



**ENERGY  
NORTHWEST**

Presubmittal Meeting:  
License Amendment Request To Remove  
Operating License Condition 2.(C).11 and  
Attachment 3

January 24, 2019

# Participants

- ✦ Michael Davis – Manager, Chemistry/Rad Safety
- ✦ Richard Sanker – Supervisor, Radiological Support
- ✦ Tony Hedges – Supervisor, Chem/RP Support
- ✦ Mike Kinmark – HP Staff Advisor III, Radiological Support
- ✦ Desiree Wolfgramm – Supervisor, Licensing
- ✦ Darla Johnson – Licensing Analyst II, Licensing

# Agenda

- ✦ Purpose
- ✦ System Description
- ✦ Proposed Change
- ✦ Reason for Request
- ✦ Licensing Basis
- ✦ Regulatory Compliance
- ✦ License Amendment Request (LAR) Content
- ✦ Conclusion
- ✦ LAR Submittal Schedule
- ✦ Questions

# Purpose

- ✦ Present approach for LAR to remove License Condition 2.(C).11 -- Shield Wall Deferral (Section 12.3.2, Supplement No. 4 to the Safety Evaluation Report (SSER), License Amendment #7) and Attachment 3.
  - Outline Energy Northwest's (EN) approach
  - Outline regulatory and technical conclusions supporting the proposed change
- ✦ Identify proposed LAR schedule
- ✦ Discuss NRC questions

# Historic System Description

- ✦ Columbia was originally designed and built for a permanent radioactive waste (radwaste) solidification system.
  - The system would have been housed in the Radwaste Building.
  - Some pieces of the system were installed but are either not operational or deactivated and spared in place. (Examples: Centrifuges, Decontamination Concentrator Vapor Body and Heating Element.)

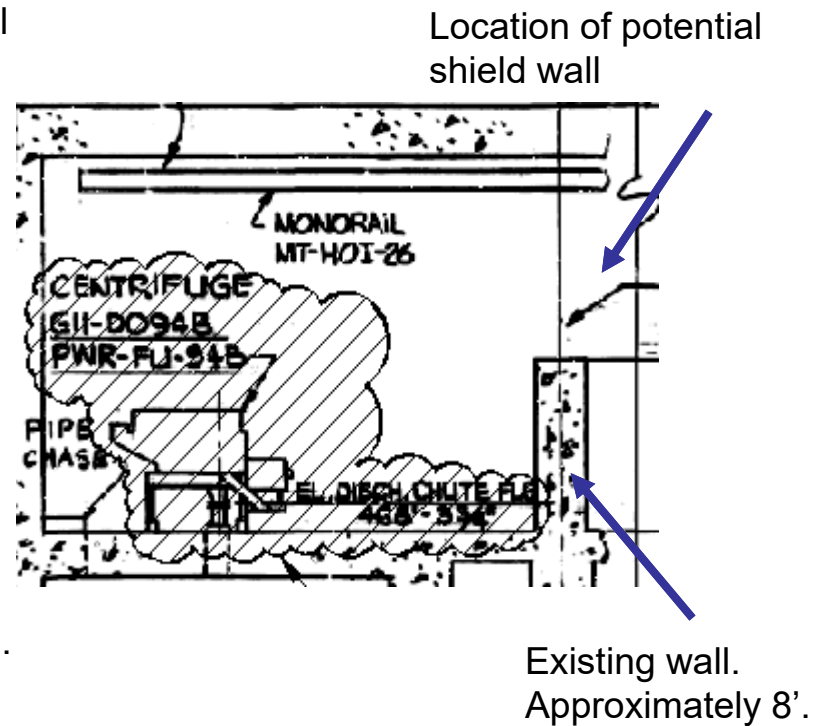
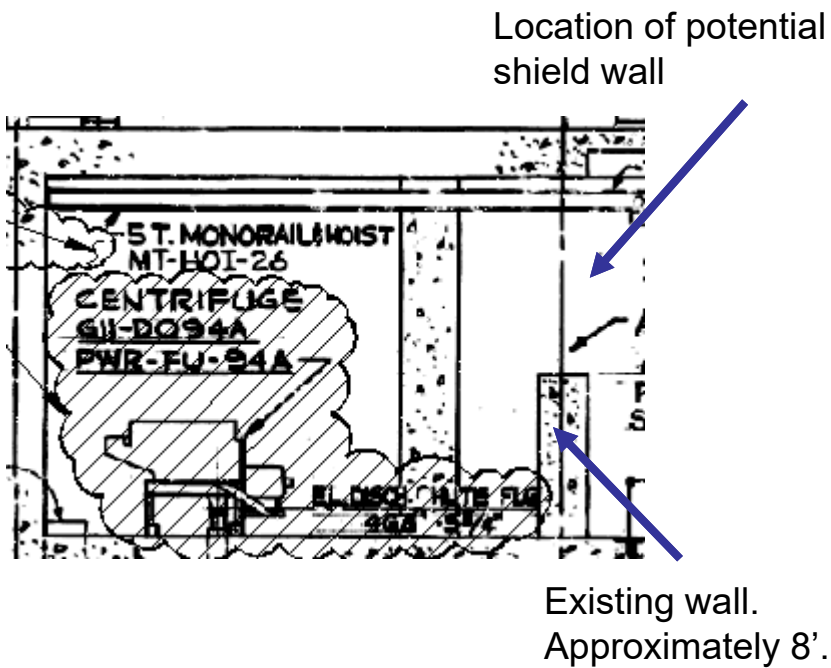
# System Description

