March 30, 2010

Chief of Naval Operations
Environmental Protection Division (N45)
Radiological Controls and Health Branch
2511 Jefferson Davis Highway (Suite 2000)
Crystal City, VA 22202
ATTN: CAPT (b)(6)

RI-2010-A-0020

Dear CAPT (b)(6)

The U.S. Nuclear Regulatory Commission recently received information concerning activities at the Treasure Island Naval Base, which may indicate unsafe conditions or violations of NRC requirements. You should conduct inspections or investigations as necessary in order to review, follow up, and respond to the information that is described in the Enclosure. We ask that you inform Mr. Richard J. Urban in writing, within 30 days of the date of this letter, of the details of your evaluation and findings related to the validity of the information provided. We also ask that you reference tracking number RI-2010-A-0020 in your written response, and that you make any records of your evaluation available for possible NRC inspection. Your response should only be sent to Mr. Urban at the following address:

Mr. Richard J. Urban
U. S. Nuclear Regulatory Commission - Region I
475 Allendale Road
King of Prussia, Pennsylvania 19406-1415

No other copies should be sent to the NRC. Please do not submit your response to the Document Control Desk. We also request that your response contain no personal privacy, proprietary, or safeguards information. If personal privacy or proprietary information is necessary to provide an acceptable response, then please provide a bracketed copy of your response that identifies the information that should be protected and a redacted copy of your response that deletes such information. If you request withholding of such material, you must specifically identify the portions of your response that you seek to have withheld and provide in detail the bases for your claim of withholding (e.g., explain why the disclosure of information will create an unwarranted invasion of personal privacy or provide the information required by 10 CFR 2.390(b) to support a request for withholding confidential commercial or financial information). If safeguards information is necessary to provide an acceptable response, please provide the level of protection described in 10 CFR 73.21.

The NRC will review your response to determine whether: (a) the individual conducting the investigation was independent of the organization with responsibility for the related functional area; (b) the evaluator has sufficient knowledge and experience to conduct a review in the related functional area; and (c) the evaluation was of sufficient depth and scope. Your response should describe how each of these attributes was satisfied. If individuals were interviewed as part of your review, your response should include the basis for determining that the number and cross section of individuals interviewed were appropriate to obtain the information necessary to fully evaluate the concerns, and the interview questions used. If you determine a concern to be substantiated, please discuss your consideration of appropriate root causes and generic implications of the substantiated concern, and the appropriateness of corrective actions taken or planned. Additionally, if your evaluation identifies any compliance issue with regard to NRC regulatory requirements or NRC commitments, please inform the NRC regarding the requirement or commitment that was violated, the corrective actions taken or planned, and the

corrective action documentation that addressed the issue. If your evaluation included a sample review of related documentation and/or potentially affected structures, systems, and components, your response should include the basis for determining that the selected sample size was appropriately representative and adequate to obtain the information necessary to fully evaluate the concerns. The NRC will consider these factors in reviewing the adequacy of your evaluation of these issues and in developing our conclusions with regard to the concerns provided in the Enclosure.

This letter and its enclosure should be controlled and distribution limited to personnel with a "need to know." The response requested by this letter and the accompanying enclosure are not subject to the clearance procedures of the Office of Management and Budget as required by the Paperwork Reduction Act of 1980, Pub. L. 96-511.

Lastly, we ask that an appropriate member of your staff contact the NRC as your review effort begins to assure a common understanding of the issues discussed in the Enclosure and to discuss your plan to evaluate the issues, including the NRC's expectations for follow-up and response. Please contact Ms. Orysia Masnyk Bailey of my staff at (864) 427-1032 to discuss this information, including any additional questions you may have at this time concerning this request.

Sincerely,

/RA/

John D. Kinneman, Director
Division of Nuclear Materials Safety

Enclosure: As Stated

DEPARTMENT OF THE NAVY
OFFICE OF THE CHIEF OF NAVAL OPERATIONS
2000 NAVY PENTAGON
WASHINGTON, DC 20350-2000

IN REPLY REFER TO

6470
Ser N455/10U158185
23 June 2010

Mr. Richard J. Urban
U.S. Nuclear Regulatory Commission - Region I
475 Allendale Road
King of Prussia, PA 19406-1415

RECEIVED
2010 JUN 28 PM 12:50
REGION 1

Dear Mr. Urban:

The Nuclear Regulatory Commission notified the Naval Radiation Safety Committee by letter, dated 30 April 2010, of information concerning activities Treasure Island Naval Base which may indicate unsafe conditions or violations of NRC requirements. The Naval Radiation Safety Committee (NRSC) has completed its review of environmental restoration activities at the former Naval Station Treasure Island pursuant to the information provided in the reference. The review is enclosed.

Mr. (b)(6) was assigned to conduct the review based on his knowledge and experience, as documented in his resume, which is also enclosed. Mr. (b)(6) is the Radiological Affairs Support Office Lead Radiation Protection Manager and, as such, is independent of the organization responsible for the area under investigation. Mr. (b)(6) has included a detailed timeline in his investigation which documents sufficiency of the scope and depth of his investigation.

In addition to the allegations, the NRSC inquired on current work at the site involving the allegations. Currently, the three structures at the site have been demolished, and the foundations of the houses were excavated to eight feet in search of additional radium sources. If you have any additional questions or require additional information, please contact me at (703) 602-5365.

Sincerely,

(b)(6)

Captain, MSC, U.S. Navy
Executive Secretary
Naval Radiation Safety Committee

Enclosure

2 June 2010

From: Lead Radiation Protection Manager, NAVSEADET RASO
To: Chairman, Naval Radiation Safety Committee

Subj: QUALITY ASSURANCE REVIEW OF NAVAL STATION TREASURE ISLAND ENVIRONMENTAL RESTORATION

Ref: (a) NRC ltr Ser RI-2010-A-0020 of 30 Mar 10
(b) CNO ltr 6470 Ser N456S/10U158153 of 10 May 10

Encl: (1) NRSC Investigation
(2) Scope and Depth of Investigation
(3) Knowledge and Experience of Mr. (b)(6), Investigator
(4) Interview Questions
(5) NAVSTA TI Historical Radiological Assessment and Work Plan (on CD)

1. This letter reports completion of an investigation as requested by reference (a) and authorized by reference (b) into recently received information concerning activities at Treasure Island Naval Base which may indicate unsafe conditions or violations of NRC requirements.

