

**Traveler Title:**

Booster Multipole Corrector Magnet Measurements at MTF

**Specification No:**

5520-TR-333854

**Revision:**

NONE

**DR No:**

4505

**Step No:**

4.1

**Drawing No:**

445004

**Routing Form No:**

**Serial No:**

BMA031

**Rework ID:**

1

**Discrepancy Description:**

The post-potting fixed-coil measurements are anomolous. It appears there is a delay in reaching full field in the three "normal" circuits (the "skew" circuits appear to not be affected). See attached plots from Joe DiMarco (note: these plots were generated April 22, 2008 because BMA047 shows the same behavior - see also DR 4506)..

**Originator:**

Jamie Blowers

**Date:**

1/10/2008 1:42:20 PM

**Cause of Nonconformance:**

Unknown. Repeated tests redoing connections, trying other leads, testing other magnets, indicate that the problem is with the magnet and not the test stand.

**Responsible Authority:**

Jamie Blowers

**Date:**

1/17/2008 1:42:20 PM

**Disposition:**

Perform various tests to try and pinpoint the source of the problem. Document the tests and their results.  
 Disposition verify notes: We looked at all the applicable IB2-generated measurement data, and found no smoking guns which would explain this anomaly (see attached summary file). We also performed a number of tests, and it appears that the phenomenon can be explained by the presence of eddy currents (see attached EPAC08 paper). However, we have been unable to identify a conductor loop inside the magnet to allow the eddy currents to flow. So at this time we do not fully understand the cause of the phenomenon, but we are going to consider this investigation "officially" closed.  
 Closeout notes: None.

**Responsible Authority:**

Jamie Blowers

**Date:**

4/21/2008 1:51:17 PM

**Corrective Action to Prevent Recurrence:**

None (at least not until we understand the cause).  
 Disposition verify notes: None - we do not understand the cause.  
 Closeout notes: None.

**Responsible Authority:**

Jamie Blowers

**Date:**

4/21/2008 1:47:41 PM

**Corrective Action/Disposition Verified By:**

Jamie Blowers

**Date:**

12/21/2009 11:31:34 PM

**Will Configuration be affected?:**     YES     NO

**Identified problem area:**

- Material             Manpower             Method             Machine             Measurement

**Reviewed By:**

Jamie Blowers

**Date:**

12/21/2009 11:32:50 PM