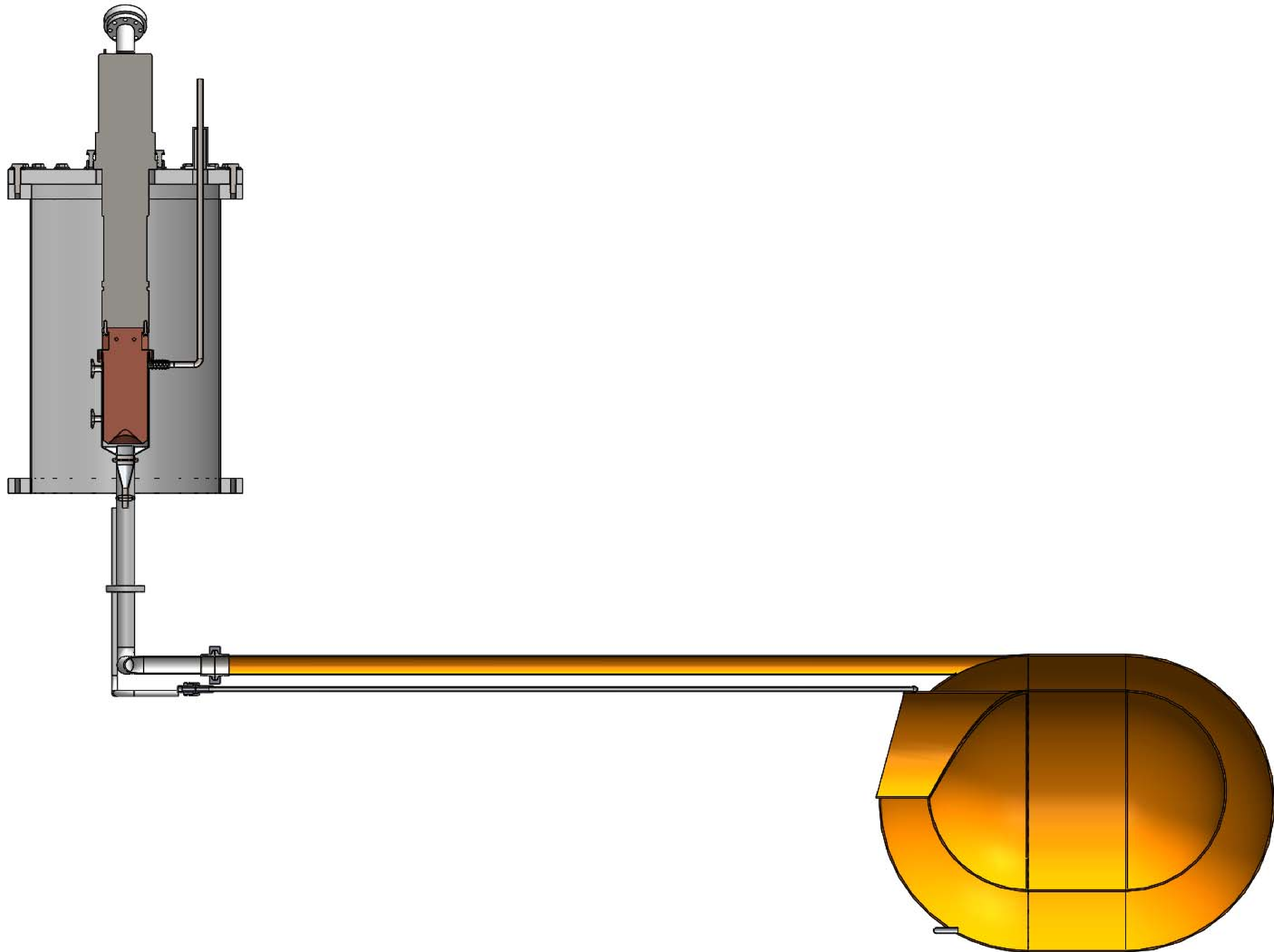


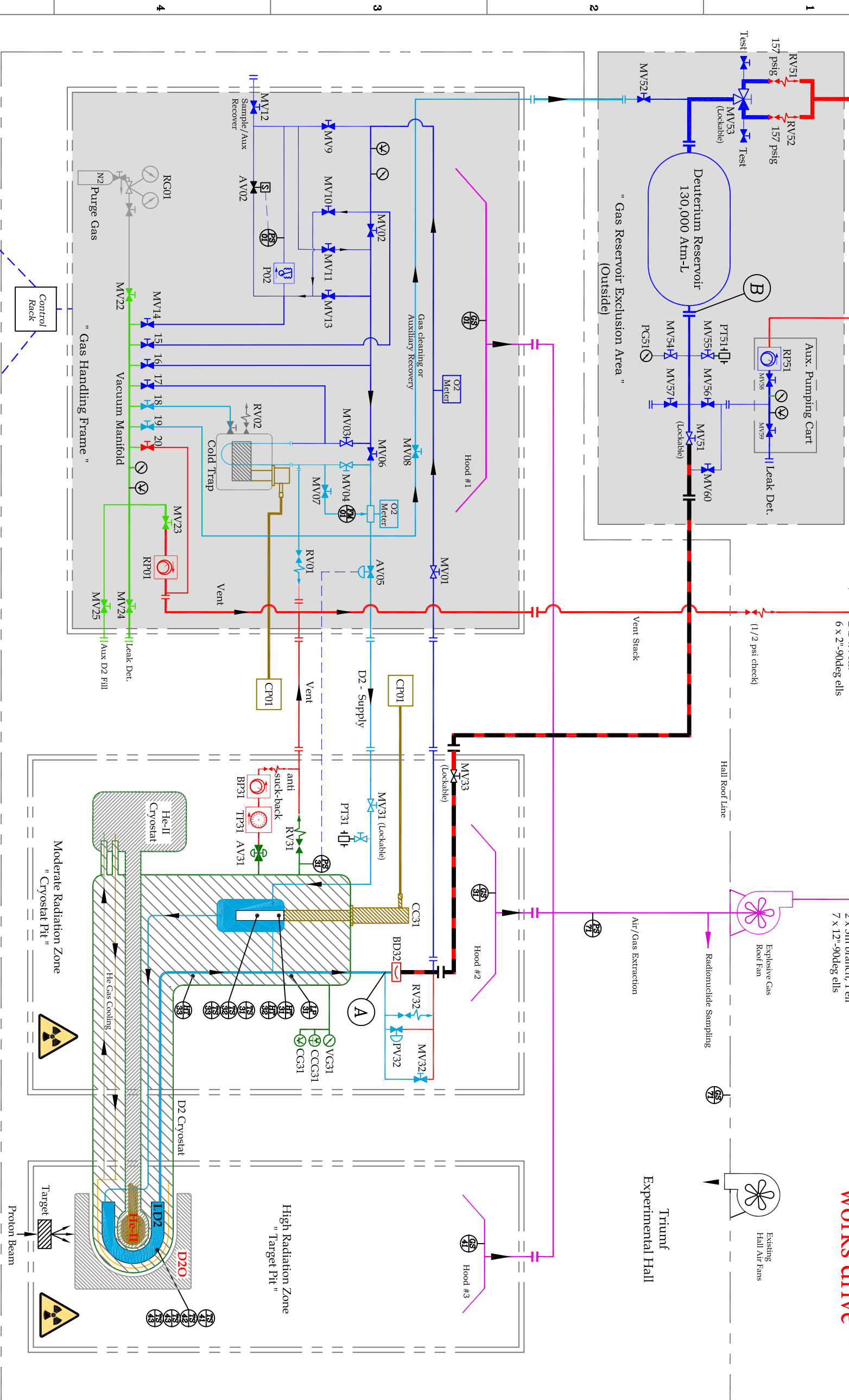
Liquid Deuterium Moderator Design Status Aug 7/2018

- Few comments returned on the concept design presented
- Design report was issued to Technical safety B.C.
- Main steps ahead before Technical review
 - Confirmation of pressure code requirements for the vessel
 - Completion of the design concept
 - Get a working model of the cooled vacuum wall
 - Develop the seal design considering radiation & cryogenic temperature.
 - Complete
 - Thermosyphon effect cooling – initial study done (do we understand it enough?)
 - Backup plan is to use a circulation pump
 - Heat exchanger sizing calculation
 - Vessel stress – initial study done
 - Static heat loads – Initial study done
 - Beam heat loads – done
 - Thermal contraction & Thermal stress – On going
- Technical review of the design by qualified expert(s)



ITEM	REF. No./DESCRIPTION	MATERIAL	QUAN

CAUTION: Refer to master copy on PDM works drive