2. Enclosure (1) is the completed investigation. Enclosure (2) documents the scope and depth of the investigation. Enclosure (3) records my knowledge and experience with the subject matter of the investigation. Enclosure (4) contains a complete list of the questions I asked interviewees. Enclosure (5) is an electronic copy of the Treasure Island Naval Station Historical Radiological Assessment and Work Plan (Work Plan).

3. I reviewed the following documentation as a part of this investigation:

a. Navy's Master Materials License standard operating procedure on allegations,

b. NSTI Historical Radiological Assessment (Weston, 2006),

c. Removal Action Work Plan/Remedial Design, Non-Time Critical Removal Action, Installation Restoration Site 12, Three Solid Waste Disposal Areas, SWDAs A&B, 1207/1209, and 1231/1233, Treasure Island, San Francisco, CA (Shaw, 2007),

d. DON Policy on Activities Involving General Radioactive Material (G-RAM) at Environmental Restoration Program Sites, CNO ltr 5090 Ser N453/10U158072 of 18 Feb 2010,

e. Site 12 Radiological Sampling and Analysis Plan (Appendix C of Work Plan) (New World Technology, 2007, rev 3),

f. Radiation Protection Plan (Shaw, 2009) formerly called the Radiological Sampling and Analysis Plan,

g. Area TLD Records for sites: Bldg 570, Site 6, and SWDA A&B for dates 12/6/08 to 2/21/09,

h. Personnel Exposure Records for issue period 12/19/08 to 1/18/09,

i. Radiation Work Permit, RWP # TI-RWP-0039, dated 2/1/10 for SWDA A&B work site. Radiation safety controls were satisfactory,

j. Work Instruction, TIWI-02-02, dated 4/5/10 for SWDA A&B work site,

k. Final surveys for site SWDA 1207/1209 and SWDA 1231/1233,

l. Shaw Field Work Variances: 122412-010-001, 122412-010-002, 122412-010-003, 122412-010-004, and 122412-010-005,

m. Sampling and Analysis Plan for Radioactive and Mixed Waste (Environmental Management Services, Inc., Aug 2009, Rev. 1), and

n. Shaw Contract Number N62474-01-D-6011, Modification #20.

4. In the course of this investigation, I interviewed the following personnel:

a. Mr. (b)(6), Environmental Protection Manager NAVSEADET RASO,

b. Ms. (b)(6), Lead Environmental Protection Manager NAVSEADET RASO,

c. Mr. (b)(6), Shaw Project Manager

d. (b)(6), Shaw Project Radiation Safety Officer,

e. Mr. (b)(6), NAVFAC Lead Remediation Project Manager

f. Mr. (b)(6), NAVFAC Resident Officer in Charge of Construction (ROICC) Office Representative,

g. Mr. (b)(6), Radiological Control Technician, Shaw,

h. Ms. (b)(6), Radiological Control Technician, Shaw,

i. Mr. (b)(6), Radiological Control Technician, Shaw, and

j. Mr. (b)(6), Environmental Protection Manager NAVSEADET RASO.

5. Summary of findings. Enclosure (1) of reference (a) identified four issues for investigation. After a thorough review of the evidence adduced during the investigation, I found no unsafe conditions or violations of NRC requirements. The contractor, Shaw Environmental and Infrastructure, Inc., performed environmental remediation activities per the Work Plan, as approved by the Navy and accepted by the State of California.

6. This report requires special handling. Only one copy will be sent electronically, no hard copies will be filed at NAVSEADET RASO, and field notes will be sent by regular mail or hand delivered.

7. NAVSEADET RASO point of contact is Mr. (b)(6) at DSN (b)(6) or commercial (b)(6).

(b)(6)

NRSC INVESTIGATION RESULTS

The NRSC received information concerning four issues as referenced per RI-2010-A-0020 that environmental remediation activities performed by Navy contractor, Shaw Environmental and Infrastructure, Inc., may indicate unsafe conditions or violation of NRC requirements. The specific issues and NRSC responses are given below.

1. **ISSUE 1. The work plan of Shaw Environmental and Infrastructure, Incorporated, as approved by Base Relocation and Closure (BRAC), requires the contractor to remediate to 4 feet below grade. However, there were elevated readings at this level that would indicate there were additional radium sources deeper than 4 feet. Despite this fact, the contractor back-filled the trenches since the work orders only required excavation to 4 feet. In addition, sources were found up against the foundations of homes, but that the contractor did not explore the possibility that additional sources could be found underneath the homes storage sheds, or utility structures.**

a. On 5 March 2007, the Navy approved the Removal Action Work Plan/Remedial Design (Work Plan) for Installation Restoration Site 12, which includes three solid waste disposal area, SWDA 1207/1209, SWDA 1231/1233, and SWDA A&B. Section 1.1 of the work plan required the excavation of soil to a depth of 4 feet below ground surface (bgs) in three SWDAs. The excavation areas included residential housing common areas, backyards, and roadways. Soil beneath "hardscape", consisting of cement driveways along Westside Drive within SWDA A&B and cement beneath backyard storage sheds, will not be excavated.

b. Section 1.4 states the Work Plan objective as follows: (1) provide for the protection of human health and the environment and (2) restrict the pathway and reduce the potential for a resident or utility worker to contact chemical-contaminated soil near the ground surface (between 0 and 4 feet bgs) within the SWDAs at Site 12 under the current land use configuration.

c. Section 4.1 of the Work Plan states that radiological contaminants are not a contaminant of concern and the radiological field tests are meant to characterize the soil prior to disposal, and the purpose of bottom sampling is to document remaining radiological soil impacts, if any. The Historical Radiological Assessment, performed by Weston Solution, Inc., dated February 2006 identified Radium-226 as the radionuclide of concern. Accordingly, soil to be excavated within the SWDAs will be field screened and sampled for Radium-226 during the excavation.

