were ejected from a previous disposal detonation or burn and did not function. As a result of the forces that ejected these items from the detonation/burn, the fuzing/firing mechanisms of the items may have fully or partially armed. Should these items contain cocked striker mechanisms, piezoelectric fuzing, or any other mechanisms that make movement of the item hazardous, a process for dealing with them must be identified. In addition, personnel should be advised of the possible presence of such items in the scrap and dirt and that no movement should be initiated until it has been determined that no such items are present. Please revise section 4.6 to include procedures for identifying and dealing with UXO items that are too hazardous to be moved. These procedures must require that all UXO found on the range be considered unsafe to move or disturb until a properly trained UXO specialist determines that movement is permitted.</p>	<p>The entire Section 4.6 has been revised to read: "The activities at Site 1 involve disposal of range debris which is currently stockpiled at the northwestern area of the site and other scattered metallic debris stockpiled midway and along the west side of the main dirt access road within the site. The stockpiled range debris contains car parts, ordnance related materials, corrugated metal sheets, etc. There is a possibility of encountering unexploded ordnance at this site.</p> <p>A full-time Foster Wheeler Environmental unexploded ordnance (UXO) supervisor and technician will be at this site during the field activities to assist in identifying and segregating potential UXO material. At the request of the Navy, a U.S. Marines UXO representative will also be at the site to assist in determining the UXO material. The U.S. Marines will be responsible for the disposal of all UXO material.</p> <p>The stockpiled metallic debris will be examined by qualified UXO personnel to ascertain if UXO is present. When a potential ordnance item is discovered it will be examined by UXO personnel and determined if explosive or pyrotechnic fillers are present. If the UXO is fuzed it will be considered in an armed condition, and will not be moved. This is due to the fact that these ordnance items were involved in possible detonations, which could have provided sufficient forces to arm the fuzing without providing normal identification characteristics (such as the normal scoring of rotating bands on projectiles when fired). If the fuzing is not installed, the UXO will be set aside in a designated staging area for USMC EOD handling. If the condition of an ordnance item cannot be determined visually, then the item will be treated as UXO, considered armed and left in place for USMC EOD.</p>

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Number	Comment	Response
1	(Continued)	<p>At first, all large size scrap metal will be picked up one piece at a time, and inspected by the UXO specialists. Any UXO material encountered will be visually examined and processed as identified above. Each piece of metallic scrap will be thoroughly examined to ensure no UXO or energetic materials are contained within the scrap materials. This will include the opening of any voids, which can not be visually inspected, to ensure no energetic materials inadvertently leave the site. Ordnance related materials such as practice bombs and bomb casings, will be thoroughly examined to ensure no energetic materials remain.</p> <p>A radiological screening of all scrap metallic and miscellaneous debris will be performed during the UXO screening and inspection process at Site 1. An Eberline SPA-3 sodium iodide (NaI) scintillation detector and an Eberline HP-260 pancake Geiger-Mueller (GM) Detector or an approved equivalent will be used for radiological screening. An ambient air level will be established at the beginning of the day by taking measurements with the SPA-3 at a height of 1 meter, with the detector facing the soil. For the GM detector, the ambient air level will be established by taking measurements with the probe facing upward at a height of 1 meter. The daily ambient level will be determined and documented on a radiological survey sheet for each survey instrument. If, after loose soil and dirt have been brushed from the surface(s) of the metallic debris, the debris measurements exceed 2 times the ambient levels, the material will be segregated and placed in containers or wrapped to protect it from the weather and to prevent personnel from coming in contact with the debris. The ultimate disposition of this segregated material will be determined after consultation with personnel from the Navy Radiological Affairs Support Office (RASO).</p> <p>Any containers or drums encountered in the metallic debris stockpile will be visually inspected to determine whether or not they are empty, and safe to move. If a drum/container can not be confirmed that it is empty, it will not be removed or</p>

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1	(Continued)	<p>disposed of as part of the field activities described in this Work Plan. Furthermore, no buried drum/container will be excavated. The Navy RPM will immediately be notified if any drum/container is found which can not be moved.</p> <p>All (non-UXO or non-radioactive) scrap metal and miscellaneous debris will be transferred and placed in sealed container(s), certified by a Foster Wheeler Environmental UXO specialist that it does not contain UXO materials, and hauled off-site to an approved facility for disposal, unless directed otherwise by the Navy. All identified UXO material and any questionable material will be stockpiled within the site at a location approved by the Navy. UXO personnel will conduct a surface sweep of the work area to ensure no UXO is present in the work area. Any UXO discovered during the surface sweep will be left in place and flagged for USMC EOD specialists. The work area, which includes the equipment laydown area, the existing stockpile, and the areas where the containers will be placed will be staked and cordoned with caution tape. Personnel working at Site 1 will be limited to work within the cordoned area and will stay on the dirt road, and to and from the stockpile area only.</p> <p>It is estimated that approximately 50 tons of scrap metallic debris may be generated from the activities at this site.</p> <p>Any soil associated with the metallic debris stockpile remaining at Site 1 will be addressed in the Phase II Remedial Investigation."</p> <p>Section 6.2.1 describes off-range UXO waste management. Section 6.2.1 states: "Ordnance related materials such as case fragments, fins, etc., will be visually inspected and certified by a minimum of two UXO qualified technicians to ensure no energetic materials remain in or on the metal casings, and then containerized for off-site disposal at a CERCLA-approved facility. This range residue for off-site disposal will be controlled, and provided secure storage on-site and provided to the disposal facility in sealed certified containers.</p>

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2	<p>The proposed trench spacing does not adequately evaluate the potential location and perimeter of the landfills for Site 3 and Site 5. Investigation locations spaced 250 feet apart at Site 3 are potentially too far apart. Six trenches for investigation of approximately 2500 feet of landfill perimeter at Site 5 seem to be inadequate. Experience with other landfill perimeter evaluations has shown that waste limits must be investigated on a maximum 50-spacing, particularly around landfill corners or curves and nearby structures or physical features, to observe waste placed in any "fingers" or similar small features. A 50-foot spacing is recommended for most landfills where records are not available specifying the locations where waste was placed. This spacing is related to the approximate dimension of four truck widths, observed as a minimum operational effort in a typical landfill when waste is placed with mechanized equipment. Efficiencies may be gained by phasing the investigations for 200-foot spaced initial trenches, which may be elongated to chase the waste edge as necessary, then secondary trenches at the 50-foot final spacing. This phased method allows for much more exact location of the secondary trenches, limiting length and disturbed waste, while being definitive in the evaluation. Please revise the work plan to provide an adequate waste deliniation plan that includes trenching at no more than 50-foot intervals or show reason why the proposed approach will be adequate to delineate the waste at the site.</p>	<p>The final trench spacing is still under consideration and is yet to be resolved. Additional discussions between the DON and the USEPA are planned in order to reach a decision. This comment will be addressed following these discussions.</p>
3	<p>No criterion for waste identification is provided in the work plan. While some generalized description about suspect material is included in the trenching description, no criterion is given about composition, thickness, frequency, or consistency. The landfills contain wastes, which are reported to have been burned; therefore, identification methods for ash within soil materials should be described. Experience with landfill investigations has shown that significant interpretation is required to assess whether localized "lenses" are thin, discontinuous layers of the main waste body or simply windblown litter or other small waste volume that was covered separately from the main landfill.</p>	<p>According to the Remedial Investigation (RI) conducted by the Navy at Sites 3 and 5, the overall goal of the RI was to collect sufficient data to support decisions regarding the need for and scope of future remediation at these sites based on the USEPA presumptive remedies for municipal landfills (USEPA, 1993) for closure of landfills (Bechtel 1997a, 1997b). The objective of the presumptive remedies is to use past experience to streamline investigations and expedite selection of cleanup actions. The use of municipal landfill presumptive remedies at Sites 3 and 5 was justified because the wastes present at these landfills are a large-volume, heterogeneous mixture of municipal waste (e.g., non-toxic household, construction, and landscape debris),</p>

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3	(Continued)	<p>industrial waste and hazardous waste (including fuel hydrocarbons, solvents, pesticides, and metals).</p> <p>By considering presumptive remedies the data needed to support risk management decisions for Sites 3 and 5 were defined, and data quality objective decisions were developed. The decisions were used to identify data types and how these data are used to support development of physical characteristics of the sites, nature and extent of contamination, fate and transport of contaminants, and risk assessment.</p> <p>Due to the heterogeneous nature of the landfill waste and the use of presumptive remedies, a full characterization of the landfill contents was not within the scope of the RI. Instead the RI focused on addressing the nature and extent of contamination in the media surrounding the landfills. This was accomplished by investigating the physical extent of the landfill and taking samples from the air, soil gas, soil, groundwater, sediments, and surface water.</p> <p>The vertical extent of the landfill was estimated based on geophysical surveys, employee interviews, and soil borings. Sampling directly through the landfill material was avoided. The lateral extent of the landfills were assessed from:</p> <ul style="list-style-type: none"> • maps and blue prints, • review of previous investigations, • surface geophysics, • soil borings, • aerial photograph review, and • interviews with MCAS El Toro personnel.