- ✦ The system was designed to collect, monitor, process, and package waste products in a suitable form for offsite shipment and burial:
  - Types of waste may be wet solids, such as powdered ion exchange resins, expended bead resins, small quantities of miscellaneous liquid, and laboratory wastes.
  - The system is designed to process waste and concentration of radionuclides while maintaining occupational exposure as low as reasonably achievable (ALARA).

# Current System Description

- ✦ A portable solid waste management system is currently used by Columbia.
  - The only area mentioned in Attachment 3 of the Operating License (OL) that is used during the operation of the portable solid waste management system is the north end of the truck loading bay, separating the Transfer Dolly Area from the Truck Loading Area.
  - No change will be required to the solid radwaste management system description based on the LAR.

# Area Illustration

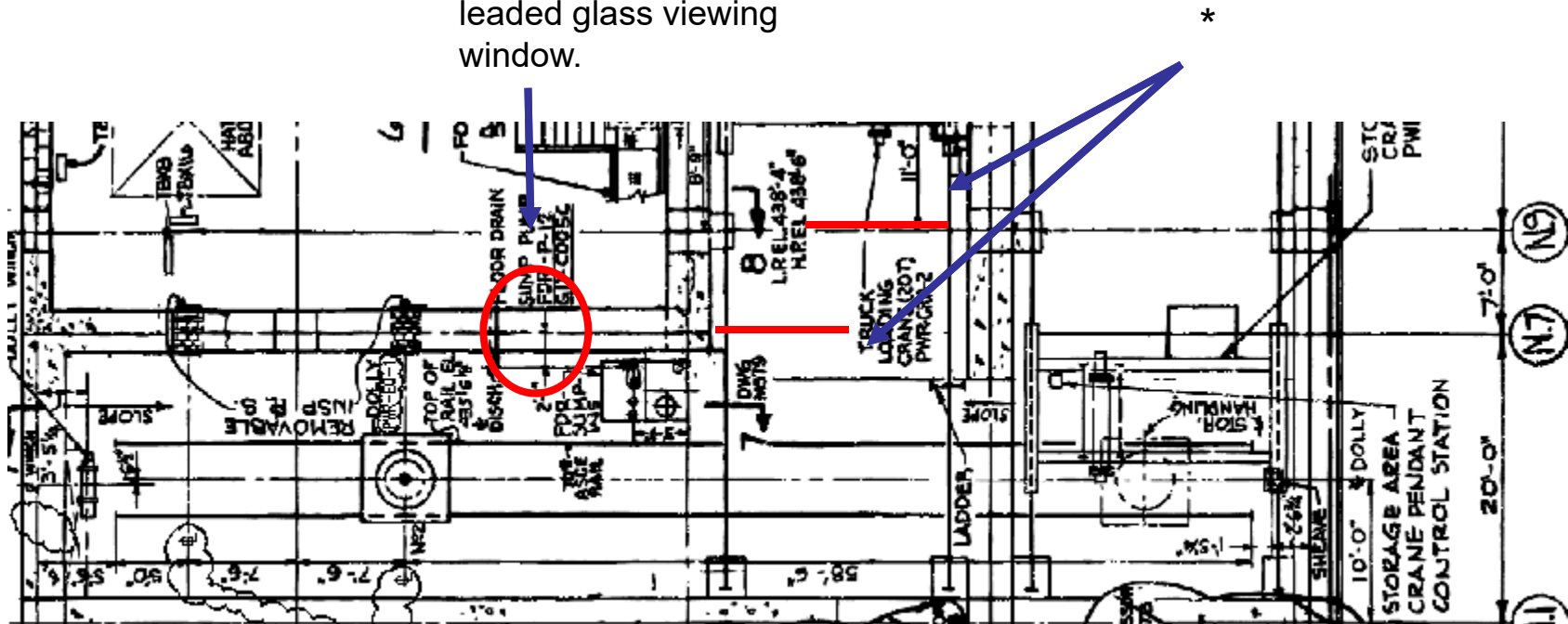


\*Cross-hatching indicates equipment spared in place.