d. Section 4.6 of Work Plan states that excavation depths will not exceed 4 feet bgs, and because excavation depths will not be increased based on bottom sample analytical results, backfilling may begin following bottom sample collection.

e. Review of final gamma scan radiation survey records documented by New World Technology confirmed elevated gamma scan reading using a 2x2 NaI detectors and soil samples greater than the remedial limit of 1.0 pCi/gm analyzed by gamma spectroscopy. Surveys were performed on 31 May 2007 to 1 October 2007. Elevated readings mean surface radiation levels that exceed 3 sigma of the mean background level per the Radiological Sampling and Analysis Plan (Appendix C of Work Plan), dated 4 July 2007 (rev 3). Elevated readings on sidewall excavations were confirmed for the following Buildings: 1205, 1207, 1209, 1211, 1213, 1222, 1231, 1233, and 1235. Elevated readings on bottom excavations were confirmed for Building 1205. Soil samples on bottom excavations were confirmed greater than the limit for Buildings 1207 and 1213. Excavations at SWDA Sites 1207/1209 and 1231/1233 were back-filled by the end of 2008 without further remediation.

f. Conclusion. No violation identified. The contractor performed environmental remediation activities per the Work Plan approved by the Navy and accepted by the State of California. After environmental remediation started at SWDA A&B, radioactive commodities recovered from excavation at 4 feet bgs had significantly higher contact radiation levels. The Radiation Protection Plan (formerly the Radiological Sampling and Analysis Plan), dated 21 May 2009 was changed to allow excavation deeper than 4 feet bgs for removal of radioactive commodities, i.e., hot spots, and back-filling will not occur until concurrence is received from the Navy. Environmental restoration of SWDA Sites 1207/1209 and 1231/1233 is not final. Shaw's contract modification #20 (effective April 2010) includes performing a MARSSIM Final Status Survey of SWDA Sites 1207/1209 and 1231/1233.

2. **ISSUE 2. During the remediation process, some of the dirt that was surveyed was found to be "clean" and was sent to a disposal facility that did not accept radioactive waste. However, since the contractor only looked for gamma emitters, no other radionuclides (like strontium) would have been detected. Therefore, the disposal facility unknowingly accepted radioactive material.**

a. Section 4.1 of Work Plan (dated 26 February 2007) states that radiological contaminants are not a contaminant of concern

and the radiological field tests are meant to characterize the soil prior to disposal, and the purpose of bottom sampling is to document remaining radiological soil impacts, if any. The Historical Radiological Assessment, performed by Weston Solution, Inc., dated February 2006 identified Radium-226 as the radionuclide of concern. Accordingly, soil to be excavated within the SWDAs will be field screened and sampled for Radium-226 during the excavation.

b. The Radiological Sampling and Analysis Plan, Appendix C of Work Plan, (revision 3 dated 4 July 2007), Section 1.0, states that the HRA (Weston, 2006) listed Radium-226 as the potential radionuclide of concern for the areas located in Site 12, which includes the three SWDAs. As of the date of this plan revision (rev 3), Radium-226 has been identified by HPGe laboratory analysis as a radionuclide that is present in both soil and devices.

c. The Radiation Protection Plan (formerly the Radiological Sampling and Analysis Plan) (dated 21 May 2009), Section 1.0, maintains that Radium-226 is the primary radionuclide of concern.

d. The Radiation Protection Plan, Section 3.12 requires contamination surveys of equipment, vehicles, materials, debris, and personnel exiting radiological control areas for unconditional release per free release criteria established in NRC Regulatory Guide 1.86. Per interviews with Shaw's Project RSO, Shaw's Project Manager, NAVFAC Remedial Project Manager, and NAVSEADET RASO Environmental Protection Manager, contamination spread out side of radiological control areas did not occur.

e. The Radiological Work Process Plan (Appendix C of Radiation Protection Plan), Section 3.4, states that if other radionuclides are encountered, additional radiological remediation objectives will be established with the appropriate regulatory agencies. Per interviews with Shaw's Project RSO, Shaw's Project Manager, NAVFAC Remedial Project Manager, and NAVSEADET RASO Environmental Protection Manager, other radionuclides have not been encountered.

f. The Radiological Work Process Plan, Section 4.4 states soil will be considered suitable for release from radiological controls as decommissioning waste for disposal at a suitable landfill where it is determined to have a Radium-226 soil concentration of no more than 1.7 pCi/g. Navy concurrence is required for release of soil as decommissioning waste for disposal to a suitable landfill.

g. Soil sample labeled TC-HS-01 was taken from SWDA A&B on 18 January 2010 and counted by GEL Laboratories for the following

radionuclides at the request of NAVSEADET RASO: Bismuth-214, Cesium-137, Lead-210, Lead-214, Radium-226, Strontium-90, Thorium-228, Thorium-230, Thorium-232, Uranium-233, Uranium-234, Uranium-235, Uranium-236, and Uranium-238. Radionuclides measurable above MDC were the following: Bismuth-214, Lead-210, Lead-214, Radium-226, Thorium-228, Thorium-230, and Uranium-238.

h. Conclusion. No violation identified. The contractor performed environmental remediation activities per the Work Plan approved by the Navy and accepted by the State of California.

