

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

September 3, 2021

**TO:** Christopher J. Roscetti, Technical Director  
**FROM:** Timothy L. Hunt, Cognizant Engineer  
**SUBJECT:** Idaho National Laboratory (INL) Report for August 2021

**DNFSB Staff Activity:** No staff members were on site during August 2021.

**COVID-19 Update.** During this reporting period, the INL site community transmission rate remained in the “high” category as defined in Centers for Disease Control guidance.

**Integrated Waste Treatment Unit (IWTU) Positive Unreviewed Safety Question (PUSQ).** On August 25, 2021, the IWTU nuclear facility manager declared a PUSQ related to the consequences of a possible nitrogen oxide (NO<sub>x</sub>) release. When the IWTU mass energy balance was calculated, a denitration mineralization reformer (DMR) waste feed flow rate of 1.6 gallons per minute (gpm) was used to determine the NO<sub>x</sub> output. The IWTU operating procedure and safety analysis report (SAR), however, both allow a maximum DMR waste feed flow rate of 2.5 gpm. The SAR used the waste feed flow rate of 2.5 gpm to calculate radiological and mercury release consequences but used 1.6 gpm to compute the NO<sub>x</sub> release consequences in the event of a system breach. IWTU engineering performed, and nuclear safety personnel are analyzing, another mass energy balance with a DMR waste feed flow rate of 2.5 gpm. As part of the PUSQ, management imposed a compensatory measure limiting the IWTU process total DMR feed flow rate to 1.6 gpm to prevent a NO<sub>x</sub> release from IWTU from exceeding the value in the current consequence analysis.

**IWTU Readiness Activities.** On August 8, 2021, Fluor Idaho issued its management self-assessment (MSA) report for the restart of simulant operations following Outage J. The focus of the assessment, conducted July 26 through August 5, 2021, was facility modifications important to plant operations, operational and documented safety analysis changes resulting from facility modifications, updates to personnel training and qualifications, and the radiation protection program integration into operational activities. The MSA team identified 0 pre- and post-start findings, and 22 deficiencies. The MSA team concluded 42 of the 49 review criteria were met; 6 were partially met; and 1 was not met (i.e., 2 nonconformance reports that affect IWTU simulant operations were still open). Project personnel began addressing the identified deficiencies and commenced the contractor readiness assessment (CRA) on August 16, 2021. At the exit briefing on August 26, 2021, the CRA team reported 0 findings, 13 deficiencies, and 5 observations.

**Idaho Cleanup Project (ICP) Annual Emergency Exercise.** On August 9, 2021, Fluor Idaho issued the after-action report for its annual ICP evaluated exercise conducted on June 25, 2021. The purpose of the exercise was to test/validate the effectiveness of facility-level response and Emergency Response Organization (ERO) performance in accordance with the site's emergency plan and its implementing procedures. The full-scale exercise was conducted at the Radioactive Waste Management Complex during off-normal hours (backshift) and required protective action implementation by facility personnel. ERO members were notified and responded from home as they would be expected to do in an actual emergency. Based on the evaluation, 15 of the 16 objectives were rated satisfactory, one objective was rated satisfactory with improvement needed (monitoring team activities), and no deficiencies were identified related to any of the objectives.