

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

SUMMARY DESCRIPTION

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| WBS Number: 22 | Title: Vacuum Pumping Systems |
| Originator: W. Blanchard | |
| <u>Description</u> | |
| <p>This WBS element provides the vacuum pumping system (TVPS) for the plasma chamber (torus). The basic system will consist of one pumpduct and two 1500 l/s TMPs. The residual gas analyzer (RGA) will be a stand-alone analyzer. It is intended that the RGA system and a second TVPS duct will be incorporated after initial plasma as an upgrade to NCSX. Control of the vacuum system control system will be a PLC.</p> | |
| <p><u>Description of Existing Equipment/Facilities to be Reused:</u> The two 1500 l/s TMPs are legacy equipment from NCSX. Most of the existing PBX-M backing system will be used as is for NCSX. The NCSX vacuum pumping system will use as much as possible of the existing legacy PBX-M vacuum pumping system.</p> | |
| <p><u>Description of Major Modifications Required to Existing Equipment/Facilities:</u> The high vacuum system design and installation will be new for NCSX but will use much of the legacy equipment form PBX-M. The control system will be completely new and will be a PLC based system.</p> | |