3. **ISSUE 3. Some of the excavation was done without any radiological surveys. The location to which the "new Pandemonium" was moved was provided as an example. The "new Pandemonium" was a ship mock-up that was moved from one area of the site to another.**

a. The Historical Radiological Assessment (Weston, 2006) states that the USS Pandemonium was moved from its Northwest site (currently SWDA A&B) to its Northeast site (currently Site 32) in May of 1969 by the Navy per an authorized radioactive material license amendment from the Atomic Energy Commission. Navy housing was later built on the Northwest site.

b. The Work Plan, Section 4.6, states that excavation of soil and debris within most of the three SWDAs will proceed according to this schedule (i.e. one foot of depth excavated followed by DART screening) until four feet of soil is excavated. However, select areas will be excavated on an expedited schedule to minimize inconvenience to area residents. The detector array rack towed (DART) equipment consists of a Ludlum Model 4612 Counter and 12 Ludlum Model 44-10 sodium iodide (NaI) probes supported by global positioning system (GPS) equipment. The (non-screened) soil will be deposited in a one foot-thick layer within a nearby part of the respective SWDA. Radiological screening will be performed on the soil within the stockpile area. Shaw's Project Manager stated during an interview on 20 May 2010 that a time critical, i.e., expedited schedule excavation was performed at the USS Pandemonium site per the Work Plan. The USS Pandemonium site excavation occurred around mid 2008.

c. Conclusion. No violation identified. The contractor performed environmental remediation activities per the Work Plan approved by the Navy and accepted by the State of California.

4. **Issue 4. There were people living in houses in the area where the remediation was ongoing. There was evidence that**

people had gotten into the decommissioning areas, and at least one "hot spot" read 80 mR/hr, which was covered with a large steel plate.

a. The Work Plan, Section 4.3 states that during construction activities adjacent to occupied buildings, tenant backyards and common areas will be within the exclusion zone. Access to the exclusion zone will be restricted to authorized Navy and Navy contractor personnel, except in the event of an emergency when area residents may need to enter an exclusion zone as an escape route. Temporary fencing will be installed where needed around exclusion zones to limit access. Per interviews with Shaw's Project RSO and NAVSEADET RASO Environmental Protection Manager, they confirmed from direct observation that SWDA sites were enclosed by temporary and existing fencing to prevent inadvertent access by members of the public. A visit by NAVSEADET RASO on 17-20 May 2010 confirmed the remaining SWDA site (SWDA A&B) was adequately secured by temporary fencing to prevent inadvertent access by members of the public.

b. The Work Plan, Section 4.3 states that safe and secure work areas will be maintained for the housing area residents and environmental contractors during all phases of construction. A subcontracted security guard will patrol SWDA area building areas and resident storage areas. It was widely reported that copper prices reached an all-time high around May - June 2008 of $4.00 per pound. Typically copper prices were less than $1.00 per pound. The record high prices fueled a nationwide rash of copper theft. Thieves targeted anything with copper: utility lines, pipes, fittings, and condensing units. By January 2009, copper prices had dropped to approximately $1.00 per pound. Per interview with the Shaw's Project RSO, he confirmed that there was evidence that members of the general public had gotten into exclusions zones after normal working hours in mid and late 2008, which showed evidence of copper theft. Shaw has its own security personnel patrolling the exclusion zone boundaries once every 30 minutes. Additionally, the City of San Francisco and Federal security forces are present and patrol Treasure Island. Per interview with Shaw's Project RSO, no evidence of entry by members of the general public was evident in 2009 and 2010.

c. Conclusion. No violation identified. The contractor performed environmental remediation activities per the Work Plan approved by the Navy and accepted by the State of California. The contractor has satisfied the requirements of the Work Plan to ensure tenant safety.

SCOPE AND DEPTH OF INVESTIGATION

The scope of this investigation was limited to radiological activities associated with Site 12 environmental remediation area and other areas controlled by Shaw Environmental Inc., in support of Site 12 work at Naval Station Treasure Island, CA. This investigation involved reviewing procedures and policy documents governing the environmental restoration work, interviewing Navy BRAC/NAVFAC personnel responsible for contractor performance and work oversight, Navy RASO personnel responsible for radiation safety oversight, contractor personnel responsible for the work and radiation safety, observing actual remediation work, visiting the remediation site, performing confirmatory radiation and contamination surveys, and reviewing project survey and sample analysis records. The details given below provide evidence that the investigation was of sufficient scope and depth.

1. 5/7/10: Mr. (b)(6) was assigned as the investigator for RI-2010-A-00200, removed from all other duties and responsibilities, and directed by his supervisor, Mr. (b)(6) (b)(6), to report all updates, status, and written reports directly to the NRSC.
2. 5/8/10 - 5/9/10: Cleared calendar, prepared plan of action and milestone, reviewed the Navy's Master Materials License standard operating procedure on allegations, and prepared questions for interviews.
3. 5/10/10: Contacted NRC Staff, Ms. (b)(6) to discuss RI-2010-A-0200 and assure a common understanding of the issues. The following information was requested from Ms. (b)(6) as per the MML allegation instructions: (a) name of alleger, (b) contact information of alleger, (c) job position of alleger, (d) place and date of allegation, (e) other individuals affected by allegation, (f) command awareness of allegation, and (g) any health or safety related issue. Ms. (b)(6) stated on 11 May 2010 that it was NRC policy not to release requested information.
4. 5/10/10: NRSC issued ltr, 6470 Ser N456S/10U158153 of 10 May 2010, authorizing a quality assurance review of Naval Station Treasure Island Environmental Restoration. The letter specifically stated the following: (a) review shall be independent of any site evaluation normally performed by NAVSEADET RASO, (b) review will be performed 12 May through 2 June 2010, (c) review will be performed by Mr. (b)(6), and (d) Mr. (b)(6) will make all reports directly to the NRSC.
5. 5/11/10: Requested the following from NAVSEADET RASO via the Officer in Charge: copy of Naval Station Treasure Island's Historical Radiological Assessment, copy of Naval station Treasure Island's Work Plans for all radiological

environmental restoration, copy of the state of work (SOW) for all contractors performing radiological environmental restoration at NSTI, a briefing from the NAVSEADET RASO's Environmental Programs Directorate on NSTI environmental restoration activities which should include the following topics: status of NSTI environmental restoration project, project setbacks and challenges, agency responsible for day-to-day oversight of contractors, agencies involved in oversight of ER at NSTI, contact information for agencies involved in oversight of ER at NSTI, agency responsible for validating contractor work completion for the Navy, agency that has regulatory authority over ER at NSTI, and contact information for arranging a site visit of ER at NSTI; and an interview with EPM assigned to NSTI project.

