

**NCSX Preliminary Design Cost Estimate Summary Form  
(Attachment 1a)**

**SUMMARY DESCRIPTION**

<b>WBS Number: 63</b>	<b>Title: Utility Systems</b>
<b>Originator: Larry Dudek</b>	
<b><u>Description</u></b>	
<p>The WBS element only consists of the effort to provide the design, fabrication and installation of a manifold system around the NCSX stellarator for compressed air, vacuum pump venting and gaseous nitrogen.</p> <p>The vacuum pump venting system shall provide a system to vent the vacuum pumps in the CS basement and the diagnostic vacuum pumps in the NCSX test cell to the outside. Construction of the system shall be such that the system can be upgraded to TMB use at a later date.</p> <p><u>Description of Existing Equipment/Facilities to be Reused:</u> This system will make use of the existing CS compressor and piping starting from the point it enters the NCSX test cell in the SE corner.</p> <p>Nitrogen will be taken from the Nitrogen storage tank outside on the north side of the building.</p> <p>The coalescing filters located in the PBX test cell shall be reused to trap oil from the pump exhaust before exhausting to the outside.</p> <p><u>Description of Major Modifications Required to Existing Equipment/Facilities:</u> None.</p>	