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3	(Continued)	<p>A Certified Engineering Geologist or a Registered Geologist, or a geologist working under the supervision of a CEG or a RG will direct all trenching activities, conduct trench logging in the field and prepare the logs for presentation.</p> <p>The field geologist will identify and log the location and depth of disturbed and undisturbed native material, the thickness of disturbed native material, the location and depth of the contact surfaces between various identified lenses of soil and waste material. The field geologist will also identify lenses of 1-foot or greater of ash by inspecting the excavation for ash or burned material. The field geologist will inspect the excavated material for presence of household waste (refuse, rubbish, paper, glass, plastics, etc.) industrial waste (cans, containers, demolition material such as brick, concrete, asphalt, wood, metals, gypsum, etc.), and hazardous waste (petroleum contaminated soils, etc.). If lenses of localized waste are identified, attempts will be made to assess whether these are thin, discontinuous layers of the main body of the landfill by pot holing around the identified lenses.</p> <p>The criteria for distinguishing between wind blown litter and waste would be 1-foot or thicker layers of waste with 20 percent (20%) or greater refuse material mixed with soil by volume. The person conducting the observation and logging will also record and document the makeup and approximate percentages of various waste streams (by volume) identified during the trench excavation.</p>
4	Please revise the work plan to provide an indication of what the waste delineation data will be used for. If the Navy intends to excavate all of the waste at some point in the future, a detailed understanding of the extent of waste is probably not required at this time. If the Navy intends to cover the waste, then a detailed understanding of the extent of the waste is required and it should be obtained during the activities to be conducted under this work plan.	The object and purpose of the trenching is to confirm the approximate limits of the landfill delineated in the RI. The trenching information and data are intended to be used for the design of the landfill cap. The activities to be conducted under this workplan will therefore produce the necessary additional data needed to achieve this goal.

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	Specific Comments	
1	Section 3.1.1.1 describes anomalies determined by the geophysical investigations for Site 3. No anomalies are shown on Figure 4. Please revise Figure 4 to show all anomalies found.	This issue is still under consideration and is yet to be resolved. Additional discussions between the DON and the USEPA are planned in order to reach a decision. This comment will be addressed following these discussions.
2	Section 3.1.1.1 contains a description of a feature interpreted in the geophysical investigations for Site 5 as a buried utility. However, this feature is not shown on Figure 5, the Site 5 site plan. Please revise Figure 5 to include the feature interpreted as a buried utility.	This issue is still under consideration and is yet to be resolved. Additional discussions between the DON and the USEPA are planned in order to reach a decision. This comment will be addressed following these discussions.
3	Section 3.1.2.1 and Section 3.1.2.2 describe air sampling and soil gas surveys performed at Site 3 and Site 5, respectively, that reported several different VOCs. Many of these VOCs are not addressed in the health and safety plan, nor are they described as potential chemical hazards for the trenching operation. Please revise the Work plan and the health and safety plan to address all of the reported VOCs.	The Foster Wheeler Environmental CIH did not include many of the VOCs in the Health and Safety Plan because they were found in soil gases at levels well below those, which would have presented occupational exposure risks. In an outdoor environment, it is unlikely that these VOCs or the other VOCs given as representative types of VOCs would ever attain concentrations 50% or greater than the PEL. Rather the selected VOCs mentioned in the plan were chosen either because they had some of the higher concentrations in the surveys or they were chosen because they are known to have some of the lowest PELs, and, therefore, helped establish the criteria for action in the health and safety monitoring program.
4	Section 3.2 describes the project approach, including the proposed trench spacing. As described, the trench explorations are too far apart. See General Comment 2. Please revise text and approach for trench exploration spacing of 50 feet or less.	The final trench spacing is still under consideration and is yet to be resolved. Additional discussions between the DON and the USEPA are planned in order to reach a decision. This comment will be addressed following these discussions.
5	Section 3.2, Paragraph 7 contains description of the trench explorations as having a maximum length of 20 feet. This description does not match what is shown on the site plans, Figure 4 and Figure 6. Also, 20 feet is both too short and too restrictive for trench lengths in a landfill waste investigation. Experience has shown that a 20-foot length may significantly misinterpret the waste occurrence at a landfill, judging many wastes to be	The text in Section 3.2 has been revised, as follows: For efficiency, expedience, and cost effectiveness the following approach is proposed for trenching, to confirm the limits of the landfills at Sites 3 and 5. At each proposed location, several short (10- to 20-foot long) trenches will be excavated in stages, with

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5	<p>(Continued)</p> <p>either wholly continuous or completely absent, depending on the observation. Please revise the text to accommodate whatever trench length is necessary to determine an accurate assessment of waste occurrence. It is recommended that the trenches be continued until at least 40 feet of undisturbed soil outboard of the waste footprint have been uncovered. This length of undisturbed soil is recommended as the Navy cannot be sure of the distance between disposal trenches at the landfill. Additionally, please revise Figures 4 and 6 to accurately match the text description.</p>	<p>10- to 15-foot spacing in between, along a straight line, in both direction away and/or towards the landfill from the estimated boundary line. This will reduce the amount of trenching and excavation compared to long continuous trenches. Also, by limiting the spacing between the short trenches to no more than 10- to 15-foot, the chances for missing any sizable or significant localized buried waste or potential landfill trenches would be minimized.</p> <p>The exploratory trenches will be centered lengthwise and perpendicular to the estimated boundary line or limits of the landfill. One half of the trench will be excavated outwards, and the other half inward from the estimated limit line. If during the initial trench excavation, landfill waste material is encountered, outward trenching will continue until the edge of the waste/undisturbed native material is encountered or a minimum of 20 feet which ever is less. The excavation of the initial trench will be terminated at this point. Trenching will resume 10 feet away from the termination point of the initial trench, along the line of the trench, and outward of the landfill, in order to locate the edge of the waste or undisturbed native material. The second trench will be excavated until the edge of the waste/undisturbed native material is encountered or a minimum of 10 feet which ever is less. If no waste is encountered in the second trench, the excavation of the second trench will proceed in the opposite direction and towards the initial trench, until the edge of the refuse encountered in the initial trench is identified. This process will continue if refuse/disturbed native material is discovered in the second trench.</p> <p>The trenches will be excavated to a minimum depth of 6 feet or if landfill waste is encountered. If landfill material is encountered, vertical trench excavation will continue for at least 1-foot deep, through the waste in order to determine whether the waste is part of the continuous body of the landfill material or part of localized thin lenses. However, if landfill waste material is not encountered when excavating to a depth of 6 feet below</p>

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5	(Continued)	<p>ground surface (bgs), and the excavated material is identified as disturbed native soil, the vertical excavation of the trench will continue until undisturbed native soil is encountered or to a minimum depth of 10 feet bgs, which ever is less. It is assumed that the landfill cover, which consist of native soils, might be up to 7 feet thick in some areas, and that it is highly unlikely that waste could have been placed below 10 feet of cover material.</p> <p>If following the initial and second outward trenching, landfill-waste is not discovered, a second trench will be placed inward of the estimated landfill boundary. The inward secondary trench will resume 10 feet away from the initial trench, along the line of the trench, and toward the interior of the landfill, in order to locate the edge of the waste. The second trench will be excavated until waste material is encountered or a minimum of 10 feet which ever is less. If no waste is encountered in the second trench, the excavation of the second trench will cease and a third trench will be excavated 10 feet away from the second trench, inwards towards the landfill interior and the process will continue until the edge of the refuse is identified.</p> <p>Figures 4 and 6 will be revised as appropriate.</p>
6	Section 4.5 does not address the buried utility interpreted from the geophysical investigation of Site 5. Please revise the text to include a description of the anomaly and its location.	This issue is still under consideration and is yet to be resolved. Additional discussions between the DON and the USEPA are planned in order to reach a decision. This comment will be addressed following these discussions.
7	Section 4.6, page 4-3, second sub-paragraph, fourth sentence: Large scrap metal items should be visually inspected prior to movement to ensure that they are not themselves UXO items or to ensure that no UXO items are concealed within them such as might happen if an ordnance item were kicked out into the large piece of scrap metal. If items that are too dangerous to be move are discovered, they should not be "set aside" or "segregated", but should be processed using the methodology developed in response to General Comment 1.	Please refer to our response to USEPA's General Comment #1.

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DRAFT PROJECT WORK PLAN
PRE-DESIGN ACTIVITIES AT INSTALLATION RESTORATION SITES 3 AND 5,
AND DEBRIS DISPOSAL FROM SITE 1
MARINE CORPS AIR STATION, EL TORO, CALIFORNIA**

DCN: FWSD-RAC-01-0019

October 6, 2000

Comments by: Glenn Kistner, US Environmental Protection Agency

Dated: August 23, 2000

Response by: Hamlet H. Hamparsumian, Foster Wheeler Environmental Corporation, and Roger Margotto (PESM), Foster Wheeler Environmental Corporation

Number	Comment	Response
7	(Continued) Please revise this sentence to reflect the process change developed in response to general Comment 1.	
8	Section 4.6, page 4-3, second sub-paragraph, fifth sentence: UXO material encountered should not be set aside until it has been determined that the items are safe to move. Please revise this sentence to reflect the process change developed in response to general Comment 1.	Please refer to our response to USEPA's General Comment #1.
9	Section 4.6, page 4-3, second sub-paragraph, ninth and twelfth sentences: Any UXO items that remain in the dirt will have been subjected to considerable force by the digging, moving and shaking of the excavation and subsequent screening. However, the potential for detonation of the hazardous ordnance types described in General Comment 1 remains if these items are present in the dirt. These items should be processed using the methodology developed in response to General Comment 1. Please revise this sentence to reflect the process change developed in response to general Comment 1.	The Work Plan no longer calls for moving, shaking and screening the soil. Please refer to our response to USEPA's General Comment #1.
10	Section 4.6, page 4-4, seventh sub-paragraph, ninth and twelfth sentences: There is a potential for encountering drums and/or containers that have deteriorated to the point that they cannot be excavated and/or removed without damage or destruction. This could result in disturbing of hazardous ordnance items, or the dispersal of hazardous substances into the environment. A process should be developed to address the excavation and removal of deteriorated drums and containers. Please revise this sub-paragraph to include a process for dealing with deteriorated drums and containers.	The IR Site 1 field activities would be limited to disposal of surficial metallic debris only. Any containers or drums encountered in the metallic debris stockpile will be visually inspected to determine whether or not they are empty, and safe to move. If a drum/container can not be confirmed that it is empty, it will not be removed or disposed of as part of the field activities described in this Work Plan. Furthermore, no buried drum/container will be excavated. The Navy RPM will immediately be notified if any drum/container is found which can not be moved.

