**FESHM 5031.1 PIPING ENGINEERING NOTE FORM**

Prepared by: Sergey Koshelev Preparation Date: 2022-02-25

Piping System Title: Iceberg internal filter valve

Lab Location: Proton Assembly Building (PAB) Lab Location code: 502

Purpose of system / system description: Isolate internal valve from atmosphere after regeneration.

Piping System ID Number (obtain from Teamcenter): F10107262

Appropriate governing piping code: B31.3

Fluid Service Category (if B31.3):

Category-D / **Normal** / Category-M / High Pressure/High Purity (circle one)

Fluid Contents: Gaseous and liquid argon with up to 2.5% hydrogen / gaseous helium

Design Pressure: 45 psig w/vacuum / 30 psig w/vacuum Design Temperature: 77..520 K

Piping Materials: SS 304/304L

Drawing Numbers (PID’s, weldments, etc.): F00058266

Designer/Manufacturer: Fermilab

Leak Test Type: Hydrostatic, **Pneumatic** (circle one)

Reduced Test Pressure Qualification: In-Service, Low Stress, **Not Applicable** (circle one)

Test Pressure: 65.7 psig/49.5 psig Test Fluid: argon / helium Test Date: 2022-04-22

**Statement of Compliance**

Is this piping system considered exceptional? Yes \_\_\_\_ No\_X\_\_

If “Yes”, follow the requirements for an Extended Engineering Note for Exceptional Piping Systems.

Reviewed by: Jake Kintner

(Print Name and lab ID #)

Signature: see Teamcenter Workflow approval Date: \_\_\_\_\_\_\_\_\_\_\_\_\_

(If Teamcenter electronic Workflow approval is used instead of a physical signature note this in the signature blank)

D/S/P Head or Designee: Dave Pushka

(Print Name and lab ID #)

Signature: see Teamcenter Workflow approval Date: \_\_\_\_\_\_\_\_\_\_\_\_\_

(If Teamcenter electronic Workflow approval is used instead of a physical signature note this in the signature blank)

The following approvals are required for exceptional piping systems:

Chief Safety Officer or Designee:

(Print Name and lab ID #)

Signature: Date: \_\_\_\_\_\_\_\_\_\_\_\_\_

(If Teamcenter electronic Workflow approval is used instead of a physical signature note this in the signature blank)

Director or Designee:

(Print Name and lab ID #)

Signature: Date: \_\_\_\_\_\_\_\_\_\_\_\_\_

(If Teamcenter electronic Workflow approval is used instead of a physical signature note this in the signature blank)

Pipe Characteristics

Size: 5” SCH 5 Length: 50” total Volume: 0.8 ft^3

3/4”x0.035”

2.25”x0.065”

0.25”x0.01”

Relief Valve Information

Type: Direct spring operated (PSV-555-Ar, PSV-344-He) Manufacturer: Circle Seal

Set Pressure: 45 psig / 30 psig Relief Capacity: 37 SCFMa / 30 SCFMa

Relief Design Code: B31.3

Is the system designed to meet the identified governing code? **Yes** / No

System Documentation

Process and instrumentation diagram appended? Yes / **No**

Process and instrumentation component list appended? Yes / **No**

Is an operating procedure necessary for safe operation? Yes / **No**

If ‘yes’, procedure must be appended.

Fabrication Quality Assurance

List vendor(s) for assemblies welded/brazed off site: M. Cooper

List welder(s) for assemblies welded/brazed in-house: N/A

Are welder qualification records available for in-house welded/brazed assemblies? **Yes** / No

If yes, append documents or make available to reviewer.

Are all quality verification records required by the identified code available? **Yes** / No

(e.g. examiner's certification, inspector's certification, test records, etc.)

If yes, append documents or make available to reviewer.

Amendments

A new piping engineering note form must be filled out and the applicable approvals obtained for piping engineering note amendments.