

Node 0615 Upgrade—II

Second attempt

Tue, Apr 17, 2001

On our second attempt to upgrade station 5 to the PowerPC system, we quickly arrived at the point where we had stopped on the first attempt 4 weeks previous. The first minor snag had to do with the cable connection to the little console, which seemed a bit touchy. The DABBEL downloading was done fairly quickly this time so that Acnet will look for system 5 devices via node0615 rather than node0614.

During the first try at performing a restore operation from Acnet, it seemed not to work, and many 17 -10 errors occurred. This indicated that we were not delivering reply messages in response to settings. But after some time, during which we attended to other problems, it started working properly.

But what was worrisome is that performing alarm block settings caused the beam inhibit bit to toggle. We tracked this down to code in the ADJABLK routine in the AcReq module. The Acnet alarm status word was not being mapped correctly from the internal alarm flags word. This was easily fixed.

The combined binary status channels had no analog descriptors, so we added Reading properties that provide the same status words back. This caused downloading of suitable descriptors for us.

On the status page L25, system 5 status bits were not displayed correctly. This required more DABBELing of two generic devices with names like OS5BIT. The L25 application did not have to change. But along the way, we needed to make sure that the enable bits used by the usual 6 closed loop local applications were moved to the usual system 5 bit number range. (They had been moved to the 00xx range to be consistent with usual non-RF system practice.) This is what allowed the L25 application not to be changed.

When beam was turned on, the beam-sensitive averaging logic was not working properly. This was traced to the BeamStat function called by AcReq that sampled the beam status bit. The bug was that the mask used was 0x03 rather than 0x07. This was another easy fix.

Acnet alarms via AEOLUS were not working from the new node0615. We had to change the alarm target node# at PAGEM+6 to 09F1 rather than 09FE. The multicast node# 09F1 is to be used for PPC Linac nodes. Node# 09FE is used for targeting test nodes alarm messages. But this wasn't enough to make Acnet alarms show up on Acnet console screens. The node had to be declared "operational" rather than "out-of-service" on some Acnet console page.

A problem was encountered with DABBEL downloading in which generic devices configured to be of maximum size 16383 bytes caused the downloader program to crash. This was a bug in that program that is now fixed. For such devices whose maximum size is more than 4096, the relevant steps that caused the crash are skipped.

A number of BADEMC messages showed up on the Acnet alarm displays. The cause was a few devices in node0614, now moved to node0615, that were still in the alarm scan and could therefore still generate alarm messages and possibly inhibit beam.