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Number	Comment	Response
11	Section 4.6 omits description of the edge definition for the Site 1 debris stockpile. As the activities include excavating soil materials from the pile, a description of the pile edge and bottom is required. Please revise the text to include description of the pile, distinguishing the pile from the native or non-pile soils, and include a method for field verification of the pile identity.	<p>The stockpile material at Site 1 is easily distinguishable and is made of a small mound of dirt topped with metallic debris. The footprint of the stockpile is roughly elliptical in shape with approximate dimensions of 35 feet long by 20 feet wide. The mound is approximately 7 feet high at the peak. The estimated volume of the stockpile is approximately 100 cubic yards. The material is stockpiled over a relatively flat ground. The immediate area around the stockpile is also relatively flat. Therefore, the bottom of the stockpile can be clearly identified.</p> <p>Based on the BCT team discussions and agreement (conducted during the 9/27/00 BCT meeting at MCAS El Toro), at this time only the surficial metallic debris on top of the stockpile will be removed and disposed of, in order to clear the site and the stockpile area for the upcoming Radiological Assessment. The small stockpile of soil beneath the metals will not be removed as part of this project.</p>
12	Section 4.9 describes the waste limit exploration trenches as being 20 feet long. This length is too short to assure that the Navy has located the edge of waste. See specific comment #5. Please revise the text to accommodate whatever trench length is necessary to determine an accurate assessment of waste occurrence. Coordinate revisions with revisions made in response to specific comment #5.	Comment noted. Please refer to response to comment #5 above.
13	Section 4.9 includes a description of the measurement of trench alignment and orientation, but does not include a figure for the resolution of the orientation, only the length. Please revise the text to include the required angular resolution, to be read from the compass. The Navy should revise the approach and the text to also include Global Positioning Satellite location procedures, using differential measurements for sub-meter accuracy, for the location of each trench end and any angle points.	<p>Total Stationing Survey equipment will be utilized to locate the proposed exploratory trenches in the field using the northing and easting coordinates and the bearings. The location of the trenches will be staked in the field with plus or minus 0.1-foot accuracy. The trench bearings and the angle of the trench will be provided in the field with + or - 5° accuracy. Survey will be conducted using a Third-order, Class I accuracy. Horizontal control (northings and eastings) will be tied to the State Plane Coordinate System, based on the North American Datum of 1983 (NAD 83). Vertical control (elevation) will be tied to NAVD 1988, mean sea level (MSL).</p>

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Number	Comment	Response
14	<p>Section 4.9 describes mapping of trenches to determine the limit of landfill debris, but provides no description of waste identification or criteria. For landfills composed of burned wastes, distinguishing ash from soil materials can be difficult. Also, wastes may not occur in large, uniform units. Please revise the text and the approach to assess the trench excavation spoils for waste materials using physical observation. For the benefit of field personnel, please include procedures in the work plan for waste identification. These procedures should include examples of waste likely to be encountered, description of each likely waste, and a description of waste placement and soil covering methodologies used at the landfill and the likely waste profiles and sections that are likely to have been created. It is suggested that the procedures include having field personnel place material specimens on pieces of white paper for better ash identification.</p>	<p>Please refer to our response to general comment #3.</p> <p>As indicated earlier a geologist or a geotechnical engineer under the supervision of a CEG/RG will conduct the observation and logging of the exploratory trenches. Waste and soil identification and classification, will be left to best judgement of the field geologist/engineer. As stated in Section 4.9 of the Work Plan, field geologist/engineer will identify and describe the types of soil encountered in the trenches in accordance with the American Society of Testing Materials D2487 and D2488. Soil classification will be conducted in accordance with the Uniform Soil Classification System (USCS).</p>
15	<p>Section 4.9 describes mapping of the waste limit exploration trenches, which are proposed to be up to 20 feet deep. However, no methodology is described to observe the trench walls and measure the depth and location of the observations within the trench. Based on the statement in the text that entry into the trench by project personnel will not be done, it is assumed that the trench excavation spoil will be evaluated and logged for location and depth. Please revise the text to describe the method of trench observation. If the investigation relies upon observations of materials removed from the trench, include a methodology for describing the location from which the materials were excavated. Note that the methodology must address the characteristic of backhoes to scrape materials from a range of depths, rather than pluck chunks of soil from a single location.</p>	<p>As noted in the response to Comment #5, the trench depth is no longer proposed to be 20 feet. The trenches will be excavated and exposed in layers of 1- to 2- feet-thick. A wheel backhoe (Caterpillar Model 426C or equivalent) with a standard reach of 15 feet and a 2-foot-wide bucket will be utilized in the field for excavating the exploratory trenches. As the trench side wall is exposed in layers, the field geologist/engineer will conduct an inspection of the trench walls and measure the depth and location of his observations within the trench including the depth and thickness of the soil covers and refuse material. A nylon graduated measuring tape with a weight attached to its end will be dropped from the edge of the trench with the geologist/engineer standing a safe distance from the edge of excavation. The spoils from each layer of excavation will be placed on the side of the trench. The field geologist/engineer will inspect the material and identify the type of material, waste streams, composition, approximate percentage of each waste stream by volume, classification of soil, etc. A scaled trenching log will be used to draw profile of the trenches and describe the observations including the thickness, depth, and length of the various layers or lenses of material encountered. A typical trench log is provided as Figure 9 in the Figures section of the Work Plan.</p>

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Number	Comment	Response
16	Section 4.9 describes placement of soil and debris excavated from the trenches on 20-millimeter (mil) polyethylene liner. It should be noted that a mil is not a millimeter, but a unit of length equal to one-one thousandth of an inch. A 20-mil liner is about 1/64 th of an inch thick, not over 3/4 th of an inch thick. Please revise the text – and the abbreviations and acronyms list – accordingly.	20-millimeter has been corrected to 20-mil. The acronym has also been corrected as noted.
17	Section 4.9 includes procedures for returning the excavation spoil to the trench. However, no information is included about the repair of the ground surface after backfilling, to limit settlement or erosion. Please revise the text to include a description of the proposed surface treatment and repair.	<p>The following have been added following the second sentence of the fifth paragraph of Section 4.9: “The trenches will be backfilled in 1-foot-thick layers. A backhoe equipped with a compaction wheel mounted on the arm will be used to compact each layer of material placed inside the trench. A measuring tape will be lowered inside the trench to measure the depth and thickness of each layer placed. Following the backfill and compaction of the material inside the trenches the top of the backfilled trenches will be graded to match the surrounding grade”.</p> <p>Furthermore, Sites 3 and 5 landfills will ultimately be capped, and the existing cover would not be the final cover.</p>
18	Section 4.10 omits description of any dust control procedures and criteria for response that will done during the concrete and pavement demolition. The proposed activities of pavement breaking, loading and hauling typically generate significant amounts of dust. Please revise the text to address dust control procedures and the criteria for their use.	<p>Section 5.2.2 of the Work Plan includes a discussion of dust control procedures for the project. This section reads: “Fugitive dust emissions are expected from trench excavation at Sites 3 and 5, debris handling and screening activities at Site 1, and pavement demolition activities at Site 3. All activities must comply with substantive portions of SCAQMD Rules 401 (b)(1)(A), 403, 404, and 405 pertaining to fugitive dust emissions. Dust generated during trenching, soil handling, demolition, and other construction activities will be controlled with water application”.</p> <p>The following sentences are added to the end of this paragraph, which read: “A 2,000 gallon water truck will be utilized at the site during demolition and trench excavation and backfilling activities. Water application will be conducted by either spraying or mist. During pavement and concrete demolition and breakup activities water will be</p>

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18	(Continued)	sprayed over the immediate areas where the equipment would be working. In addition water would be sprayed over the demolition debris while it is being picked up by the loader and while being unloaded into the hauling trucks. Care will be taken to only use the necessary amount of water to control the dust, in order to minimize any percolation of water through the existing landfill cover.”
19	Section 4.12 describes the surveying of observed waste limits, with the statement that straight-line interpolation will be done between refuse limits in trenches. Straight-line interpolation is not an appropriate technique for mapping waste, especially at corners. Please revise the text and the mapping methodology to address how the waste will be delineated, especially at corners and other discontinuities in the waste boundary.	The purpose of the trenching at Sites 3 and 5 is to confirm the estimated limits of the landfill as outlined in the RI. Section 4.12 has been revised and the fifth sentence (Limits of refuse between trenches will be extrapolated...) has been deleted. The last sentence of Section 4.12 has been revised to read: “The location of the exploratory trenches and the location where refuse or waste was encountered would be shown on the plan view of the sites for future use on design drawings”.
20	Section 6.2.2.1, Page 6-3, Soil Stockpiles: The Navy is intending to build waste storage facilities at El Toro using regulations contained in the new Federal RCRA staging pile regulations. However, California is a state fully-authorized to implement RCRA and California has not indicated that it will implement the Federal staging pile regulations. As California law is more strict than Federal law in this case, the California law governs and it would appear that the Navy cannot implement a staging pile at El Toro unless the California is willing to waive the State requirement.	Site 1 is designated as an Installation Restoration Program (IRP) site. The IRP is conducted in accordance with CERCLA and the NCP, which includes the CERCLA Area of Contamination (AOC) policy. The Navy has applied the AOC policy to Site 1, which allows materials, including hazardous contaminants, in the soil to be moved in and around the site without triggering hazardous waste generator requirements, land disposal restrictions, or minimum technology requirements. The Navy will notify DTSC prior to stockpile characterization sampling. At this time (based on BCT meeting on 9/27/00 and discussions and agreements pursued in that meeting), the Navy is planning to leave the soil stockpiles in-place until such time as the RI/FS for Site 1 is completed.

