



Memo

date: December 16, 2011

to: RSC

from: D. Beavis 

subject: Minor Changes to the AGS North Conjunction Area Shield wall

The top layer of shielding blocks in the North Conjunction Area (NCA) shield wall decayed due to exposure to the elements. It was decided that this top layer be replaced while the blocks could still be safely removed. In addition, one block on the outside far edge near the labyrinth was also found to be in poor condition and was removed.

The top layer had six feet of vertical overlap with the retaining wall of the NCA and this has been reduced to five feet. The length of the old layer was 9 feet and it is now 8. Longitudinally the old layer was half light concrete and half heavy concrete. The new layer is all heavy concrete and provides more attenuation in the forward direction. A ray going back to the AGS ring and just over the top of the new shielding has to penetrate 31.75 feet of soil and concrete of the NCA roof. This far exceeds the effectiveness of the shield wall, which is 17.5 feet of light concrete. I therefore do not see an issue for the top change.

The top of the shield wall cannot be closely approached from the AGS berm. Any minor changes to neutrons leaking out the seam/crack between the retaining wall and the shielding should not be an issue.

The fault studies where the NCA shield wall were reviewed. During fault study 35A the dose rate at the block that was removed near the labyrinth was 0.1 mrem/hr and the HP1010 measured 5.6 mrem/hr at the labyrinth chipmunk. I have examined most of the NCA fault studies and find no evidence that this block is necessary.

I will request that during proton operations with extraction to the U line that a survey of the wall be documented. **(CK-AGS-proton-FY12-792)**

To prevent further damage to the shielding a membrane covers the top of the wall.

CC: H. Huang
A. Pendzick
RSC AGS File
RSC Online File