

Traveler Title:

Booster Multipole Corrector Magnet Measurements at MTF

Specification No:

5520-TR-333854

Revision:

NONE

DR No:

4452

Step No:

4.1

Drawing No:

445004

Routing Form No:**Serial No:**

BMA031

Rework ID:

0

Discrepancy Description:

Fixed coil measurements (pre-potting) show anomalous AC behavior in the normal sextupole circuit. See attached plots.

Originator:

Joe DiMarco

Date:

10/24/2007 2:58:58 PM

Cause of Nonconformance:

After some rounds of additional testing, it was determined that the problem was in the measurement system itself. Here is the note from Joe DiMarco (see also the attached plot of BMA017):

Tests on BMA017-0 yesterday showed the same type of odd AC behavior on the NS as was seen in BMA031 and BMA033. This implicated the measurement system, since previous measurements on BMA017 were ok.

The source of the problem was eventually traced to a particular channel (channel 18) of the signal conditioning electronics which gave some sort of funny reflection of the voltage signal, but only when the magnitude of the signal was "large enough" (example shown in the attached plot). Apparently, as Dave suggested, the signal strength at this vertex during NS ramping was large enough to trigger this effect, while the size at SS ramping was not. Also, at lower ramp rates the voltage signal fell below the threshold and so appeared normal.

Responsible Authority:

Jamie Blowers

Date:

10/31/2007 9:37:49 AM

Disposition:

There is no problem with the magnet, so it can be approved for potting.
Disposition verify notes: Problem fixed, and magnets were remeasured.

Responsible Authority:

Jamie Blowers

Date:

10/31/2007 9:37:49 AM

Corrective Action to Prevent Recurrence:

None. The system worked, i.e. we were able to trouble-shoot the problem and identify the cause.

Responsible Authority:

Jamie Blowers

Date:

10/31/2007 9:37:49 AM

Corrective Action/Disposition Verified By:

Jamie Blowers

Date:

9/11/2008 10:11:17 AM

Will Configuration be affected?: YES NO

Identified problem area:

- Material Manpower Method Machine Measurement

Reviewed By:

Jamie Blowers

Date:

9/11/2008 2:14:15 PM