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21	Section 7.2 describes project responsibilities of many project personnel, but left out is anyone tasked with the responsibility of observing the trench explorations and evaluating the soil and wastes encountered. Please revise the project organization and the text to include specific workers for the field work proposed, not just the management of activities. Include a list of the minimum qualifications to do the work, and the available personnel who meet or exceed these qualifications.	This issue is still under consideration and is yet to be resolved. Additional discussions between the DON and the USEPA are planned in order to reach a decision. This comment will be addressed following these discussions.
22	Section 7.4 describes the data management for this project; however, no mention is made of the management proposed for the geographic or topographic data generated on this project. Please revise the text to include development of a geographic and topographic survey database, either graphically by surveyed mapping or mathematically by geographic information system.	<p>A State of California licensed and Registered Land Surveyor will perform the surveying. Total Stationing Survey equipment will be utilized for as-built surveys of the trench locations. The data for the surveyed trenches will be tabulated in a digital database (a text file), and presented in AutoCAD software (version 14 or the latest version). The survey information will be presented graphically on a surveyed topographic map of the site.</p> <p>The drawing will include all the features surveyed within 0.1-foot accuracy, showing all trench features such as the beginning, end, length, and angle of the trenches.</p> <p>The scale of the drawing will be standard engineering scale (e.g., 1 inch to 40 ft) so that it fits on to a single 24" by 36" sheet.</p>
23	On Figure 4, the trench locations proposed for Site 3 are shown. Absent are any evaluations of either the banks of Aqua Chinon Wash (both east and west banks) or the area around Building 796 (reported in Section 3.2 as the building for which waste was observed in the foundation excavation). Note that the Aqua Chinon Wash banks could be composed of edge Berms used for waste perimeter control, similar to situations found at many other solid waste landfills of the mid-1900s. Please revise the project approach and the figure to accommodate investigation of both banks and the building perimeter.	Trenches have been proposed to be excavated at both banks of the Aqua Chinon Wash, and adjacent to Building 796. Technical judgment will be used for trenching near the building.

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October 6, 2000

Comments by: Robert L. Richardson, MCAS Local Redevelopment Authority; Bertrand S. Palmer, Ph.D., P.E., GeoSyntec Consultants

Dated: August 28, 2000

Response by: Hamlet H. Hamparsumian, Foster Wheeler Environmental Corporation

Number	Comment	Response
	Comments	
1	One of the work tasks described in the draft work plan is the dismantling and disposal of PVC pipe from the Site 24 Soil Vapor Extraction (SVE) System (see draft work plan at Page 4-4). Does this dismantling indicate that remediation of Site 24 by SVE is now complete or expected to be complete in the near future? Could DON/USMC provide additional information regarding the Site 24 SVE system closure?	Section 1.0, third paragraph has been revised. A new sentence has been added to this paragraph stating: "Dismantling of the SVE system pipes at Site 24 will be conducted following the completion of the remediation by SVE at this site, and the closure of the SVE system".
2	The draft work plan provides background information regarding previous waste limit delineation efforts performed by DON/USMC (see Section 3 of draft work plan). Based on this information, estimated landfill boundaries were plotted for Sites 3 and 5 on Figures 4 and 5 by DON/USMC. However, based on a review of Figure 4, it appears that some borings drilled within the estimated landfill boundaries (Borings 03SB14 and 03SB18) did not encounter refuse (see draft work plan at Page 3-3). Given this, could DON/USMC further explain the rationale used to plot the estimated landfill boundary shown in Figures 4 and 5 of the draft work plan?	The landfill boundaries for Sites 3 and 5 that are shown on Figures 4, and 5, respectively, are the estimated limits of exposed and buried waste established in the Remedial Investigation (RI) Reports for Sites 3 and 5. The RI reports were prepared by Bechtel National Inc. (BNI), (BNI, 1997a, 1997b), which were reviewed and approved by all pertinent regulatory agencies. The RI reports for these two landfills were conducted in accordance with the USEPA Application of the CERCLA Municipal Landfill Presumptive Remedy to Military Landfills directive. The Draft Work Plan intended to provide the readers a brief background information on the sites. In doing so we had condensed and summarized a massive amount of background information that is in the RI reports. All references to the borings either in the text portion of the Work Plan or in the Figures have been deleted to avoid any confusion. The readers can refer to the RI reports for more information on the details of all the investigations conducted, and the conclusions and the recommendations that were provided in those reports. As stated earlier the goal of the trenching is to confirm the RI established landfill boundaries.
3	DON/USMC states in the draft work plan that the number and location of the trenches that will be used to delineate the boundaries of each landfill are based on previous "historical information" (see draft work plan at Page 3-6). Could DON/USMC further expand on the rationale for selecting the location, number, and size of trenches?	The final trench spacing is still under consideration and is yet to be resolved. Additional discussions between the DON and the USEPA are planned in order to reach a decision. This comment will be addressed following these discussions.

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4	DON/USMC indicates that a trench will have a maximum length of 20 ft and if a trench does not show presence of waste material, it will be backfilled with the excavated soil (see draft work plan at Page 3-7). Will DON/USMC consider trenching beyond the specified 20-ft length until the soil/waste limit is found? If not, why not?	Section 3.2 has been revised. See response to USEPA Specific Comment #5 above.
5	DON/USMC states on Page 3-7 of the draft work plan that the depth of the trenches will be a minimum of 6 ft and a maximum of 20 ft. what rationale will be used to select the depth of the trenches? Will the trench be excavated until waste is found or to a depth of 20 feet, whichever is less?	See response to USEPA specific comment #5 above.
6	The waste material present in Sites 3 and 5 includes chemical-impacted soil, which may be difficult to visually differentiate from non-impacted soil. Could DON/USMC provide additional information regarding the method that will be used to differentiate impacted soil/waste material from non-impacted soil or material?	A photoionization detector (PID) or flame ionization detector (FID) will be used during the trench excavation activities to screen the material excavated from the trenches in the field for presence of volatile organic compounds, and petroleum hydrocarbons. The PID/FID will also be lowered inside the trench to monitor and detect any vapors. If high levels of vapors are detected in any part of the trench or in the spoils, the section of the trench from which the spoils were excavated or vapor detected will be marked and identified. The excavated spoils will also be inspected for any discoloration, strong odor, or unusual physical characteristic.
7	DON/USMC is planning to use an Eberline SPA-3 sodium iode (NaI) detector or approved equivalent to screen for radiological material (Gamma radiation emitters) from Site 1 and from trenches excavated at Sites 3 and 5. Does DON/USMC also intend to screen such material for Beta radiation emitters, volatile organic compounds, and/or other chemicals? If not, why not?	Upon further consideration, DON/USMC intends to screen the stockpiled metallic debris located at Site 1, and the soil excavated from the exploratory trenches at landfill Sites 3 and 5 with the Eberline SPA-3 NaI gamma scintillation detector. The gamma scan with a SPA-3, or equivalent, is the most sensitive field instrument. In addition DON/USMC intends to screen the stockpiled metallic debris at Site 1 with an Eberline HP-260 pancake Geiger-Mueller (GM) detector. The pancake GM can detect alpha, beta, and gamma contamination.
7	(Continued)	Both of the landfills (Sites 3 and 5), as well as the EOD Range (Site 1), were in

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		<p>operation during the years when the military utilized Ra-226 and Sr-90 in the instruments and luminescent markers, and radioisotopes, such as Co-60 and Th-232, in magnetron electronic tubes associated with aircraft. Consequently, these isotopes are the targets of the screening efforts for this project. This radiological monitoring is being conducted strictly as a conservative measure and a gamma survey should be adequate.</p> <p>The Site-Specific Health and Safety Plan (SHSP) (Attachment 1 of the Work Plan) specifies the monitoring requirements for the project. Section 7.1 of the SHSP specifies the direct reading instruments that would be used during the field activities. A photoionization detector (PID) or flame ionization detector (FID) will be used in the work areas to determine the presence and concentration of organic vapors. Explosimeter (Gastech Model 1314 or MSA Model 260) or equivalent will be used in the work areas to screen for the presence of flammable vapors, oxygen (O₂)-deficient atmosphere. In addition during trenching and excavation activities in or around the landfills a hydrogen sulfide direct reading instrument will be used for monitoring hydrogen sulfide levels in the work area. Section 7.1 of the SHSP also describes the action levels and the specific actions that will be taken if the action levels are exceeded.</p>
8	<p>Site 3 includes Unit 1 and Unit 4 (see Phase II Remedial Investigation Report (RI) at Page 4-9). Does this draft work plan address waste delineation only at Unit 1, or will Unit 4 also be evaluated by DON/USMC as part of this draft work plan?</p>	<p>The Work Plan will only address Unit 1 (landfill). Unit 4 is the former Solvent Spill Area and is not part of the Site 3 landfill. Moreover, as stated earlier the goal of the trenching is not to delineate the landfill boundaries but to confirm the estimated limits of the landfill established in the RI report (BNI, 1997a).</p>

