

# NP-04 Cryogenics Instrumentation `Co-ordination Meeting`

## Topics:

- In cryostat instrumentation – responsibilities
- Who uses – DUNE and/or cryogenics controls
- Flange allocations (are there issues)
- Signal processing & data-acquisition
- Data access and presentation – immediate and longer term
- Outside cryostat – responsibilities

Would like to identify questions and issues

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Reference documents: see DUNE doc 1957 (contents will change)

## NP-04 Cryogenics Instrumentation Reference Documents: as of November 23 2016

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Update Document

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**Username:**

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**Abstract:**

Set of documents relevant to working group activities.

**Files in Document:**

- [NP-04 Piping&Instrumentation schematic as of Nov 10 2016](#) (NP-04 P&ID Nov 10 2016 AD.pdf, 1.2 MB)
- [NP-04 map of penetrations and assignments as of Nov 2 2016](#) (NP-04 Penetrations Nov 2 2016 BL.pdf, 344.3 kB)
- [Spreadsheet based on feedthroughs identified in P&ID AD Oct 13](#) (protoDUNE\_cryo\_instrumentation\_SP\_DM.pdf, 22.3 kB)
- [email with reference to google-doc of anselmo cervera](#) (protoDUNESP\_instrumentation\_google\_doc .pdf, 52.9 kB)

Get all files as [tar.gz](#), [zip](#).

**Topics:**

- [Prototyping:ProtoDUNE](#)
- [DUNE Collaboration:Technical Board:Cryogenics WG](#)

**Authors:**

- [David Montanari](#)

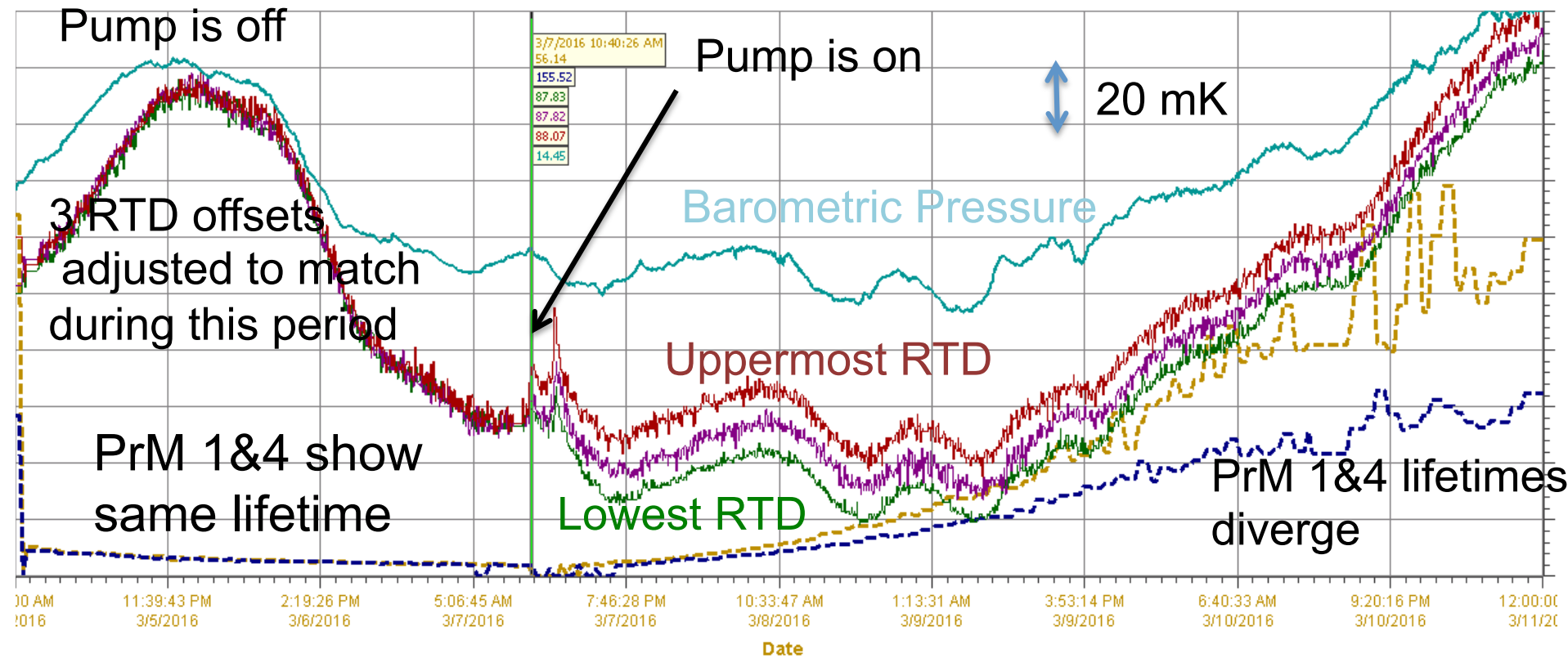
**Notes and Changes:**

Updated uploaded P&ID and map of penetrations.

<http://docs.dunescience.org:8080/cgi-bin/ShowDocument?docid=1957>

# NP-04 Cryogenics Instrumentation `Co-ordination Meeting`

Example from incident at 35t where pump turned off...



	Description	Value	Eng Units	High Over Range	Low O
F_CV	Lifetime calculated from AnodeTrue Cathode...	56.1	us	6,208.7	
F_CV	Lifetime calculated from AnodeTrue Cathode...	155.5	us	2,945.4	
F_CV	Temperature of the top RTD (#1) on spooler #1	87.829	K	87.956	
F_CV	Temperature of the middle RTD (#2) on spooler #1	87.820	K	87.952	
F_CV	Temperature of the bottom RTD (#3) on spooler #1	88.074	K	88.202	
F_CV	Barometric Pressure in PSIA (F_CV)	14.455	PSIA	14.512	

3/11/2016 12:00:00

## NP-04 Cryogenics Instrumentation `Co-ordination Meeting`

Example shows:

- Working instrumentation
- All data in one place (cryogenics system data base)
- Can be accessed remotely
- Can be plotted therefrom
- Some measurements (drift-lifetimes) processed in standalone systems and transferred to common cryogenics system data-base
- Other measurements (temperatures) processed by cryogenics system
- Atmospheric pressure is useful.

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