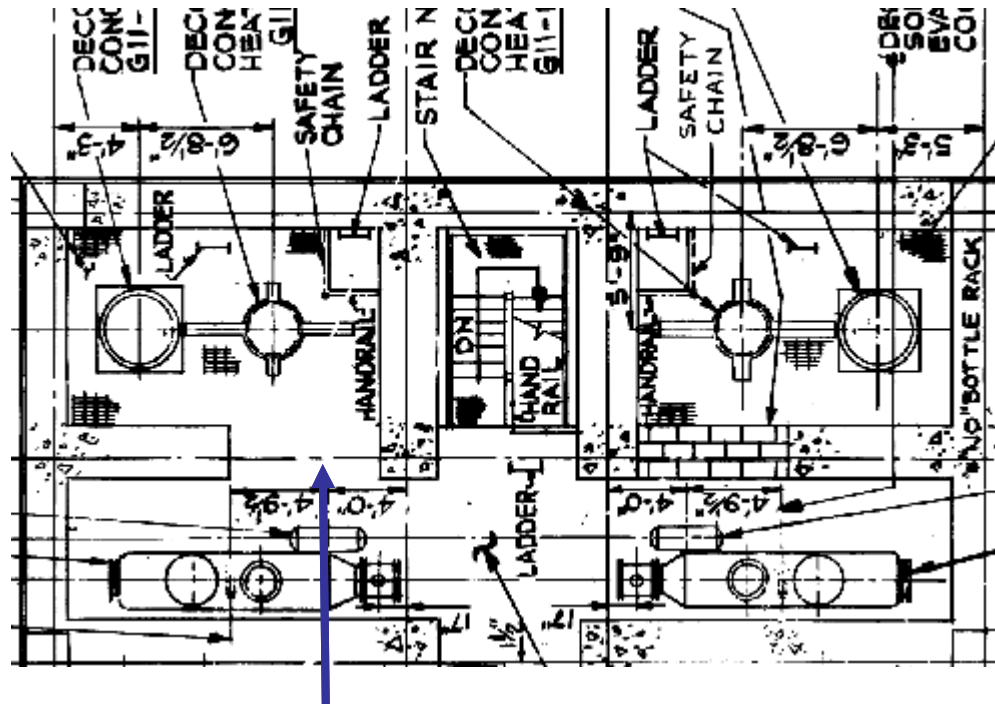
## Area Illustration continued

Location of potential  
lead glass viewing  
window.



\*Lines are representative of deferred shield walls not wall thickness.

# Area Illustration continued



## Location of potential shield wall

# Proposed Change

- ✦ Remove License Condition 2.(C).11 -- Shield Wall Deferral (Section 12.3.2, SSER #4, License Amendment #7) and Attachment 3.
  - Removes a license condition (LC) related to a permanent radioactive waste (radwaste) solidification system that was partially installed at Columbia.
  - No change is required to existing radiation protection processes, procedures or Columbia's ALARA (as low as reasonably achievable) program.
  - No change is required to the existing solid waste management system or plant operation.
  - No plant modification is required.
  - No Technical Specification (TS), TS Bases, Final Safety Analysis Report (FSAR), and Licensee Controlled Specifications (LCS) Bases changes are required to support this removal.

# Reason for Request

- ✦ The permanent radwaste solidification system for which these shields were originally intended was never fully installed. Columbia changed its radwaste processing strategy to the use of a portable system.
- ✦ Maintain ALARA practices for these areas and other low level radiation areas throughout the station where there are no regulatory or licensing requirements for the erection of shield walls.
- ✦ Only one of these areas has any connection to Columbia's current radwaste processing system. (Item 8, Slide 9)
- ✦ Four of the five areas are used for storage and do not impact dose rates outside of the areas.

# Licensing Basis

## ✦ History

- ✦ Operating License (OL) NPF-21 was issued on December 20, 1983, to EN.
  - In correspondence between February 25, 1983, and issuance of the OL on December 20, 1983, EN informed the NRC of plans to use a portable radioactive waste solidification system and defer building of shield walls and window designed to protect against anticipated radiation fields associated with operation of a fixed radwaste system. Additionally, the FSAR was updated to reflect use of the portable radioactive waste solidification system.

