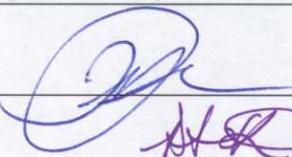
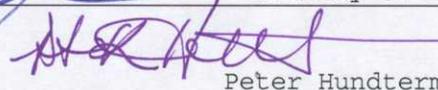
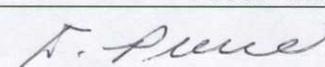
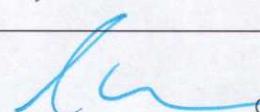


Engineering Change Request/Notice		Number	E	038-0003	
Number of attached pages		1			
Project	MACS	Affected Release Number(s):			
Originator	D. Pierce	S	038-0008	S	038-xxxx
Date	March 1, 2004	I	038-xxxx	S	038-xxxx
Scope		R	038-xxxx	R	038-xxxx
Section 2.6 of the WBC Specification (WBC 2B.doc)					
Purpose					
To bring the WBC Specification, Section 2.6 into conformance with the current configuration of MACS. Also, to add flexibility to the design of the Get Lost Pipe.					
Description					
Replace Section 2.6 of WBC 2B.doc with the attached document					
Impact (add more sheets if necessary)					
Performance	Schedule	Budget			
None	None	None			
Change Board (from Release)		Disposition	<input type="checkbox"/> approved	<input type="checkbox"/> disapproved	
1	 Timothy D. Pike	6			E  038-0003
2	 Peter Hundtermark	7			
3	 D. Pierce	8			
4	 Collin Broholm	9			
5		10			

## 2.6 Get Lost Pipe

The Get Lost Pipe is an extension of the WBC general shields. The get lost pipe consists of a helium liner, surrounding shielding, and the beam dump shield. The get lost pipe is designed to be sufficiently long to reduce the reflection of the neutron beam from the inner surface of the beam dump. The beam dump shields on the north end of NG-0 are a continuation of the WBC general shields. The rear face of the Get-lost pipe is positioned at the 10600mm datum, with the inner surface of the beam dump at the 9600mm datum. Accommodations within the get lost pipe shall be made for a removable helium liner. The rear of the Beam Dump shall have a removable "Sighting Plug" for instrument alignment. The interlocking sighting plug shall be designed to minimize the Neutron Flux at the rear external face of the Beam Dump. Design details are shown in figure 8.

### 2.6.1 Mechanical Performance

The Get Lost Pipe is a fully passive device. The only requirement for performance is that helium leak rate in the helium liner is less than 0.2 cuft/hr .

### 2.6.2 Access and Mechanical Positioning

The Get Lost Pipe rests on an element of the WBC shielding directly beyond the DFM Cask. The Get Lost Pipe is kinematically mounted with a minimum total adjustment range of 12 mm along each axis. The Get Lost Pipe kinematic mounting locations are shown in figure 9. The locations in figure 9 are for reference only. The only requirement for the locations of the kinematic mounting is that they provide stability for the helium liner, allow reproducible positioning upon removal and replacement of the helium liner and that the locations of the upper and lower components match.

### 2.6.3 Helium Liner

The helium liner shall be a tank containing helium with the specified leak rate. The size and shape of the helium liner shall be designed to encapsulate a cone that can be constructed as follows: Using the vertex and axis of the MACS beam cone, create a cone with an included angle of 1.85 degrees. Increase the radial girth of this cone by 25 mm. The resulting cone shall be an internal bounding volume that defines the minimum interior dimensions of the get lost pipe. The outer dimensions should be minimized as far as practicable to maximize the surrounding shielding. Removable windows shall be placed at either end of the get lost pipe to allow unobstructed sight along the beam line for instrument alignment. The attachment and sealing hardware for the removable windows shall be placed outside of the 1.85 degree cone to prevent neutron scattering.