



**Department of Energy**  
Washington, DC 20585

June 28, 2016

Mr. Jeff Selvey  
Project Manager  
Separations Process Research Unit Disposition Project  
URS Energy and Construction, Inc.  
2345 Nott Street East Suite 200  
St. James Square  
Niskayuna, New York 12309

WEL-2016-02

Dear Mr. Selvey:

The Office of Enterprise Assessments' Office of Enforcement conducted an investigation of the heat stress management program being implemented by URS Energy and Construction, Inc. (URS) during Deactivation and Decommissioning (D&D) work at the Department of Energy's (DOE) Separations Process Research Unit (SPRU) in Niskayuna, New York. URS reported a heat stress incident into DOE's Occurrence Reporting and Processing System on September 2, 2015, under EM-WGI-G2H2-2015-0002 and titled "*Heat Stress Symptoms Lead to Boot Contamination.*" The Office of Enforcement conducted an onsite visit on February 22 through 24, 2016, at SPRU to investigate the facts and circumstances of the incident and discuss the URS heat stress program and corrective actions.

Based on interviews of workers and contractor management as well as information conveyed by URS as part of this investigation, the Office of Enforcement has concluded that URS recognizes the safety significance of heat stress hazards and the complexities associated with performing D&D work in highly contaminated and aged facilities such as SPRU. Notwithstanding these challenges, the Office of Enforcement identified two concerns that warrant management attention by URS to prevent recurrence of heat stress events at SPRU and achieve compliance with requirements set forth in 10 C.F.R. Part 851 (Part 851) *Worker Safety and Health Program*.

1. Part 851 requires contractors to comply with the American Conference of Governmental Industrial Hygienists (ACGIH), Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices (2005). Table 4, *Guidelines for Limiting Heat Strain*, of the document, lists measures that may be indicative of excessive heat strain. Heat strain is the overall physiological response resulting from heat stress. The measures indicate the need to discontinue an individual's exposure to heat stress when the individual has a sustained heart rate in excess of 180 beats per minute (bpm) minus the worker's age in years (i.e., 180 - age), for individuals with



assessed normal cardiac performance. URS applies a heart rate value of 130 bpm to all D&D workers regardless of the worker's age. This criteria provides protection consistent with, or more protective than, the ACGIH requirements for workers 50 years of age or less. However, this approach is not sufficiently protective for workers 51 years of age and older.

2. Part 851 also requires contractors to establish and implement procedures to identify workplace hazards and assess the risk of worker injury and illness. URS used heart rate monitoring devices as a means of assessing workers' heat strain burden, but connectivity with the heart rate monitoring device was intermittent for extended periods of time and thus did not assure individuals were protected from the heat stress hazard.

In response to this incident, URS initiated corrective actions that were primarily focused on preventing additional radiological contamination to personnel. Corrective actions included emphasizing proper personal protective equipment (PPE) evaluation, reviewing proper PPE donning and doffing procedures, understanding PPE limitations, and specifying Radiation Control Management's role during emergencies, such as when employees exhibit heat stress symptoms. To a lesser extent, URS made improvements to the SPRU heat stress program by further promoting heat stress symptom self-identification and clarifying heat stress-related emergency procedures.

Upon careful consideration of the factors associated with these program deficiencies and URS' response to the deficiencies, the Office of Enforcement has elected to exercise enforcement discretion and issue this Enforcement Letter to convey the aforementioned Part 851 concerns. Typically an Enforcement Letter does not require a response; however, the Office of Enforcement requests that URS provide any heat stress program improvements that will be implemented at SPRU based on the above Part 851 concerns. Please provide this information to the Office of Enforcement and the Office of Environmental Management within 30 days of receipt of this letter.

If you have any questions or need additional time for your response, please contact me at (301) 903-7707, or your staff may contact Dr. Anthony Pierpoint, Acting Director, Office of Worker Safety and Health Enforcement, at (301) 903-0100.

Sincerely,



Steven C. Simonson

Director

Office of Enforcement

Office of Enterprise Assessments

cc: Steven Feinberg, SPRU Project Office  
Keith Stone, URS