# Licensing Basis continued

## ✦ History

- December 20, 1983 -- OL NPF-21 license condition 2.(C).11 states that the licensee must complete the construction of all deferred shield walls and leaded glass viewing window within one year, or prior to operation of the permanent radioactive waste solidification system, whichever occurs first.
- August 15, 1984 – EN requests an amendment to 2.(C).11, requesting that the deferred shield walls and window listed in Attachment 3 will be built as dictated by ongoing ALARA reviews identifying the need for additional shielding.

# Licensing Basis continued

## ✦ History

- December 10, 1984, the NRC issues Amendment 7 to the NPF-21.
  - (11) Shield Wall Deferral (Section 12.3.2, SSER #4, License Amendment #7) The licensee shall complete construction of the deferred shield walls and window as identified in Attachment 3, as amended by this license amendment.\*
  - Attachment 3 included a footnote stating that the shield walls and window would be installed if the radiation levels in those locations exceeded 2.5 mR/hr based on ongoing ALARA reviews.\*

\*This language represents the current OL language.

# Licensing Basis continued

## ✦ History

- FSAR section 11.2 was amended in 1990 and section 11.4 was amended in 1994. With the final amendment describing the portable solid radioactive waste management system purchased from a vendor designed to interface with the installed plant system.



# Licensing Basis continued

## ✦ Current Licensing Basis

✦ License condition 2.(C).11 requires that shield walls and a lead window be constructed if the associated radiation levels at following locations exceed 2.5mR/hr as dictated by ongoing ALARA reviews:

- 5. FSAR Figure 12.3-12, Zone G-9 - The access blockout to duplicate centrifuge room. (Slide 8)
- 6. FSAR Figure 12.3-12, Zone F-9 - Same as above for the duplicate centrifuge. (Slide 8)
- 7. FSAR Figure 12.3-13, Zone J-5 - The blockout for one of the two decon concentrators. (Slide 10)
- 8. FSAR Figure 12.3-11, Zone D-8 - The two block walls at the north end of the truck loading bay. (Slide 9)
- 9. FSAR Figure 12.3-11, Zone E-8 - The leaded glass viewing window in the radwaste area. (Slide 9)

# Regulatory Compliance

- ✦ In October 28, 2016, Columbia received a licensee-identified non-cited violation of NRC requirements for non-compliance with LC.2.(C).11.
  - Item 5, the access blockout to the centrifuge room (Slide 8) routinely had general area dose rates in excess of 2.5 mrem/hr which is the standing requirement to construct the deferred shield wall if the associated radiation level exceeded 2.5 mrem/hour.

# Regulatory Compliance continued

- ✦ Columbia performed Condition Evaluations (CE) in October 2015 and 2016. Actions included:
  - Procedure PPM 11.2.24.1 was revised to include the radiation surveys and ALARA reviews required by License Condition 2.C.(11).
  - An annual PM was established to support surveys of the areas.
  - EN decided to pursue a LAR for removal of the license condition.

# Regulatory Compliance continued

- ✦ The causal factors in the CE identified that EN focused on its understanding of the intent of the license condition rather than the plain language.
- ✦ EN has erroneously treated these areas as plant areas where we are required to conduct surveys that are reasonable under the circumstances (the use of the area) and to evaluate the magnitude and extent of radiation levels, concentrations or quantities of radioactive material, and the potential radiological hazards, and based on the planned work, then implement ALARA controls.
- ✦ The permanent system was not fully installed and worker exposure would be minimal in the these areas, thus the plain language of the license condition was misinterpreted.

# LAR Content

- ✦ Historic setting of the original license condition and the expectations supported by the correspondence related to the original deferrals.
- ✦ Columbia's compliance with 10 CFR 20 and its ALARA program and commitment to maintaining dose rates that are as low as reasonably achievable.
- ✦ Current physical and radiation status of the areas encompassed by Attachment 3 of the OL.

# Conclusion

- ✦ LAR to remove license condition 2.(C).11 is an opportunity to clarify Columbia's License to reflect the actual operation of the plant.
  - The removal will not adversely impact Columbia's ALARA program.
  - The removal will not impact plant operation.
  - No TS, FSAR, TS Bases and LCS Bases changes are required.

# LAR Submittal Schedule

- ✦ 1/24/2019 - Presubmittal meeting
- ✦ 02/28/2019 – Target LAR submittal

# NRC Questions