Nuclear Operating Company

Pre-Submittal Meeting on Proposed Exigent LAR Regarding Accumulator Pressures for Unit 1 Cycle 23

May 5, 2020

STP Participants

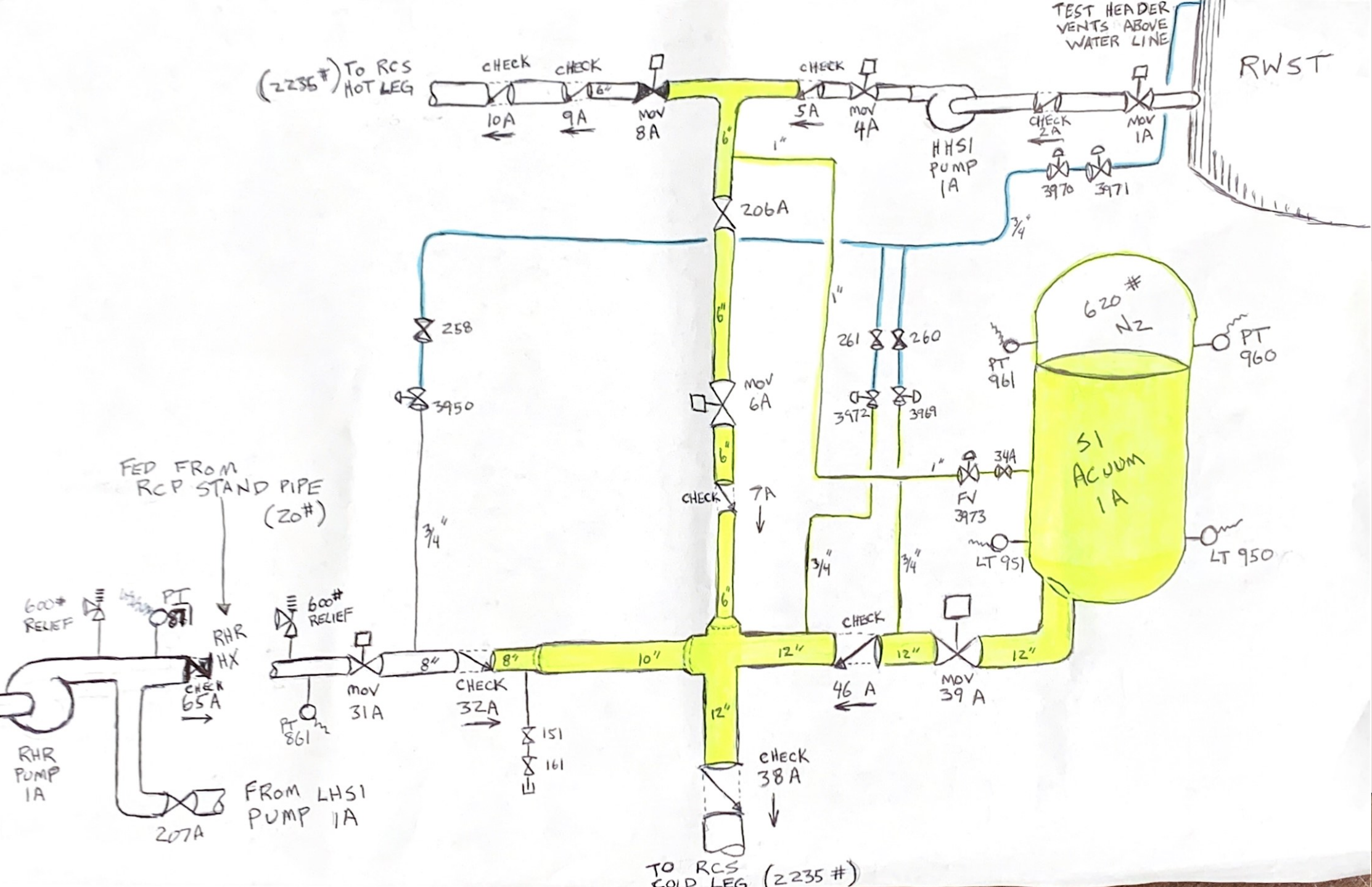
- Lance Sterling, Regulatory Affairs Manager
- Jason Tomlinson, Plant Engineering Manager
- Drew Richards, Licensing Supervisor
- Safdar Hafeez, Reactor Analysis Engineer
- Roland Dunn, Engineering General Manager
- Fatma Yilmaz, NF&A Manager
- Jeff Atkins, Operations Manager

