



**Fermilab**

TS-SSC 90-045

**Fermi National Accelerator Laboratory  
Technical Support / Engineering  
P.O. Box 500 - Batavia, Illinois - 60510  
FAX: (708) 840-8036**

August 7, 1990

**To:** Distribution  
**From:** T. Nicol - FNAL  
**Subject:** SSC 50mm Collider Dipole Cryostat Cross Section  
and Interconnect Dimensions - Update

The attached drawings are revised versions of cross sections distributed in my May 21, 1990 memo. These drawings represent the following:

- Cryostat cross section through an internal support
- Cryostat cross section through an external support
- Cross section at a typical magnet interconnection

The changes reflected by these revisions are minor and impact only those interested in magnet interconnect dimensions. The changes are in the location of the 80K shield supply and return. The centerline of these pipes was relocated slightly to allow more room in the interconnect region between magnets for the 80K bellows. In addition, we changed the specification on the 80K bellows. The original OD on that bellows was 3-1/2 inches (88.90 mm). The new spec is 3-1/4 inches (82.55 mm). This too provides additional clearance in the interconnect for the 80K lines and shield transition.

We have also changed the vacuum vessel reinforcement at the support post locations. Our previous design utilized a 3/4 inch thick reinforcing plate around each support. The current design utilizes a complete ring, 3/4 inch thick, at each support location. This change was required to limit mechanical stresses in the vacuum vessel immediately around the supports. It also provides for a vessel less prone to weld distortions during fabrication.

T. Nicol  
Fermilab  
P.O. Box 500  
Batavia, IL 60510  
Mail station 316  
Decnet: FNAL::TNICOL  
Phone: (708) 840-3441  
FAX: (708) 840-8036

*[Handwritten signature]*

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