NCSX Conceptual Design Cost Estimate Summary Form
(Attachment 1a)

SUMMARY DESCRIPTION

WBS Number: 32	**Title: Fast Particle Diagnostics**
Originator: Dave Johnson	

Description

This WBS element consists diagnostics required for evaluation of fast particle behavior on NCSX. Fast particles include confined and escaping beam ions and fusion products, as well as escaping fast neutrals. There are no diagnostics in this area needed for before initial NBI operation. This WBS is responsible for the vacuum interface that might include shutters or valves, pumping systems for possible vacuum extensions, the mechanical support structures, the sensors, the racks, and sensor specific electronics. Other WBS units are responsible for field cabling, rack terminal blocks, rack AC power and grounding, and data acquisition hardware.

Description of Existing Equipment/Facilities to be Reused: **None.**

Description of Major Modifications Required to Existing Equipment/Facilities: **None.**

Date: 9/15/03