Vogtle PEmails

From: Hoellman, Jordan
Sent: Wednesday, August 29, 2018 1:14 PM
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Subject: LAR 18-021 Post-Submittal Presentation
Attachments: 2018-08-30 LAR-18-021 PSM Slides.pdf

Attached is the Post-Submittal presentation for LAR-18-021, for discussion at a future public meeting.

Hearing Identifier: Vogtle_COL_Docs_Public
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ONE TEAM. ONE VISION. ONE GOAL.

Building the future of nuclear power in America

VEGP 3&4 LAR-18-021 (WEC LAR-211): Power Operated Relief Valve (PORV) Noise Mitigation

August 30, 2018

Southern Nuclear

Georgia Power

Meeting Purpose and Agenda

Meeting Purpose

- Post-submittal meeting to discuss the proposed change in VEGP 3&4 LAR-18-021, Power Operated Relief Valve (PORV) Noise Mitigation
- Proactively engage Staff in preparation of preliminary amendment request (PAR)

Agenda

- Background Information
- Summary of Changes
- Discussion of PAR

Background Information

- During testing of the PORVs in operation at another facility, the noise level in the MCR was approximately 85 dB(A) and the noise level at the PORVs was approximately 110 dB(A).
- The size and geometry of the PORV block valves cause a high flow velocity (~800 ft/sec) and Helmholtz resonance which results in an increase in noise level. Since the PORV block valves are located in rooms adjacent to the MCR, the sound from the PORV block valves is transmitted into the MCR.
- Changes to the PORV block valves and PORV branch lines are necessary in order to reduce the noise contribution to the MCR and improve human factors with the PORVs in operation.
  - Increase the size of the PORV branch line to reduce the flow velocity through the line
  - Change PORV block valve to a type of valve less susceptible to generating noise

Current vs Proposed Design

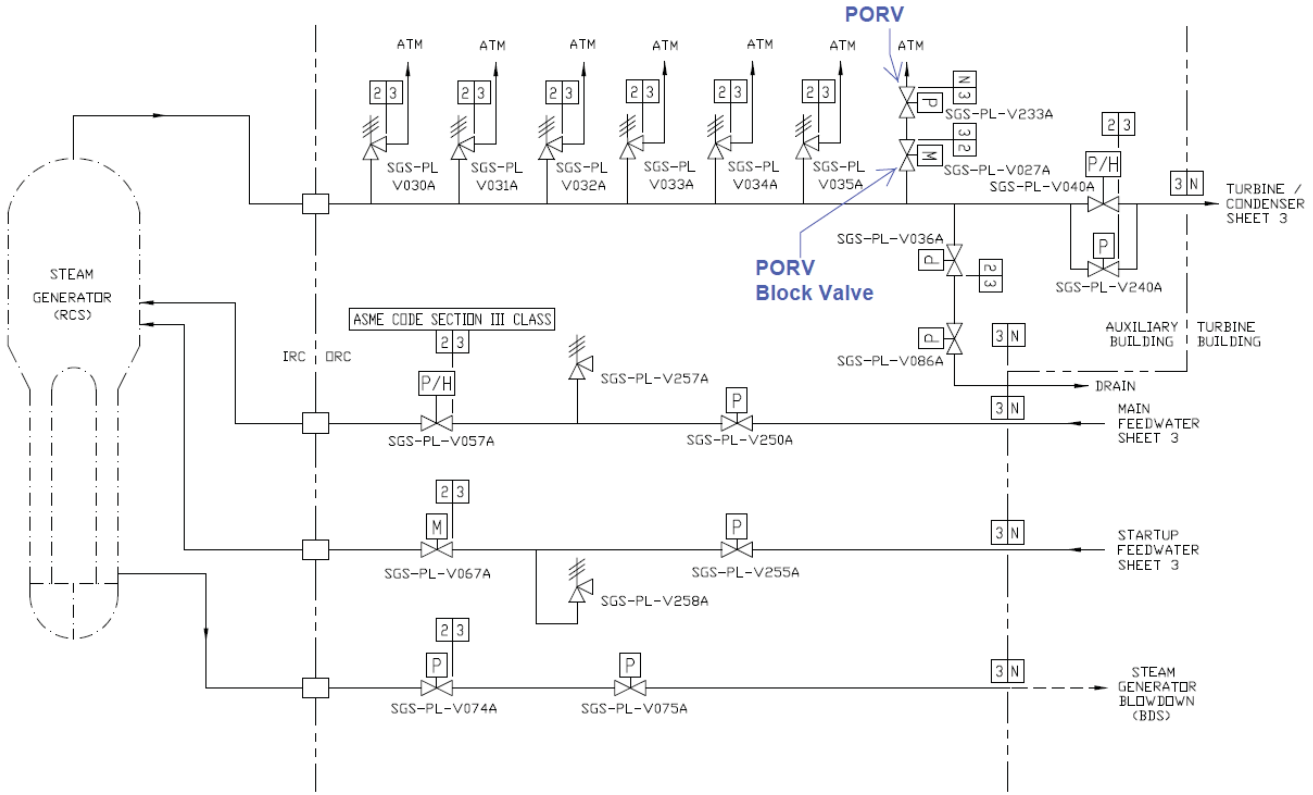
Current Design

- The current design has one 6″ branch line off of each main steam lines, through a 6″ block valve (gate type), to each PORV.
- A 6″ branch line comes off each main steam line downstream of the main steam safety valves (MSSVs) and upstream of the main steam isolation valve (MSIV).