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9	DON/USMC reported that waste material was present in soil excavated for the construction of Building 746 (see Phase II RI at Page 4-9). Depending on the size of the excavation made for Building 746, it is possible that waste-containing soil may still be present below the pavement around Buildings 746 and 796. Does DON/USMC intend to evaluate the presence of waste material around Buildings 746 and 796 and between Building 746 and the proposed exploratory Trench 037P07 (see draft work plan at Figure 4)?	A trench has been proposed to be excavated adjacent to Buildings 746 and 796 in order to confirm the estimated landfill limits described in the RI. Technical judgement will be used for trenching near the building.
10	Will the pavement located northeast of Building 746 and the decontamination and equipment storage pads located on Site 3 be removed as part of the draft work plan implementation?	The decontamination and equipment storage pads located northeast of Building 746 at Site 3 will not be removed as part of the demolition activities described in the Draft Work Plan.
11	In Page 2-2 of the draft work plan, Perimeter Road is described to be the southern boundary of Site 3. However, Figure 4 shows North Marine Way and Desert Storm Road as being southwest and southeast of Site 3, respectively.	The description of the location of Site 3 has been corrected to read: "The site is located on MCAS El Toro, between Irvine Boulevard and North Marine Way. Irvine Boulevard forms the approximate northern boundary of the site. Desert Storm Road forms the approximate eastern boundary, and North Marine Way forms the southern boundary of the site".
12	The wastes potentially present in landfill Sites 3 and 5 are listed in Pages 2-2 and 2-3 of the draft work plan. These lists could be expanded to include "radiological material" based on the results of the historical radiological assessment.	The information provided in Sections 2.1.2 and 2.1.3 are taken directly from the site description sections of the approved RI reports for Sites 3 and 5, respectively.
13	Soil potentially containing unexploded ordnance (UXO) is to be screened in a mechanically operated shaker (see draft work plan at Page 4-3). Are there any issues or concern associated with this screening method considering the potential presence of UXO in the material to be screened?	Section 4.6 of the Work Plan has been revised to indicate that only the stockpiled metallic debris will be segregated and disposed of. The small stockpile of soil beneath the metallic debris will not be removed at this time.

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Comments by: Robert L. Richardson, MCAS Local Redevelopment Authority; Bertrand S. Palmer, Ph.D., P.E., GeoSyntec Consultants

Dated: August 28, 2000

Response by: Hamlet H. Hamparsumian, Foster Wheeler Environmental Corporation

Number	Comment	Response
14	<p>In the draft work plan, DON/USMC states that if radiation measurements of any portion of excavated material exceeds 1½ times the background levels, that portion of the material will be segregated from other material and the DON/USMC will be notified for proper course of action. Could DON/USMC specify how will background levels be established? Will DON/USMC map the areas of Site 1, 3, and 5 where radiological material has been found? Could DON/USMC describe the specific course of action that will be taken upon discovery of radioactive material (if any) at Sites 1, 3, and 5?</p>	<p>A radiological screening of all scrap metallic and miscellaneous debris will be performed during the UXO screening and inspection process at Site 1. An Eberline SPA-3 sodium iodide (NaI) scintillation detector and an Eberline HP-260 pancake Geiger-Mueller (GM) Detector or an approved equivalent will be used for radiological screening. An ambient air level will be established at the beginning of the day by taking measurements with the SPA-3 at a height of 1 meter, with the detector facing the soil. For the GM detector, the ambient air level will be established by taking measurements with the probe facing upward at a height of 1 meter. The daily ambient level will be determined and documented on a radiological survey sheet for each survey instrument. If, after loose soil and dirt have been brushed from the surface(s) of the metallic debris, the debris measurements exceed 2 times the ambient levels, the material will be segregated and placed in containers or wrapped to protect it from the weather and to prevent personnel from coming in contact with the debris. The ultimate disposition of this segregated material will be determined after consultation with personnel from the Navy Radiological Affairs Support Office (RASO).</p> <p>During the trenching at Sites 3 and 5, surface soil background levels will be established at the beginning of the day by taking measurements with the SPA-3 at a height of 1 to 2 inches above the landfill surface, with the detector facing the soil. For the GM detector, the background level will be established by taking measurements at a height of 2 to 3 inches above the landfill surface, with the detector facing the soil. The daily background levels will be determined and documented on a radiological survey sheet for each survey instrument. Upon discovery of radiation levels in soil excavated from the trenches above 1½ times the background level, the area will be flagged off to control access to the area. The boundaries of the area will be confirmed and appropriate personnel (the Project Health Physicist, the PESM, the Project Manager and the Navy) will be notified. Appropriate sample(s) will be taken in order to characterize the soil to determine disposal options, in consultation with personnel from RASO.</p>

**RESPONSE TO COMMENTS
DRAFT PROJECT WORK PLAN
PRE-DESIGN ACTIVITIES AT INSTALLATION RESTORATION SITES 3 AND 5,
AND DEBRIS DISPOSAL FROM SITE 1
MARINE CORPS AIR STATION, EL TORO, CALIFORNIA**

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Number	Comment	Response
15	DON/USMC indicates that non-UXO and non-radioactive soil will be analyzed for characterization and hazard classification (see draft work plan on Page 4-4). Per Section 4.13 of the draft work plan, samples collected during the removal activities for characterization purposes and hazard classification will be analyzed for metals, polychlorinated biphenyls (PCB), pesticides, total recoverable petroleum hydrocarbon (TRPH), volatile organic compounds (VOC) and semi-VOCs. Additional hazard classification analyses will be performed using the Toxicity Characteristic Leaching Procedure (TCLP), as required. Will DON/USMC use other testing methods such as fish toxicity to characterize the waste material? What threshold concentrations for metals, PCB, pesticides, TRPH, VOC, and semi-VOC will be used by DON/USMC to categorize the tested material, waste, or soil? How many categories of material will be defined and what will be the fate of each category of material?	All non-radioactive and non-UXO metallic debris collected from Site 1 will be transported off site to a Class I CERCLA-approved and permitted landfill for disposal. Based on the discussions during the 9/27/00 BCT meeting, only the surficial metallic debris at Site 1 will be hauled off for disposal. This would be conducted in order to facilitate and prepare the site for the upcoming Radiological Assessment to be conducted at this site by the Navy. The small mound of soil beneath the metallic debris in the stockpile area will not be hauled off for disposal at this time. Any soil remaining at Site 1 will be addressed in a future Remedial Investigation. Therefore, waste classification and analysis of the soil will be addressed at a later date.
16	DON/USMC will use American Society for Testing and Materials (ASTM) methods D2487 and D2688 for soil classification (see draft work plan at Page 4.5). Which method does DON/USMC intend to use to classify waste material in terms of physical content (paper, plastic, metal, etc.) and chemical content or characteristics?	This issue is still under consideration and is yet to be resolved. Additional discussions between the DON and the USEPA are planned in order to reach a decision. This comment will be addressed following these discussions.

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October 6, 2000

Comments by: Michael B. Wochnick, P.E., Manager Closure and Technical Services Section California Integrated Waste Management Board
Dated: September 7, 2000
Response by: Hamlet H. Hamparsumian, Foster Wheeler Environmental Corporation

Number	Comment	Response
	Comments	
1	During trenching all excavated waste should be characterized to determine the potential for biodegradation that could result in the production of landfill decomposition gas. Please provide a methodology for detailed logging of exposed waste during implementation of the work plan.	<p>Due to the use of landfill presumptive remedy approach for the closure of Sites 3 and 5 landfills, a full characterization of the landfill contents is not required at these sites. Therefore, the objective of the trenching at Sites 3 and 5 is not to characterize the waste and conduct a detailed logging of the exposed waste but to confirm the limits of the landfills that have been developed and presented in the RI.</p> <p>As indicated in Sections 2.1.2 and 2.1.3 of the Work Plan, in the site descriptions for Sites 3 and 5, respectively, Site 3 was operated from 1945 to 1955 and Site 5 operated from about 1955 to the late 1960s. All pitrunable waste is assumed to have been for the most part decomposed and biodegraded since then. In addition, based on the information provided in the RI (BNI, 1997a, 1997b) the wastes present at these landfills are a large-volume, heterogeneous mixture of municipal waste (e.g., non-toxic household, construction, and landscape debris), industrial waste and hazardous waste (including fuel hydrocarbons, solvents, pesticides, and metals). Furthermore, Bechtel at the request of the Navy conducted a landfill gas (LFG) generation study based on the EPA Model. The results of the study indicated that LFG generation at this landfill is minimal and insignificant.</p> <p>Nonetheless, Sections 7.1 and 7.2 of the Site-Specific Health and Safety Plan (Attachment 1 of the Work Plan) describes the monitoring requirements for landfill gas and methane in particular, during trenching activities. The monitoring procedure discusses the equipment to be used, the action levels, and the necessary measures to be taken at the site when the action levels are exceeded.</p>
2	Monitoring for methane gas should occur during the trenching operations. Please provide a methane gas protocol to be followed during implementation of the work plan.	Please refer to Section 7.0 of the Site-Specific Health and Safety Plan (Attachment 1 of the Work Plan) for air monitoring requirements including methane and other landfill gases. The Health and Safety Plan requires monitoring with an explosimeter during trenching operations.

