

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

SUMMARY DESCRIPTION

WBS Number: 37	Title: Turbulence Diagnostics
Originator: Dave Johnson	
<u>Description</u>	
<p>This WBS element consists of diagnostics required to measure plasma turbulence, which causes increased energy and particle transport. Turbulence phenomena in both the plasma core and edge regions can significantly influence plasma performance. Data from these diagnostics, combined with data from the kinetic profile diagnostics, will be critical in the understanding of the details of plasma loss mechanisms. This WBS is responsible for the vacuum interface, including windows, shutters, valves or electrical feedthrus. Responsibility also includes sensors, mounting structures and sensor cabling near the vacuum vessel. Sensor electronics and racks are also included. Other WBS units are responsible for field cabling and junction boxes, rack terminal blocks, rack AC power and grounding, and data acquisition hardware.</p> <p>For Phases 1 and 2, there are no diagnostics planned in this category.</p> <p><u>Description of Existing Equipment/Facilities to be Reused:</u> None.</p> <p><u>Description of Major Modifications Required to Existing Equipment/Facilities:</u> None.</p>	