6. 5/13/10: Issued NSTI visit announcement to Base Realignment and Closure (BRAC) Program Management Office (PMO) West, ltr 5104/47692 Ser WDP/10-0359/0041 of 13 May 2010.
7. 5/13/-5/14/10: Reviewed the following documents in preparation for NSTI visit: (a) NSTI Historical Radiological Assessment (Weston, 2006), (b) Removal Action Work Plan/Remedial Design, Non-Time Critical Removal Action, Installation Restoration Site 12, Three Solid Waste Disposal Areas, SWDAs A&B, 1207/1209, and 1231/1233, Treasure Island, San Francisco, CA (Shaw, 2007), and (c) DON Policy on Activities Involving General Radioactive Material (G-RAM) at Environmental Restoration Program Sites, CNO ltr 5090 Ser N453/10U158072 of 18 Feb 2010.
8. 5/13/10: Discussed NSTI visit expectations and schedule with BRAC PMO Management (b)(6) and (b)(6) (b)(6).
9. 5/14/10: Briefed by NAVSEADET RASO Environmental Directorate on status of ER activities at NSTI.
10. 5/14/2010: Interviewed (b)(6), EPM NAVSEADET RASO and (b)(6), Lead EPM NAVSEADET RASO.
11. 5/14/10: Prepared survey meter and dosimetry for NSTI visit.
12. 5/17/10: Traveled to San Francisco, CA for NSTI visit.
13. 5/18/10: 0930: Started NAVSTA TI visit with in-brief with NAVFAC Southwest representatives (b)(6) and (b)(6) (b)(6) -via phone), Resident Officer in Charge of Construction SF office representatives (LCDR (b)(6) and (b)(6)), NAVFAC Southwest Lead Remedial Manager (b)(6), Shaw Project Manager (b)(6), and Shaw Project Radiation Safety Officer (b)(6)
    a. 1030: Received Tailgate Safety briefing at Shaw office Bldg 570 prior to tour Site 12 and other radiological impacted areas on TI. Toured sites with Shaw Project RSO, Shaw Project Manager, NAVFAC Lead RPM, and ROICC.

b. 1105: Toured Site 6, which is controlled by subcontractor, Environmental Management Services, Inc. EMS receives radiologically impacted solid waste in bins from Site 12, characterizes waste, and ships waste to appropriate offsite burial site for disposal. Site 6 is controlled and posted as a radiologically controlled area. NAVSEADET RASO inspector took confirmatory radiation surveys at boundary of Site 6 and readings were 7 - 11 micro R/hr. Background reading at hotel room was 10 micro R/hr.

c. 1135: Toured Sites SWDA 1207/1209 and 1231/1233. Both sites are backfilled and restoration is complete and has unrestricted access. NAVSEADET RASO inspector took confirmatory radiation surveys over restored area and reading were 7 - 11 micro R/hr at ground level and 3 ft above ground.

d. 1205: Toured Site SWDA A&B. This is an active remediation site and is posted as a radiologically controlled area, controlled surface contamination area (inside RCA), and radiation area (inside CSCA).

e. 1220: Tour ended and returned to Shaw office, Bldg 570.

f. 1230 - 1630: Reviewed the following records and documents with the Project RSO:

i. Work Plan (Shaw, 2007)

ii. Site 12 Radiological Sampling and Analysis Plan (Appendix C of Work Plan) (New World Technology, 2007, rev 3)

iii. Radiation Protection Plan (Shaw, 2009) formerly called the Radiological Sampling and Analysis Plan

iv. Area TLD Records for sites: Bldg 570, Site 6, and SWDA A&B for dates 12/6/08 to 2/21/09. Results were background.

v. Personnel Exposure Records for issue period 12/19/08 to 1/18/09. Results were zero mrem.

vi. Radiation Work Permit, RWP # TI-RWP-0039, dated 2/1/10 for SWDA A&B work site. Radiation safety controls were satisfactory.

vii. Work Instruction, TIWI-02-02, dated 4/5/10 for SWDA A&B work site. Radiation safety controls were satisfactory.

viii. Shaw Field Work Variances: 122412-010-001, 122412-010-002, 122412-010-003, 122412-010-004, and 122412-010-005.

14. 5/19/10: 0700: Arrived at Shaw office Bldg 570.

a. 0705: Observed Shaw work crew daily briefing

b. 0730: Observed NRC Form 3 posted in office space

c. 0740: Toured staging area for radiation survey meters adjacent to Bldg 570. Radiation survey meters used by RCTs in the field during excavation activities are: Ludlum Model 9 Ion Chamber and Ludlum Model 2221 Scalar

Ratemeter NaI Scintillation Counter. Checked calibration dates on two survey meters (Serial # 38708 and 262343). Calibration dates were satisfactory.

d. 0756-0945: Observed remediation activities at Site SWDA A&B.
   i. Area posted as RCA and CSCA (with RCA).
   ii. Access control point established at boundary of RCA and assigned control point watch RCT.
   iii. Workers donned blue Tyvek coveralls, rubber boots, disposable boot covers, double plastic gloves, TLD inside and pocket dosimeter outside coveralls, individual breathing zone air sampling device.
   iv. RCT entered RCA/CSCA first to perform contamination and radiation surveys of area prior to start of work to verify radiological controls conditions are consistent with RWP # TI-RWP-0048.
   v. Portable air samplers were placed upwind and downwind of site. The low flow air samplers run all day and the air filter is counted the next day for radionuclide activity.
   vi. A crew of seven (three RCTs, two equipment operators, and two laborers) entered the RCA/CSCA.
   vii. RCTs have radio communication with the control point watch, crew supv, and Project RSO during excavation activities.
   viii. Laborer sprayed down site with water to minimize dust.
   ix. RCTs scanned soil as it was excavated with ion chamber (micro R/hr meter) and NaI scintillation counter (cpm).
   x. Crew supv observed work.
   xi. Observed remediation activities were performed per work instruction, TI-RWP-0048.
   xii. NAVSEADET RASO inspector surveyed RCA boundary and reading were 7 - 11 micro R/hr and surface contamination readings were 25 - 45 cpm (same as background). Survey meter used: RadEye B20 alpha, beta, gamma survey meter by Thermo Scientific.
   xiii. NAVSEADET RASO inspector was accompanied by Project RSO during observation of remediation activities.

