

NOvA-DCS - Bug #1553

Grey and Cool FEBs

07/25/2011 02:27 PM - Martin Frank

Status:	Resolved	Start date:	07/25/2011
Priority:	Normal	Due date:	
Assignee:	Martin Frank	% Done:	100%
Category:		Estimated time:	0.00 hour
Target version:			
Description			
Susan informed me that there are grey FEBs with a temperature between -10C and -11C. These FEBs are not being cooled by the TEC, but their temperature is somehow below 15C (the cooling water temperature).			

History

#1 - 07/25/2011 02:29 PM - Martin Frank

- Status changed from New to Assigned
- Assignee set to Martin Frank

We have noted this problem and are investigating it.

#2 - 08/08/2011 02:04 PM - Martin Frank

After Ron updated the conversions for the TEC drive current, we took another look at these FEBs and noticed that they always show 50% drive current.

We asked Denis about this problem and he said that these are probably broken thermostats. I will try to confirm this for all of these "grey and cold" FEBs.

#3 - 08/08/2011 06:42 PM - Martin Frank

- File *Temperature_readbacks.gif* added
- % Done changed from 0 to 80

Denis was right, all of the "grey and cold" FEBs that we observe are identified as having a broken thermistor. Denis also told me that he removed the TECC from these FEBs.

The attached plot shows the drive current and temperature of these "grey and cold" FEBs as a function of time and we see that they don't change, but stay constant at half the maximum value of drive current.

Here are all the "grey and cold" FEBs that I found today on each DCM. For comparison, I have included an excerpt of the output of PedestalAnalysis_Scripts/plotTemperatures.C (which generated the attached plot for DCM-3-02-01):

```
DCM   FEB (s)      plotTemperatures.C Output
====  =====
1-1   none          Mode -5 Total of 0 : Possibly broken thermistor :
1-2   10, 62       Mode -5 Total of 3 : Possibly broken thermistor : 10 29 62
1-3   none          Mode -5 Total of 0 : Possibly broken thermistor :
2-1   11, 13, 59   Mode -5 Total of 5 : Possibly broken thermistor : 6 11 13 49 59
2-2   33           Mode -5 Total of 1 : Possibly broken thermistor : 33
2-3   13           Mode -5 Total of 3 : Possibly broken thermistor : 13 40 41
3-1   none          Mode -5 Total of 0 : Possibly broken thermistor :
4-1   none          Mode -5 Total of 0 : Possibly broken thermistor :
4-2   none          Mode -5 Total of 0 : Possibly broken thermistor :
```

The reason that the plotting macro finds more FEBs with broken thermistor than "grey and cold" FEBs is because the APD Temperature monitor does not display FEBs masked from the data-taking.

#4 - 08/09/2011 11:54 AM - Martin Frank

- Status changed from Assigned to Resolved
- % Done changed from 80 to 100

#5 - 09/13/2011 02:22 PM - Martin Frank

- Status changed from Resolved to Closed

#6 - 09/14/2011 10:03 AM - Martin Frank

- Status changed from Closed to Resolved

Files

Temperature_readbacks.gif	10.4 KB	08/08/2011	Martin Frank
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