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Dated: September 7, 2000

Response by: Hamlet H. Hamparsumian, Foster Wheeler Environmental Corporation

Number	Comment	Response
3	When waste is encountered during the trenching operation, how will it be handled? Will it be characterized, classified, and sent to an appropriate landfill?	As described in Section 4.9 (fifth paragraph) of the Work Plan, once observation, visual inspection, and logging of each trench are completed, the excavated material will be returned back to the trench. Material excavated from the lower parts of the trench will be returned first, followed by soil excavated from the upper parts. Section 4.9, 4 th paragraph states that "Suspect material encountered during trenching will be properly classified, labeled, managed, and disposed of in accordance with USEPA Guidance and the site-specific Waste Management Plan (Section 6.0)". Waste characterization will be conducted in accordance with the California Title 22, Section 66261 criteria and requirements.
4	The rationale for selecting the number, size and location of the trenches is not clear. Please submit an additional explanation for this rationale.	The final trench spacing is still under consideration and is yet to be resolved. Additional discussions between the DON and the USEPA are planned in order to reach a decision. This comment will be addressed following these discussions.
5	On page 3-7, first paragraph, it states that excavation will cease when no waste is found in the initial trenching location. When waste is not present in the initial trench, additional trenching locations may be necessary in order to delineate the landfill boundary. Please adapt the work plan to allow for engineering judgment in the field.	See response to USEPA specific comment #5 above.
6	On page 4-5, section 4.9, first paragraph, it states that all trenching will conform to South Coast Air Quality management District (SCAQMD) Rule 1150. CIWMB and LEA Staff recommend that the Navy contact SCAQMD in order to determine if an excavation permit is required for this trenching operation.	The SCAQMD has been contacted regarding any permits for excavation in or around inactive landfills. Because the trenches will be excavated incrementally and no more than 20 to 25 feet of trench would be open at anytime a SCAQMD permit may not be required for trenching in or around the landfill. However, if necessary, an Excavation Plan will be prepared, pertinent Application Packages will be completed, and along with the required fees will be submitted in advance of any excavation activities to SCAQMD for evaluation and approval. Section 4.9, first paragraph has been revised accordingly.

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Number	Comment	Response
7	The routing slip does not indicate whether this work plan was sent to the California Department of Health Services (DHS). Please ensure that this work plan is reviewed and approved by the DHS Radiological Health Branch for the radiological waste issues identified in the Work Plan.	The Navy submitted the Draft Work Plan to the California Department of Toxic Substances Control (DTSC) on 8/4/00. The Department of Health Services (DHS) is a sub-agency of DTSC. DTSC submitted their review comments to the Navy on 9/11/00. Their comments are included in the following pages.

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October 6, 2000

Comments by: Triss M. Chesney, P.E., Remedial Project Manager, Department of Toxic Substances Control

Dated: September 11, 2000

Response by: Hamlet H. Hamparsumian, Foster Wheeler Environmental Corporation

Number	Comment	Response
Comments to the Work Plan		
1	Title: Please include Site 24 in the title since this work plan includes dismantling and disposal of piping associated with the Site 24 soil vapor extraction system.	The Title will be revised to accurately reflect the proposed work.
2	Section 3.1.1.3 – soil Borings: In the second paragraph, 03-DGMW65 and 04-DGMW66 are listed but their locations are not shown on Figure 4, Site Plan and Proposed Trench Locations. Also, 03-DGMW65 is not included in the notes that show “depth” and “waste encountered.” Please show the locations of 03-DGMW65 and 04-DGMW66 on Figure 4 and include notes (depth and waste encountered) for 03-DGMW65.	Figure 4 has been revised and the location of borings 03_DGMW65 and 03_DGMW66 are shown and identified. Well 03_DGMW65 had been abandoned and identified as such on Figure 4. The Table on Figure 4 has also been revised to show the depth of the borehole 03_DGMW65, which was approximately 255 feet. No waste was encountered in this borehole.
3	Section 3.1.1.3 – Soil Borings: In the third paragraph, eighteen soil borings (03SB1 through 03SB15 and 03SB17 through 03SB19) are listed; however only borings 03SB11 through 03SB15 and 03SB17 through 03SB19 shown on Figure 4, Site Plan and Proposed Trench Locations. Please show the locations of borings 03SB1 through 03SB11 on Figure 4.	Borings 03SB01 through 03SB10 were drilled outside Unit 1 (landfill) and in and around Units 4 (former incinerator) and Unit 4 (solvent spill area). The text in Section 3.1.1.3 has been revised to only mention soil borings 03SB11 through 03SB15 and 03SB17 through 03SB19. The 1 st sentence, 3 rd paragraph of Section 3.1.1.2 has been revised to read: “Eight soil borings (03SB11 through 03SB15 and 03SB17 through 03SB19) and three lysimeter borings (03LYS1 through 03LYS3) were drilled during the Phase II RI in and around Site 3 Unit 1 (landfill)”.
4	Section 4.6 – Site 1 [EOD (Explosive Ordnance Disposal) Range] Debris Segregation and Disposal Activities: The sixth paragraph states, “Samples of the non-UXO (unexploded ordnance) or non-radioactive soil remains from screening operations will be collected and analyzed for characterization and hazard classification. One sample will be collected and analyzed for every 20 tons of screened and stockpiled soil material. Following hazard classification, the material will be hauled off-site to a CERCLA-approved facility for disposal. It is estimated that approximately 100 tons of debris including scrap metal and soil may be generated from the segregation activities at this site.”	The Navy has changed the scope of work for Site 1. As discussed and agreed on during the BCT meeting on 9/27/00, the Navy proposes to dispose of only the surficial metallic debris located at Site 1 in order to prepare the site for the upcoming Radiological Assessment that the Navy is planning to conduct at this site. The non-radiologically contaminated and non-UXO metallic debris will be hauled off-site and disposed of at a permitted and CERCLA-approved Class I disposal facility. Nonetheless, the following response is provided with regards to your comment.

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Number	Comment	Response
4	<p>(Continued)</p> <p>Please refer to Chapter 9 of SW-846 to verify that the number of samples proposed is adequate for waste classification. If preliminary data is not available, please state as such and describe that the number of samples will be verified after the analytical results are reviewed and additional samples will be collected, if necessary.</p>	<p>SW-846 does not specify the number of samples to be utilized for evaluating a given stockpile size, but it does state that samples should be representative and that enough should be taken to be statistically valid.</p> <p>The San Diego County Site Assessment Manual (SA/M) contains one of the few guidance provisions for determining the appropriate number of samples for a given stockpile volume. For a stockpile of 100 cubic yards, the SA/M guidance suggests one sample for every 25 cubic yards. The Work Plan stated that samples would be collected at the rate of one-per every 20 tons, which falls within this guidance. Sample results would have been reviewed to ensure they fall within the acceptable parameters for a statistically valid sample population.</p>
5	<p>Section 4.7 – Site 24 [Potential VOC (volatile organic compound) Source Area] SVE (Soil Vapor Extraction) Pipe Dismantling and Disposal: Please clarify that the work at this site (dismantling, removal, and disposal of approximately 8,000 linear feet of polyvinyl chloride piping associated with the SVE system) will only occur following regulatory approval.</p>	<p>The Work Plan will be revised to state: “Upon approval from the BCT, removal and disposal of 8,000 linear feet of SVE piping will be conducted.”</p>
6	<p>Section 4.7 – Site 24 (Potential VOC Source Area) SVE Pipe Dismantling and Disposal: Please clarify waste classification sampling to be conducted for the waste piping prior to disposal.</p>	<p>SVE piping removed will be classified as hazardous waste and disposed of at a CERCLA Offsite Rule-approved hazardous waste landfill.</p>

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Number	Comment	Response
7	<p>Section 4.10 – Demolition of Concrete and Pavement: This section states that concrete and asphalt demolition material will be hauled off-site for recycling. The section does not mention classification of the waste prior to disposal/recycling.</p> <p>The concrete pad and asphalt pavement overlies a landfill (Site 3) where VOCs, semivolatle organic compounds (SVOCs), pesticides, petroleum hydrocarbons, radionuclides, dioxins, furans and metals were detected in shallow soils from 0 to 10 feet below ground surface (bgs) (refer to Section 3.1.2.1 – Site 3 Chemical Analyses Results). As a result, following demolition, the concrete waste must be sampled and classified according to Federal and State hazardous waste criteria. Please include the type and number of samples to be collected and the analyses to be performed. Following waste classification, the demolition waste can be transported to an appropriate facility. Due to the chemical composition of asphalt, the associated compounds may interfere with detection of contaminants. As a result, please include a strategy for classification of the waste asphalt.</p>	<p>According to the Navy's construction drawings for the bio-pile pad, a 7-inches-thick compacted crushed aggregate base (CAB) material separates the bottom of the concrete pavement and the existing landfill cover in the bio-pile area. Therefore, the bio-pile concrete pad was not constructed in direct contact with any contaminated landfill material. Similarly the asphalt pavement is constructed over a 4 to 6 inches thick CAB.</p> <p>Concrete and asphalt surface cover, which was installed after contamination of the subsurface soil occurred and which is not in contact with the contaminated substrate, will be segregated from the substrate and disposed of as construction debris at a Foster Wheeler and Navy approved recycling facility. This material is not considered as CERCLA-regulated waste.</p> <p>In the highly unlikely event where the overlying asphalt or concrete surface cover may be in direct contact with the contaminated substrate, this material will be properly characterized for hazardous waste and will be disposed of accordingly.</p>
8	<p>Section 6.2.3 – Waste Disposal: Their third paragraph states, "The Chemical Waste Management facility in Kettleman City, California, and the Safety-Kleen facility in Westmoreland, California, are two Class I hazardous waste facilities that will be considered for hazardous waste disposal."</p> <p>Please specify each waste stream and the anticipated disposal facility. Additionally, please be advised that Safety-Kleen Corporation has notified DTSC that they are experiencing financial difficulties. It may be appropriate to have an alternative disposal site available.</p>	<p>The Navy is aware of Safety-Kleen's financial situation (bankruptcy status) and understands they have entered into a Consent Order with the USEPA, which requires them to secure financial assurance for their various facilities nationwide.</p> <p>Alternative permitted hazardous waste and CERCLA Offsite Rule-approved landfills that the Navy will consider for waste disposal from the project include the Chemical Waste Management Kettleman Hills, CA facility and the U.S. Ecology, Beatty, NV facility.</p>

