

## Ullrich, Elizabeth

---

**From:** Adams, Steven <Steven.Adams@tetrattech.com>  
**Sent:** Friday, April 27, 2018 11:24 AM  
**To:** Koenick, Stephen  
**Cc:** Ullrich, Elizabeth  
**Subject:** [External\_Sender] Approval to Expedite Implementation of NRC RML 29-31396-01

03038199

Mr. Koenick,

Tetra Tech EC, Inc. is requesting permission from the NRC to expedite approval to implement our radioactive material license 29-31396-01, docket #03038199 at Site 24, Naval Weapons Station (WPNSTA) Yorktown, Yorktown, VA and to provide relief from License condition #18. License condition #18 requires, in part:

At least 14 days before initiating activities at temporary job site, the licensee shall notify, in writing, the Regional Administrator, U.S. Nuclear Regulatory Commission, Region I, ATTN: Director, Division of Nuclear Materials Safety, 2100 Renaissance Boulevard, Suite 100, King of Prussia, Pennsylvania 19406. The notification shall include the following information:

- (1) Estimated type, quantity and physical/chemical form(s) of material;
- (2) Specification of site location.
- (3) Description of project activities including Waste management and disposition;
- (4) Estimated project start date and duration; and
- (5) Identification of, and information on how to contact, key project personnel.

### BACKGROUND

A project team, consisting of Sealaska Environmental Services and Tetra Tech EC, Incorporated (SES-TECH Atlantic) is performing non-critical-critical removal action at Site 24, Naval Weapons Station (WPNSTA) Yorktown, Yorktown, VA.

This Non-Time Critical Removal Action (NTCRA) is being performed under Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), and administered by NAVFAC Mid-Atlantic Hampton Roads Environmental Restoration Group. The objective of this NTCRA is to mitigate potential unacceptable human health risks from exposure to contaminants including munitions debris (MD) items which were encountered during the removal effort in surface and subsurface soil as well as in subsurface debris. As a conservative measure, based on the conceptual site model, the NTCRA scope was modified to include unexploded ordnance (UXO) support to investigate and dispose of material potentially presenting an explosive hazard (MPPEH) recovered during the remaining soil excavation activities. MPPEH items found are non-explosive training aids and are designated as material documented as safe (MDAS).

A truck carrying a roll-off bin with ~16 tons of MDAS was rejected by Tri-State Iron & Metal due to potential radiological contamination. The truck was screened twice using a vehicle portal monitor and detector count rates were consistent during each screening. The count rates of the portal monitor are twice the background count rates. The alarm set points at the Tri-State Iron & Metal truck portal monitor are 11 – 12 percent over the average background count rate. The historical documentation of the site does not mention the use of any radioactive material was used at the site. Nevertheless, based on my experience at numerous military sites with waste disposal units dating back to pre-WW II it is not uncommon to detect radioactive material.

The Tetra Tech EC (TtEC) Project Manager stopped all work at Site 24. The truck was returned to Site 24. I sent an experienced senior health physicist with alpha, beta, gamma count rate, and exposure rate survey instruments and a portable gamma spectrometer to Site 24. Surveys of this roll-off and seven other roll-offs detected exposure rates ranging from background, 10 microrentgens per hour ( $\mu\text{R/h}$ ) to a maximum value of 70  $\mu\text{R/h}$ . Based on the measurements of the portable gamma spectrometer, a SAM 940, the only radionuclide present is radium-226.

## **WORK TASKS UNDER TtEC NRC RML**

The work requires licensed controls due to the presence of radioactive materials and the subsequent potential for occupational exposures, both of which are subject to oversight by the Nuclear Regulatory Commission (NRC). SES-TECH Atlantic is contractually bound to conduct various activities specific to the Naval Facilities Engineering Command, Atlantic (NAVFAC) following the requirements in the Tetra Tech EC, Incorporated (TtEC) NRC Radioactive Materials License (RML) No. 29-31396-01 Amendment 1.

The SES-TECH Atlantic scope of work at Site 24 includes the following activities over the next 2.5 months

- Implementation of TtEC radioactive material license, corporate radiation protection plan and implementing corporate procedures
- Development and approval of Site 24 standard operating procedures and training and testing of radiological control technicians on all aspects of the license, regulations, and procedures.
- Radiological surveys of roll-offs
- Radiological surveys of MDAS contained within each roll-off
- Identification of and radiation exposure rates, alpha/beta surface concentrations, and gamma count rates associated with each radiologically impacted MDAS. There are approximately 112 tons of MDAS in the 7 roll-offs on site comprising ~70,000 MDAS items
- Documenting all survey measurements, pictures of MDAS items, training and testing, and daily reports
- Segregation of impacted from non-impacted MDAS
- Temporary storage of impacted and non-impacted MDAS at Site 24
- Decontamination of radiologically surveys and swipe sample analysis of each roll-offs
- Decontamination of roll-off is required
- Estimating and documenting the radionuclide(s) of concern and the total radiological activity associated with impacted MDAS

## **WASTE MANAGEMENT**

TtEC is responsible to properly load radiologically impacted MDAS items into LLRW containers, per the Army Joint Munitions Command (AJMC) contractor recommendations, and shall facilitate the transfer and control of such materials by providing the following information on a corresponding AJMC contractor Radioactive Movement Form, or equivalent, for containers assayed as radioactive and Commercial Commodity Transport Form, or equivalent, for non-radioactive shipments. Form information includes but is not limited to:

1. A brief description of the material involved
2. An inventory of packages to include total number of packages and contents
3. A label identifying the maximum dose rate and location, known or suspected isotope(s) and a curie content approximation for the package. Note that the AJMC contractor provides all forms and provides the final curie content for the package based on the final weight determination and radioisotopic sampling
4. Date, time, and signature of person(s) completing the transfer

TtEC will notify the Navy project manager when a LLRW container in their custody is full, request that the LLRW container be moved to the AJMC contractor staging area, and provide the Navy project manager, at the time of transfer, the corresponding transport form. Container weights will be determined by the AJMC contractor.

The AJMC contractor shall move filled LLRW containers from TtEC controlled areas to the AJMC controlled staging/storage area for preparation for off-site disposal. LLRW containers are to be filled as full as practical up to a maximum net weight defined by the AJMC contractor. LLRW containers may be returned to the generator for weight adjustment if deemed necessary by the AJMC contractor.

The AJMC contractor will reference internal TtEC authorized procedures and work instructions when coordinating the transfer of LLRW containers leaving a TtEC radiologically controlled area. Using TtEC approved protocols detailed in the Site 24 SOPs TtEC will initiate RCA release surveys of the corresponding LLRW container/ truck, and monitor the assigned driver before the truck leaves a TtEC site. In conjunction with the exit survey, AJMC contractor will complete a visual assessment for removable contaminants on the exterior of the LLRW container itself.

If you have any questions or require any additional information please contact me at (702) 521-4549.

*Steve*

Steven Adams, CHP | Corporate Radiation Safety Officer  
Certified Health Physicist Telecommuting |  
Cell: 702.521.4549 [Steven.Adams@tetrattech.com](mailto:Steven.Adams@tetrattech.com)

Tetra Tech EC | Environmental Safety and Quality