15. 5/19/10: 1020: Returned to Bldg 1 for interviews.
   a. 1020: Interviewed (b)(6), NAVFAC Lead RPM. Mr. (b)(6) is the lead remedial program manager for NSTI environmental restoration project and works out of his San Diego, CA office. He was assigned to this project in December 2009. Mr. (b)(6) does not have radiation safety training or experience.
   b. 1137: Interviewed (b)(6), NAVFAC ROICC SF Project Engineer. Mr. (b)(6) is the resident safety officer

for NSTI and San Francisco Bay area and works out of his Alameda, CA office. Mr. (b)(6) does not have radiation safety training or experience; however, he is HAZWOPER trained.

16. 5/19/10: 1300: Returned to Bldg 570 to interview Shaw's environmental remediation work crew personnel.
    a. 1300: Interviewed (b)(6), Radiological Control Technician (RCT). Mr. (b)(6) was on the remediation project for three years and initially worked for New World Technology (NWT) when NWT was subcontracted by Shaw to perform the environmental remediation of the radiologically impacted areas at Site 12.
    b. 1400: Interviewed (b)(6), RCT. Ms (b)(6) joined the project in July 2008 and initially worked for NWT.
    c. 1432: Interviewed (b)(6), Project RSO. Mr. (b)(6) joined the project December 2008 and become the Project RSO in May 2009. The primary Project RSO is (b)(6) (b)(6) who was attending MARSSIM training the week of the visit. (b)(6) is the license RSO and works out of his East coast office.
    d. 1530: Interviewed (b)(6), RCT. Mr. (b)(6) joined the project in September 2009 and is a former Navy RCT.
    e. 1652: Interviewed (b)(6), Shaw Project Manager. Mr. (b)(6) was the site project manager from the start of the project in February 2007.
17. 5/20/10: 0915: Meeting with BRAC PMO senior management at Bldg 1: (b)(6), BRAC PMO, (b)(6), Director, BRAC PMO West, and (b)(6), NAVFAC Lead RPM. Meeting provided inspection status and served as inspection out-brief.
18. 5/20/10: 1010: Returned to Shaw office Bldg 570 to close-out follow-up items with Project RSO and Project Manager.
    a. Reviewed final surveys for site SWDA 1207/1209 and SWDA 1231/1233. Received survey results on CD.
    b. Reviewed Radiological Work Process Plan (Shaw, 2009), Appendix C of Radiation Protection Plan.
    c. NAVSEADET RASO performed confirmatory radiation survey of radioactive material storage shed adjacent to Bldg 570. Readings were 7 - 10 micro R/hr (same as background).
19. 5/20/10: 1430 completed NSTI visit.
20. 5/21/10: Traveled back home.
21. 5/24/10: Interviewed (b)(6), NAVSEADET RASO, Primary Environmental Protection Manager assigned to NSTI environmental restoration project. Mr. (b)(6) has been working this project for 2.5 years.
22. 5/25/10: Started preparing report.

KNOWLEDGE AND EXPERIENCE OF INVESTIGATOR

The NRSC assigned Mr. (b)(6), NAVSEADET RASO Lead Radiation Protection Manager, to perform the investigation of RI-2010-A-00200 per CNO ltr 6470 Ser N456S/10U158153 of May 2010. Mr. (b)(6) qualified as a Radiological Affairs Support Program Inspector in August 2007 per the standards established in the Navy Master Materials License Standard Operation Procedures. Mr. (b)(6) work experience is given below.

(b)(6)

Lead, Radiation Protection Manager
Naval Sea Systems Command Detachment Yorktown
Radiological Affairs Support Office

Mr. (b)(6) started his Navy civilian career as a Physical Science Technician (GS-5) at Charleston Naval Shipyard after graduating from Trident Technical College in 1985 with an Associate of Science degree in Electronic Engineering Technology. At Charleston Naval Shipyard, he qualified as a Radiological Controls Technician (RCT) and provided radiation safety oversight of Naval Nuclear Propulsion Program overhaul and refueling of Navy ships from 1985 to 1989, which included the following duties: (1) provided direct radiological control work oversight to minimize personnel exposure to radiation, contamination and airborne sources, (2) used portable radiation survey meters to measure gamma, beta, alpha, and neutron radiation to determine engineering controls and radiological boundaries, (3) documented radiological deficiencies while providing oversight of radiological work and during performance of surveillances in nuclear work areas, (4) recommended improvements to radiological instructions, cumbersome work practices, and nuclear work procedures, (5) documented radiation, contamination, and airborne survey results and abnormal and unsatisfactory work conditions during radiological oversight of nuclear work, (6) packaged and properly accounted for radioactive material generated during oversight of radiological work and processing at nuclear work facilities, (7) donned anti-contamination clothing and controlled the spread of loose surface contamination when handling contaminated equipment and working in contaminated areas, (8) issued radiation exposure monitoring devices to nuclear workers trained to work in radiation areas, and (9) responded to radiological emergencies onboard nuclear ships and in radiological repair and refueling facilities.

In 1989 Mr. (b)(6) was promoted to health physicist and became a certified instructor and provided initial, requalification, and refresher training to radiological control technicians at Charleston Naval Shipyard. When a BRAC action closed Charleston Naval Shipyard in 1995, he transferred as a senior health physicist to Norfolk Naval Shipyard with the Fleet Radiological Support Division (FRSD) and established the NNPP's corporate training curriculum for radiation workers and RCTs and stood up the Radiological Controls Technician Qualification School (RCTQS). Mr. Prioleau was appointed the first supervisor of RCTQS for the first two graduating classes. He supervised eight health physicist instructors and performed the following

duties: resolving administrative student matters, resolving conflicts between student and instructors, evaluating student academic performance, scheduling class events, reviewing and approving written, practical, and oral examination, removing students with poor academic performance, reviewing examination result for grading inconsistencies and trends, assuring effective implementation of training objectives, analyzing and eliminating conflicting policies and work practices from the standpoint of exposure control and reduction, contamination control, economy, and safety of training.