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Number	Comment	Response
9	Section 7.1 – Project Schedule, Stage 5 – Closeout Report: it is possible that the completion of proposed activities for Sites 1, 3, 5 and 24 will not coincide. Please clarify if only one Closeout Report will be prepared or if information for each site will be reported as activities for each site are completed.	The term “Closeout Report” has been changed to “Project Report”. The following has been added to Section 7.1, Stage 5: “Project Report(s) will be completed and submitted in a timely manner to the agencies for review. The report(s) will describe and document the completed field activities and present any pertinent data and information. The Navy will consult with the BCT regarding the submittal of the Project Report(s). The information for each site might be combined or reported individually based on BCT discussions”.
10	Section 4.10 – Demolition of Concrete and Pavement and Table 1 – Waste Management Summary Requirements: In Section 4.10, it is proposed that concrete and asphalt demolition material will be hauled off site for recycling. The characterization requirements for construction debris identified in Table 1 are not referenced in Section 4.10.	Section 4.10 will be revised to include hazardous waste characterization of concrete and asphalt in areas where the asphalt or concrete pavement material is in direct contact with contaminated soil.
11	<p>Section 6.2.2.1 – Soil Stockpiles: In general, the work plan appears to provide justification for storage of waste piles that have not been sampled or classified and have been on site for approximately 10 months.</p> <p>DTSC is concerned that the stockpiled debris (metallic material and associated soil) was generated in October and November 1999 and after 10 months, the waste has not been sampled or classified. Since the waste has not been classified and the specific regulations applicable to the waste cannot be determined, it may be found after sampling and classification that the waste was not managed properly.</p> <p>DTSC is also concerned regarding failure of the Department of the Navy to provide timely notification regarding these waste generation activities. The stockpiled debris was generated in October and November 1999 and the members of the Base Realignment and Closure Clean Team (BCT) were first informed about the stockpiles during the July 26, 2000 BCT meeting, approximately nine months after generation of the waste. Subsequently, DTSC received the Project Work Plan on August 7, 2000 that proposed classifying this waste for off-site disposal.</p>	<p>Site 1 is designated as an Installation Restoration Program (IRP) site. The IRP is conducted in accordance with CERCLA and the NCP, which includes the CERCLA Area of Contamination (AOC) policy. The Navy has applied the AOC policy to Site 1, which allows materials, including hazardous contaminants, in the soil to be moved in and around the site without triggering hazardous waste generator requirements, land disposal restrictions, or minimum technology requirements.</p> <p>Furthermore, based on the discussions during the 9/27/00 BCT meeting, only the surficial metallic debris at Site 1 will be hauled off-site for disposal. This would be conducted in order to facilitate and prepare the site for the upcoming Radiological Assessment to be conducted at this site by the Navy. The small mound of soil beneath the metallic debris in the stockpile area will not be hauled off for disposal at this time. Any soil remaining at Site 1 will be addressed in a future Remedial Investigation. Therefore, waste classification and analysis of the soil will be addressed at a later date, and the Navy will notify DTSC prior to stockpile characterization sampling.</p>

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Number	Comment	Response
11	(Continued) Please notify DTSC at least two weeks prior to the collection of waste classification samples from the stockpiled waste at Site 1 so that DTSC personnel can be present to observe sampling activities.	
12	Section 6.2.2.1 – Soil Stockpiles: The second paragraph in this section states, “If excavated soil from Site 1 activities are determined to be RCRA (Resource Conservation and Recovery Act) hazardous waste, then the new (effective June 1, 1999) RCRA Staging Pile regulations of 40 CFR (Code of Federal Regulations), Section 264.554, may apply.” The State of California (State) is authorized to implement RCRA. To date, the State has not adopted the Federal Staging Pile regulations and as a result these do not satisfy State requirements.	See response to comment #11 above.
13	Table 1 – Waste Management Summary Requirements: The “Storage Requirements: for Excavated Soil and/or Reuse state, “If hazardous, the stockpiles will be managed in accordance with the Staging Pile requirements of 40 CFR Section 264.554.” As stated in comment number 12 above, the State is authorized to implement RCRA. To date, the State has not adopted the Federal Staging Pile regulations and as a result these do not satisfy State requirements.	See response to comments #11 and #12 above.
14	Table 1 – Waste Management Summary Requirements: The “Storage Requirements” for Soil from Exploratory Trenching state, “The soil from exploratory trenching has been predetermined to be non-hazardous...” Please provide an explanation for this determination	This sentence will be revised to delete the reference to the soil being predetermined as non-hazardous; however, the remainder of the sentence will stand. The soil will be deposited back into the trench. Under an AOC designation for the site, the RCRA LDRs and minimum technology requirements are not triggered for soil that is removed and replaced on the site.

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Number	Comment	Response
15	Figure 4 – Site Plan and Proposed Trench Locations: The location of an abandoned monitoring well is shown approximate 100 feet west of Unit 1 of the Original Landfill. Please include the original designation for this monitoring well.	Figure 4 has been revised and the abandoned well is identified as 03_DGMW65.
Comments to the Site-Specific Health and Safety Plan		
16	Attachment 1 – Site-Specific Health and Safety Plan, Section 1.3 – Summary of Major Risks: “There is potential exposure to contaminants associated with gasoline, jet fuel, and volatile organic compounds (VOCs).” Although this section only provides a summary, all of the major chemical categories should be listed and should be consistent with the information provided in the previous investigation studies and as presented in the Work Plan for Site 3 (Section 3.1.2.1), Site 5 (Section 3.1.2.2), Site 1 (Section 2.1.1), and Site 24 (Section 2.1.4). For example, according to Section 3.1.2.1, VOCs, SVOCs, pesticides, petroleum hydrocarbons, radionuclides, dioxins, furans and metals were detected in shallow soils from 0 to 10 feet bgs.	The Foster Wheeler Environmental CIH did not include many of the VOCs in the Health and Safety Plan because they were found in soil gases at levels well below those, which would have presented occupational exposure risks. In an outdoor environment, it is unlikely that these VOCs or the other VOCs given as representative types of VOCs would ever attain concentrations 50% or greater than the PEL. Rather the selected VOCs mentioned in the plan were chosen either because they had some of the higher concentrations in the surveys or they were chosen because they are known to have some of the lowest PELs and therefore, helped establish the criteria for action in the health and safety monitoring program. Other contaminants were at very low levels that did not pose an occupational exposure risk.
17	Attachment 1 – Site-Specific Health and Safety Plan, Section 4.1 – Chemical Hazards: The information in this section should list the specific chemical hazards associated with each of the chemical categories identified in Section 1.3 of the Site-Specific Health and Safety Plan by. Please refer to Comment Number 12. Additionally, it would be helpful to identify the chemical hazards for each site.	See response to comment #16 above.
18	Attachment 1 – Site-Specific Health and Safety Plan, Table 1 – Chemical Hazard Assessment: The information in this table should be consistent with Section 4.1 of the Site-Specific Health and Safety Plan.	Table 1 is consistent with Section 4.1, although some of the chemicals are listed in the table by alternative names. The Table will be modified to parenthetically identify these chemicals to be consistent with the text. For example, semivolatiles are normally categorized as PAHs, trichloroethene is the same as trichloroethylene.

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October 6, 2000

Comments by: Julie Kim, M.S., Department of Toxic Substances Control, Industrial Hygiene and Field Safety Section (IHSS)

Dated: September 11, 2000

Response by: Hamlet H. Hamparsumian, Foster Wheeler Environmental Corporation

Number	Comment	Response
	General Comments	
1	Federal Occupational Safety and Health Administration is the overall governing body for occupational safety and health, when a state approved program does not exist. In the State of California, there is a state approved OSHA plan. Therefore, Cal-OSHA should be referenced and followed.	The Health and Safety Plan was prepared for a Federal Government Agency which is not under the Cal-OSHA regulations. All contractors and subcontractors, however, are required to comply with Cal-OSHA regulations. The plan specifically addresses those Cal-OSHA regulations applicable to the project that are more stringent than Federal regulations. The plan will be modified to parenthetically include the Cal-OSHA equivalent to the Federal regulations cited in the plan.
2	Please note that all sub-contractors must submit their own health and safety plans to the DTSC for review. The document was reviewed for scientific content. Minor grammatical or typographical errors that do not affect interpretation have not been noted; however, these should be corrected in future versions of the document.	All subcontractors are required to comply with the Health and Safety Plan prepared by Foster Wheeler Environmental. The plan will be modified to more clearly state this fact, although it is already stated in Section 1.1 of the Site Specific Health and Safety Plan. It is further stated that all subcontractor Health and Safety Plans are reviewed by the PESM. The PESM is a Certified Industrial Hygienist (CIH) and a Certified Safety Professional (CSP). The CIH discussed this with Ms. Julie Kim on October 4, 2000 and it was agreed that the main reason for the comment was to assure the DTSC that all subcontractors would follow a Health and Safety Plan that was at least as stringent as the Foster Wheeler Environmental prepared plan.
	Specific Comments to the Work Plan	
1	General. The state of California administers its own OSHA program; please note that California Code of Regulations (CCR) should be cited and applied over the Code of Federal Regulations (CFR) where applicable.	Please see response to General Comment #1.
2	Section 4.1, Chemical Hazards. What were the maximum concentrations of contaminants found in the previous investigations and in what media were the contaminants contained (i.e., soil, water, etc.)?	The CIH preparing the plan had previous experience with the sites in question and used his experience from previous projects at the site, which more intrusive than the projects planned under this current plan. The type of contamination is soil. The contamination in soil was below limits that would pose an occupational health risk for inhalation and PPE is specified where there is direct contact with the soil.