Discussion Topics

- Problem Description
- Proposed License Amendment
- Preliminary Technical Evaluation
- Planned Submittal Schedule

Problem Description

- Leakage identified on Safety Injection (SI) Train 1A following startup from recent Unit 1 refueling outage
- Water and nitrogen leaking from Accumulator 1A to RHR/LHSI discharge header through check valve RH-0032A
- Maintaining volume and pressure requires frequent RHR venting and refilling of SI Accumulator 1A
- Challenge to safety-related components due to component cycling
- Lowering pressure of all accumulators to less than RHR relief valve pressure will eliminate need for cycling safety-related components


TEST HEADER VENTS ABOVE WATER LINE
RWST
(2236#) TO RCS HOT LEG
CHECK
CHECK
6"
MOV 8A
10A
9A
CHECK
5A
MOV 4A
HHSI PUMP 1A
CHECK 2A
MOV 1A
3970
3971
1"
3/4"
206A
6"
1"
258
3950
261
260
3972
3969
MOV 6A
6"
620# N2
PT 960
PT 961
SI ACUUM 1A
1"
34A
FV 3973
LT 951
LT 950
FED FROM RCP STAND PIPE (20#)
3/4"
3/4"
3/4"
CHECK
7A
6"
600# RELIEF
PT 871
600# RELIEF
RHR HX
CHECK 65A
MOV 31A
8"
8"
CHECK 32A
10"
12"
CHECK
12"
12"
46 A
MOV 39 A
12"
PT 861
151
161
12"
CHECK 38A
RHR PUMP 1A
207A
FROM LHSI PUMP 1A
TO RCS COLD LEG (2235#)

Proposed License Amendment

- Modify TS 3/4.5.1, “Accumulators” to allow Unit 1 to operate with all three Safety Injection (SI) System Accumulators at reduced pressure
- Add note to TS Surveillance Requirement 4.5.1.1 to reduce the lower pressure limit for the accumulator nitrogen cover-pressure from 590 psig to 500 psig through the end of the next refueling outage
- Resolves valve leakage issue while maintaining all three SI accumulators operable and having no significant adverse impact to the RHR or Low-Head Safety Injection (LHSI) systems
- One-time change would support deferral of repairs until the next Unit 1 refueling outage
- Need for exigency – necessary to avoid a reactor shutdown without a commensurate increase in safety

Preliminary Technical Evaluation

- Large-Break LOCA Peak Clad Temperature (PCT) impact
- Containment Analysis Peak Pressure impact
  - Large Break LOCA limiting
- Containment Analysis Peak Temperature impact
  - Main Steam Line Break limiting
- Containment Equipment Qualification Peak Pressure and Temperature
- Containment subcompartment analysis
  - Leak-Before-Break (LBB) methodology
- Post-LOCA hot leg recirculation switchover time
- Plan to evaluate small break LOCA, post-LOCA long-term cooling and subcriticality, Main Steam Line Break Hot Zero Power DNBR analysis

Planned Submittal Schedule

- SI Accumulator 1A isolated on April 29, 2020
- STP will receive results of analysis from vendor on May 11, 2020
- Planned amendment request submittal on May 14, 2020
- Approval of the amendment requested by May 28, 2020
- Amendment will be implemented prior to the expiration of the Risk-Informed Completion Time on May 29, 2020

Questions?