



**CABRERA SERVICES**  
RADIOLOGICAL • ENGINEERING • REMEDIATION

February 4, 2011

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Regional Administrator  
U.S. Nuclear Regulatory Commission  
Region I  
475 Allendale Road  
King of Prussia, PA 19406  
ATTN: Director, Division of Nuclear Materials Safety

03035316

RE: Completion of job activities at temporary job site utilizing U.S. NRC Radioactive  
Material License #06-30556-01

Dear Sir or Madam:

Cabrera Services Inc. (CABRERA) is providing this written notification regarding the completion of job activities at a temporary job site utilizing CABRERA Material License #06-30556-01 Amendment 03. The attached information is provided as required by license condition 18B.

If you should have any questions regarding this notification, please contact Henry W. Siegrist at CABRERA (860) 569-0095.

Sincerely,

Henry Siegrist, CHP, P.E.  
Radiation Safety Officer

attachment

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REGION I  
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NMSS/RGN1 MATERIALS-002

**ATTACHMENT**  
**COMPLETION OF 2010 ACTIVITIES AT**  
**FORT BELVOIR , SM-1 REACTOR**  
**FORT BELVOIR, VIRGINIA**  
**(NRC Mail Control 144722)**

Cabrera Services, Inc. (CABRERA) provided radiological characterization and field sample analysis from the SM-1 Army reactor and surrounding environs at the site. Samples of various media were collected, analyzed onsite, and packaged and sent to an approved licensed offsite laboratory for radionuclide identification and quantification of activity present within the collected materials.

This work was conducted as part of characterization operations administered by the U.S. Army Corps of Engineers (USACE). Work was done under Ft. Belvoir Army Radiation Permit #10-03 (expiration date 12/31/2010). Both exempt radioactive check sources and an NRC licensed radioactive source were used at the site to support daily work evolutions and gamma spectroscopy equipment calibration. This information is being transmitted to you as required by condition 18.B. of the Cabrera Materials License

- (1) The radioactive materials collected and examined during the characterization and field sampling included various construction materials (metals, concrete, rubber components) from components, equipment, and structures as well as outside environmental samples of sediments, soils, concrete and asphalt. The collected materials consisted of both neutron activated components as well as contaminated materials associated with operations of the SM-1 reactor. Routine QA samples were sent to an approved licensed offsite laboratory for radiological analyses.
- (2) Gamma spectroscopy equipment was used to analyze various materials collected and general area radiation field energies during the characterization process. The gamma spectroscopy equipment was calibrated on-site and daily QC'd with an Isotope Products multinuclide gamma source (1-L marinelli beaker, source number 1317-12-1) containing licensed material, americium-241. The source was removed from the site on August 23, 2010 and returned to an appropriate off site storage location. This source was not used again at the Site in 2010.
- (3) Receipt survey of the licensed multinuclide gamma source showed no leakage or contamination in excess of license requirement item 22.F (0.005 microcurie removable activity) based on a recent leak test performed in June 2010. The source was maintained in a locked fire-resistant container when not in use and was under CABRERA control in a locked building at all times while on the Ft Belvoir SM-1 job site.
- (4) Small amounts of shop waste (gloves, booties, paper towel, plastic sheeting, etc.) as well as investigative derived waste (IDW) produced during characterization and field sampling were controlled and disposed of as contaminated materials. These materials were disposed of by the U.S. Army Corps. Samples collected for analysis and sent to the outside radiological licensed laboratory for analysis and were appropriately disposed of by the laboratory when analyses were complete. The radioactive waste generated during work evolutions was shipped offsite on September 28, 2010.
- (5) Radiological surveys associated with this remediation and FSS, were conducted by CABRERA after completion of work activities to ensure the absence of DU contamination on equipment associated with sampling. NRC Regulatory Guide 1.86 established values were used.
- (6) Three (3) exempt quantity check sources and standards were used to provide daily QC and efficiency checks of radiological monitoring and measuring equipment. All sources were removed from the Site on or before September 28, 2010. No CABRERA radioactive sources remain on site.