**RESPONSE TO COMMENTS
DRAFT PROJECT WORK PLAN
PRE-DESIGN ACTIVITIES AT INSTALLATION RESTORATION SITES 3 AND 5,
AND DEBRIS DISPOSAL FROM SITE 1
MARINE CORPS AIR STATION, EL TORO, CALIFORNIA**

DCN: FWSD-RAC-01-0019

October 6, 2000

Comments by: Julie Kim, M.S., Department of Toxic Substances Control, Industrial Hygiene and Field Safety Section (IHFSS)
Dated: September 11, 2000
Response by: Hamlet H. Hamparsumian, Foster Wheeler Environmental Corporation

Number	Comment	Response
3	Section 4.3, Physical Hazards. Please include Lockout/Tagout procedures as a part of this plan or as an attachment to the plan.	Lockout/Tagout is part of the Foster Wheeler Environmental EHS program that is listed as a reference in the document. The procedure can be attached to the document; however, as required by the Plan, all Foster Wheeler Environmental Procedures must be available and followed at the job site.
4	Section 5.0, Activity Hazard Analysis. Are confined space entry activities anticipated? If so, will personnel potentially working under these conditions be trained in confined space entry?	The site-wide plan specifically prohibits confined space entries without a formal plan change submittal and approval by the Foster Wheeler Environmental CIH before any confined space can be entered. No confined spaces are anticipated on this project.
5	<p>Section 6.0, Personal Protective Equipment. What is the initial level of protection as work commences? How will this PPE level be determined?</p> <p>How will upgrade or downgrade of PPE level be determined throughout the project? Will action levels be utilized as determinants? If so, what action levels will be set with what instrumentation? How will these action levels be established; based upon what rationale?</p> <p>Since there is a potential for respirator use (level C), what type of cartridges will be utilized? What is the cartridge change-out schedule?</p> <p>Are all employees with the potential to utilize respirators trained in respiratory protection and fit tested?</p>	<p>The initial level of protection is Level D. Certain tasks, such as tasks in contact with contaminated soil and those tasks where air monitoring exceeds action levels will have a higher level of protection as described in the PPE Matrix Table 2.</p> <p>The decision to upgrade and downgrade, action levels, and instrumentation is described in Section 6 of the SHSP. Also see Section 6 of the Attachment 4 of the SHSP.(Site-Wide Health and Safety Plan).</p> <p>There is a potential to use an air-purifying respirator. However, if such use is warranted as specified in the plan, the SHSS is to immediately call the PESM who is a CIH, to discuss the use of the respirator and the cartridge change schedule which the CIH will provide the SHSS at that time.</p> <p>Yes- the plan specifically requires that the SHSS have a record of fit test, that training in the use of a respirator has been provided, and that medical clearance to wear a respirator has been given before a respirator is worn. (Respirator fit tests cannot be conducted without a medical clearance to wear a respirator, and fit tests cannot be performed until a worker is trained on the use of a respirator.)</p>

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6	<p>Section 7.0, Air and Radiation Monitoring. What is the frequency of monitoring for each instrumentation? Please provide rationales for the action levels set for each instrumentation.</p>	<p>The monitoring frequencies for each instrument are specified in Section 7.2 of the SHSP. The action levels are set for the combustible gas meter based upon levels established by OSHA for LEL, by FWENC policy for oxygen (a level that is more stringent than OSHA), for hydrogen sulfide the action level is 50 percent of the PEL as required by OSHA, for the PID, the action level was set as described in answers to comments above, for the radiation survey meter action levels for the NaI and the GM survey meter were established by the Foster Wheeler Environmental Certified Health Physicist (CHP)- the level of 1.5 times background is actually more conservative than most survey procedures (2 time background is a normally used as an action level).</p>
7	<p>Section 7.1.1, Photoionization detector (PID) or flame ionization detector. Which lamp strength will specifically be used for the PID?</p> <p>The PEL for benzene is 1 ppm; is the action level set at 10 ppm health protective?</p>	<p>The plan allows for the use of either a 10.2 or 10.6 e.v. lamp, dependent on the specific model of PID available at the time the project is initiated in the field.</p> <p>The action level of 10 ppm was based on two factors. The concentration of contaminants in soil gases was extremely low and does not pose a significant risk for levels at or above action levels. However, the scenario that is used as a conservative approach is that it is extremely unlikely that benzene would comprise more than 10% of any readings on a PID. Gasoline rarely had more than 3.7% benzene, waste petroleum products in soil would have even less than this. No soil gas measurement or soil concentration of benzene above 1 ppm was noted. Benzene is slightly soluble in water so even less would volatilize. The PID is more sensitive to benzene than the calibrating gas, therefore, the CIH feels that an action level of 10 ppm in this outdoor environment is reasonable with readings being more likely associated with gasoline and aviation gas which has a Cal-OSHA PEL of 300 ppm.. However, the plan also requires that when action levels are reached or exceeded, the SHSS will call the CIH for further guidance. Included in this guidance will be such issues as a cartridge change schedules and a requirement to use a colorimetric tube to qualitatively ascertain if benzene is a component of the levels measured on the PID.</p>

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8	Section 7.2, Monitoring Strategy. Please note that relying on olfactory senses to detect exposure is not a health protective practice. Please rely on instrumentation readings for objective determination of exposure.	The reference in the plan to when odors are detected was in addition to a routine monitoring protocol. In those cases where there is not continuous monitoring and the plan requires monitoring every 15 minutes, the intent of the requirement to monitor when odors are detected is to insure that monitoring commences until such time as PID measurements are less than 5ppm which is 50 percent of the action level for PID readings, as specified in the plan.
8	<p>(Continued)</p> <p>It states in paragraph one, "The PID/FID will also be used wherever odors are detected and will continue to be used until odors can no longer be detected and organic vapor levels are below 5 ppm." What is the rationale for 5 ppm?</p> <p>It states in paragraph one, "If organic vapors are detected in the work zone, the SHSS will also monitor the perimeter of the work area to ascertain that the levels of organic vapors will not impact personnel outside of the work area. If these levels exceed 1 ppm, the SHSS will consult with the PESM and the NTR for proper course of action." What is the rationale for the action limit of 1 ppm? Is the action limit the result of monitoring in both upwind and downwind locations?</p> <p>What type of radiation (i.e., alpha, beta, gamma) is suspected to be potentially present at the site and what type will the instrumentation detect? How do the measurement values from the instrumentation compare to the exposure limits?</p>	<p>The action level of 1 ppm on the PID was selected as the action level since any reading less than that on a PID is either not displayed or is unreliable. The intent of the action level of 1 ppm was to establish that there is something being measured at the perimeter of the job site. At this point a decision would have to be made to determine if this reading posed any risk to personnel outside of the perimeters of the property. If so, control measures such as immediately placing cover after a trench is opened to the application of suppressants would be possible response actions. Perimeter monitoring is in all directions, with a focus on downwind directions.</p> <p>Please see the response to Comment #7 from the MCAS Local Redevelopment Authority</p>

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Comments by: Julie Kim, M.S., Department of Toxic Substances Control, Industrial Hygiene and Field Safety Section (IHFS)

Dated: September 11, 2000

Response by: Hamlet H. Hamparsumian, Foster Wheeler Environmental Corporation

Number	Comment	Response
9	<p>Table 1, Chemical Hazards Assessment. According to T8 CCR 5155, many of the exposure limits in the table are incorrectly stated. The corrected information is as follows:</p> <ul style="list-style-type: none"> • Gasoline: PEL = 300 ppm • Perchloroethylene: PEL = 25 ppm • Trichloroethene: PEL = 25 ppm • 1,1-dichloroethene: Ceiling = 0.025 mg/m³ • Hydrogen Sulfide: PEL = 10 ppm; Ceiling = 50 ppm <p>Please indicate the arsenic form (i.e., inorganic).</p> <p>Please correct the information in the table accordingly.</p>	<p>Foster Wheeler Environmental policy is to use the lowest levels for exposure evaluation – PEL or TLV whichever is lower. The Table was prepared using OSHA PELs; however, for contractor and subcontractors the levels used will conform with Cal-OSHA. Values for OSHA PEL, Cal-OSHA PEL and TLV will be placed in the table. Hydrogen sulfide will be added to the table. The table will be changed to reflect inorganic arsenic.</p>

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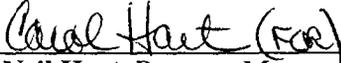
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 Southwest Division
 Mr. Richard Lovering, 02R1.RL
 1220 Pacific Highway
 San Diego, CA 92132-5190

DATE: 10/16/00
 CTO: 0022
 LOCATION: MCAS El Toro

FROM: 
 Neil Hart, Program Manager

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3 and 5 and Debris Disposal from Site 1, MCAS El Toro, CA, 10/06/00

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