In December 2000 while working full time as senior health physicist with FRSD, Mr. (b)(6) received a Bachelor of Science degree in Computer Engineering from Old Dominion University in Norfolk, VA.

In June of 2001, Mr. (b)(6) was hired as a nuclear engineering in the Nuclear Engineering and Planning Department, Code 2300 at Pearl Harbor Naval Shipyard and Intermediate Maintenance Facility. His primary duty was to training new nuclear engineers and engineers in the Radiological Controls Office (Code 105) and Code 2300 on engineering radiological controls into nuclear procedures and initial and refresher radiation safety training for engineers. Other duties included: engineering controls data assessor at the Emergency Control Center (ECC) on the Reactor Assessment Team and shipyard representative during annual corporate radiological engineering training improvement initiative meetings.

In August of 2005, Mr. (b)(6) was hired as a Supervisory Nuclear Engineer in the Radiological Controls Office, Engineering Division (Code 105.2) at Pearl Harbor Naval Shipyard & IMF. He was the Waterfront Projects Branch Head in charge of all seven project nuclear engineers assigned to nuclear ship maintenance projects. The project engineers provided direct radiological engineering support to nuclear and non-nuclear project superintendents. Other duties included: radiological controls data assessor at the Emergency Control Center (ECC) on the Radiological Assessment Team and shipyard representative during annual Corporate Nuclear Power Manual revision meetings.

In August 2006, Mr. (b)(6) was hired as a health physicist in the Radiation Programs Directorate at NAVSEADET RASO. He qualified as a Radiation Protection Manager (RPM) within one year and provided radiation safety oversight of 25 RASP commands. RPM duties included: processing Naval Radioactive Material Permit (NRMP) applications, conducting site radiation safety inspections of RASP commands, evaluating command inspection responses, performing technical assist visits, giving radiation safety topic lecture in RSO Course, reviewing facility shielding designs, reviewing radiation protection surveys and direct support of assigned RASP commands by email and phone.

Mr. (b)(6) is currently the Lead Radiation Protection Manager in the Radiation Programs Directorate and assists the Radiation Program Director in providing radiological oversight of 207 RASP programs and supervisory management of seven RPMs. He was selected Lead RPM in August of 2008.

Mr. (b)(6) received a graduate certificate in Public Management from Indiana University in May of 2006.

INTERVIEW QUESTIONS

A. BRAC/NAVFAC REPRESENTATIVE INTERVIEW QUESTIONS

Name:
Job Title:
Date:
Time:
Location:

1. When were you assigned to the Naval Station Treasure Island environmental restoration project?
2. When did the NSTI ER project begin?
3. Who do you normally call at the site for an updates?
4. Do you call the contractors directly for status or information? If so, who?
5. When did you last visit NSTI and what is the scope of your visit?
6. Describe how the Navy provides contractor oversight at NSTI?
7. How many times have you visited the NSTI ER project in 2008, 2009, and 2010? Did you observe actual ER activities/work?
8. Who is responsible for reviewing survey records provided by contractors for compliance with applicable regulations and work plans?
9. Who is responsible for counting field samples and quality assurance of sample results?
10. Has any regulatory violations been written against the NSTI ER project or contractors? If so where could I get documentation of violation?
11. Is there a Navy agency on site that provide oversee of ER contractors?
12. What agency or entity manages day-to-day ER operations at NSTI?
13. Who is in-charge at the NSTI ER site?
14. Does the Navy perform independent sampling at NSTI to confirm survey results provided by contractor?
15. When is the ER at NSTI scheduled to be completed?
16. How would you describe your working relationship with ER contractor?
17. How would you describe your working relationship with NAVSEADET RASO?
18. How would you describe the ER contractor's work performance?
19. How would you describe the BRAC/NAVFAC contract oversight performance?
20. After the ER Work Plan is approved, what is your involvement and responsibilities during the restoration process?
21. Is your review or approval needed at any time during the restoration process?
22. When are you required to be notified by the contractor during the restoration process?
23. What conditions warrant temporarily stopping ER activities?

24. Do you know of any barrier breaches by members of the public in ER controlled areas?
25. Do you know of incidences where members of the public were seen inside ER controlled areas?
26. How deep is soil typically removed during the ER process?
27. What condition would warrant removing soil deeper that normal during the ER process?
28. When are radiological surveys required during the ER process?
29. Where is excavated soil sent for disposal?
30. Excavated soil is evaluated for what radio nuclides?
31. When are structures or foundations removed during the ER process?
32. Did the contractor notify you of any problems/abnormal events/work stoppages at the ER site?

B. NAVSEADET RASO EPM INTERVIEW QUESTIONS

Name:
Date:
Time:
Location:
1. When were you assigned to the Naval Station Treasure Island environmental restoration project?
2. When did the NSTI ER project begin?
3. Who do you normally call at the site for an updates?
4. Do you call the contractors directly for status or information? If so, who?
5. When did you last visit NSTI and what is the scope of your visit?
6. Describe how the Navy provides contractor oversight at NSTI?
7. How many times have you visited the NSTI ER project in 2008, 2009, and 2010?
8. During your site visit, did you observe actual ER activities/work?
9. Who is responsible for reviewing survey records provided by contractors for compliance with applicable regulations and work plans?
10. Who is responsible for counting field samples and quality assurance of sample results?
11. Has any regulatory violations been written against the NSTI ER project or contractors? If so where could I get documentation of violation?
12. Is there a Navy agency on site that provides oversight of ER contractors?
13. What agency or entity manages day-to-day ER operations at NSTI?
14. Who is in-charge at the NSTI ER site?

