INFORMATION NEEDS FOR ISL SITE VISITS

The following information is requested to support hazard and consequence evaluation for ISL facilities. This list assumes that we will be given access to or copies of plant layout diagrams; chemical/flammable/explosive material inventories and locations, process flow diagrams, piping and instrumentation diagrams, electrical distribution diagrams, and materials of construction.

1. Operational process data

    - operating pressures
    - operating temperatures
    - maintenance/replacement plans and schedules
    - failure rate data
    - techniques for extraction of uranium from lixiviant
    - techniques for formation of slurry and yellowcake powder
    - techniques and equipment used for handling slurry and yellowcake powder

2. Characteristics of fluids at representative process locations

    - pressures/temperatures
    - hazardous constituent concentrations
    - radiological activity levels and radionuclide inventories

3. Yellowcake and slurry transportation modes within and external to facility, including accident scenarios

4. Groundwater data

    - excursion frequency and consequence
    - data on excursion cleanup
    - technical basis for monitor well locations/spacing
    - frequency and consequence of injection well casing failures
    - technical basis for locations of injection and extraction wells
    - well field configurations pumping rates and when well fields are in “standby” mode
    - effects of ISL chemical processes on the hydraulic characteristics of the subsurface
    - records of chemical and radiological analyses at monitoring wells

5. Operational failure data

    - failures that can affect groundwater flow
    - process mechanical failures
    - process electrical failures
    - external hazards
    - human errors
    - potential for leakage of contaminants from the waste water ponds

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6. Process parameters related to hazards and consequences at various locations

    - pressures
    - temperatures
    - constituents and their concentrations
    - radiation levels/fluid activity levels

7. Occupational radiation health data

    - typical radiation levels at various locations in facility
    - worker exposure histories
    - radiation levels during off-normal events or accidents
    - results from airborne radiation monitoring

8. Process hazard mitigating characteristics

    - warning sensors or parameters (e.g., activity levels, air and water concentrations in the buildings, pressures in pipes, flow meters, water samples from wells, etc.),
    - locations and monitoring frequency of sensors
    - sensor reliability data
    - use of redundant components
    - measures taken to mitigate effects of accidents.
    - corrective action methods and response times

9. Design data on yellowcake drying unit

    - accident scenarios
    - capacities
    - key operating parameters

10. Measures for containment of hazardous/radiological constituents in above ground waste or storage ponds