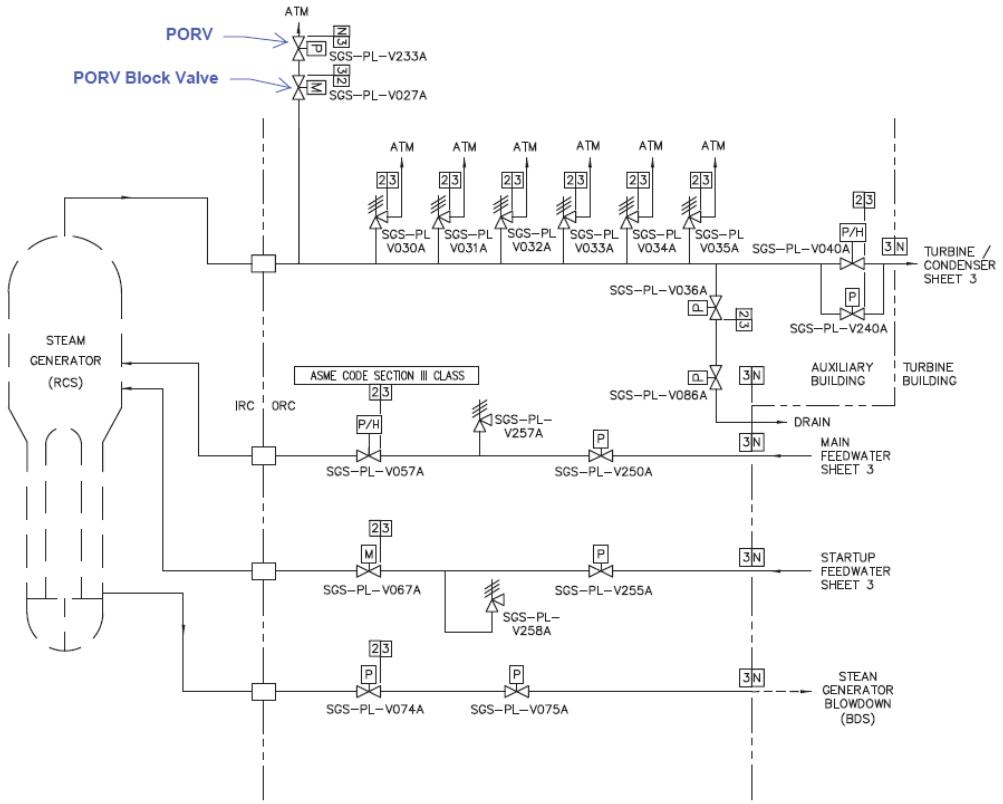
Proposed Design

- The proposed design has one 12″ branch line off of each main steam lines, through a 12″ block valve (globe type), to each PORV.
- The 12″ branch line comes off each main steam line upstream of the main steam safety valves (MSSVs) and upstream of the main steam isolation valve (MSIV).
- The PORV is unchanged

Current Configuration: Tier 1 Figure 2.2.4-1



Proposed Configuration: Tier 1 Figure 2.2.4-1



Technical Evaluation

- There is no change to the safety class or safety-related functions of the valves and piping involved.
- Relocating the branch line closer to containment maintains compliance with General Design Criteria (GDC) 57.
- No impact to Chapter 15 evaluations. The mass release during a Steam Generator Tube Rupture would be limited by the PORV which is more restrictive.
- Updated analyses confirm that the wall adjacent to the main control room (Wall L) is unaffected.

Summary of Changes

- Relocate the PORV branch line to upstream of the MSSVs:
  - Tier 1 and COL Appendix C Figure 2.2.4-1 Sheets 1 and 2: Depict PORV branch lines as upstream of MSSVs
  - Tier 2 Table 6.2.3-1: Reduce pipe length between containment and PORV block valves
  - Tier 2 Figure 10.3.2-1: Depict PORV branch lines as upstream of MSSVs
- Change PORV block valve type from gate valve to globe valve
  - Tier 2 Table 3.9-16
  - Tier 2 Figure 10.3.2-1

PAR

- A PAR is planned to be requested soon to allow installation (at-risk) of piping in the MSIV compartment