15. Does the Navy perform independent sampling at NSTI to confirm survey results provided by contractor?
16. When is the ER at NSTI scheduled to be completed?
17. How would you describe your working relationship with ER contractor?
18. How would you describe your working relationship with BRAC/NAVFAC?
19. How would you describe the ER contractor's work performance?
20. How would you describe the BRAC/NAVFAC contract oversight performance?
21. After the ER Work Plan is approved, what is your involvement and responsibilities during the restoration process?
22. Is your review or approval needed at any time during the restoration process?
23. When are you required to be notified by BRAC/NAVFAC or the contractor during the restoration process?
24. What conditions warrant temporarily stopping ER activities?
25. Do you know of any barrier breaches by members of the public in ER controlled areas?
26. Do you know of incidences where members of the public were seen inside ER controlled areas?
27. How deep is soil typically removed during the ER process?
28. What condition would warrant removing soil deeper that normal during the ER process?
29. When are radiological surveys required during the ER process?
30. Where is excavated soil sent for disposal?
31. Excavated soil is evaluated for what radio nuclides?
32. When are structures or foundations removed during the ER process?
33. Did the contractor or BRAC/NAVFAC representative notify you of any problems/abnormal events/work stoppages at the ER site?
34. Have you made written notification of significant findings to BRAC/NAVFAC representative on ER activities or records?

C. CONTRACTOR INTERVIEW QUESTIONS

Name:
Job Title:
Date:
Time:
Location:
1. When were you assigned to the Naval Station Treasure Island environmental restoration project?
2. What are your duties and responsibilities on the NSTI ER project?
3. Who do you report ER status to and how often?
5. What Navy agency provides oversight of the NSTI ER project?

6. Who often do you see a Navy ER oversight representative on site?
7. What radiological protective wear are you required use during ER activities?
8. What whole body radiation exposure monitoring devices are you using during ER activities?
9. Who is responsible for counting field samples and quality assurance of sample results?
10. Describe any abnormal events you have observed during ER activities?
11. Describe the training that you received for the tasks that you perform?
12. What is your maximum allow annual exposure limit?
13. What conditions warrant temporarily stopping ER activities?
14. Do you know of any barrier breaches by members of the public in ER controlled areas?
15. Do you know of incidences where members of the public were seen inside ER controlled areas?
16. How deep is soil typically removed during the ER process?
17. What condition would warrant removing soil deeper that normal during the ER process?
18. When are radiological surveys required during the ER process?
19. Where is excavated soil sent for disposal?
20. Excavated soil is evaluated for what radio nuclides?
21. When are structures or foundations removed during the ER process?
22. How would you describe your working relationship with NAVSEADET RASO?
23. How would you describe your working relationship with BRAC/NAVFAC representatives?
24. When are you required to notify a BRAC/NAVFAC representative during the restoration process?
25. When are you required to notify a NAVSEADET RASO representative during the restoration process?
26. Do you have any documented problems/abnormal events/work stoppages on file for the NSTI ER project?
27. How often are survey meter calibrated and checked for proper response?
28. Where is the sample counting lab located?
29. RSO: What office do you work out of for the NSTI ER project?
30. RSO: How often do you visit the ER project?
31. RSO: How often do you observe actual ER activities?
32. RSO: How often do you give radiation safety training to work crew?
33. RSO: Were any radiation safety violation/deficiencies/problems documented for the NSTI ER project?
34. RSO: Are all ER members issued TLDs?

35. RSO: Is your supervisor's office on the NSTI site?
36. RSO: Do you document internal audits or deficiencies on the ER project?

From: Chang, Richard
To: (b)(6) CIV NAVFAC HQ, BRAC PMO
Cc: (b)(6) CIV OPNAV, N45; (b)(6) ; Smith, James; (b)(6) CIV SEA 04 04N
(b)(6) @navy.mil); (b)(6) @navy.mil)
Subject: MOU Activities
Date: Wednesday, August 1, 2018 1:35:00 PM

Sir,

The U.S. Nuclear Regulatory Commission staff are beginning to plan for our annual site visits to some California sites being remediated by the Air Force and Navy. As you are aware, we have been conducting these site visits for the past many years as part of our "stay informed" approach for the Alameda, Hunters Point, and McClellan sites where we rely on EPA's regulatory oversight of the CERCLA remediation process used by the Air Force and Navy. Regarding the Treasure Island site, NRC would be adopting a "monitoring" approach as outlined within the NRC/DoD MOU to observe site activities.

Would you be available during the week of October 15th (specifically the morning of October 17th) for NRC staff to meet with you to observe site activities and discuss the site? Once we agree on a schedule, we can suggest an agenda for our meeting to focus our discussion.

Please let me know if you can support the schedule I have suggested or if you have a preference for certain times or days for our meeting. We are looking forward to working with you.

Regards,
Richard Chang
U.S. NRC
301-415-5563

From: (b)(6) CIV NAVFAC SW, BRAC
To: Smith, James; (b)(6) CIV
Cc: (b)(6) CIV NAVSEA 04, 04N
Subject: [External_Sender] RE: Treasure Island Trenching/Potholing Schedule
Date: Monday, July 24, 2017 4:40:10 PM

Hi James-

Yes, the name of the company doing the Potholing is OTIE (Oneida Total Integrated Enterprises). They have sub-contracted the radiological health and safety screening to TIDEWATER.

(b)(6)
Remedial Project Manager
(b)(6)

Navy BRAC PMO West
33000 Nixie Way
Bldg 50
San Diego CA 92147

-----Original Message-----
From: Smith, James [mailto:James.Smith@nrc.gov]
Sent: Monday, July 24, 2017 8:13 AM
To: (b)(6) CIV; (b)(6) CIV SEA 04 04N; (b)(6) CIV NAVFAC SW, BRAC
Subject: [Non-DoD Source] FW: Treasure Island Trenching/Potholing Schedule

(b)(6) (b)(6) or (b)(6)

Do one of you know the name of the company that will be doing the trenching work at Treasure Island?

Thanks

Jim