Normal valve position may mean either fail position, or for manual valves normal running position

Main Control Room

Remote Monitoring (UCV Counting room)

Control Rack

Legend:

- Gas Sensor
- Heater
- Pressure Switch
- Temperature Sensor
- Level Probe/sensor

PIPING KEY

- Explosive Gas Vent Line
- Unclean D2 Space
- Clean D2 space
- Rough Vacuum Space
- High Vacuum Space
- D2 Recovery Line
- Active/Explosive gas extraction
- Control Cable

REV	DATE	LOC	REVISION DESCRIPTION	BY	APP'D
1					

TRIUMF
 404 WESSBROOK UNIT
 VANCOUVER BRITISH COLUMBIA
 CANADA'S NATIONAL WESSON FACILITY

DESIGNED C. Marshall
 DRAWN Cam Marshall
 CHECKED
 REA #
 TR-0N-

ALL DIMS IN INCHES
 TOLERANCES UNLESS OTHERWISE SPECIFIED
 FRACTIONS XX ±
 DECIMALS .XX ±
 ANGULAR SURFACE FINISH ± μin

Deuterium Gas Handling Schematic
 LD2 Moderator
 UCN - Source Equipment
 SCALE NTS
 DATE May/15/2018
 DWG NO. TNS0002
 REV 1

Recovery Path (A-B)
 2" hose x 2m
 2" pipe x 70 meters
 2 x 3m parallel branch
 7 x 2" 90deg ells

General Notes
 - Any changes to process must be noted on this drawing