

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

**SUMMARY DESCRIPTION**

<b>WBS Number: 444</b>	<b>Title: Instrumentation Systems</b>
<b>Originator: Raki Ramakrishnan</b>	
<b><u>Description</u></b>	
<p>This WBS element consists of the effort to design, specify, procure, install, and implement current and voltage measurements for the Modular, PF, and TF coils. Current measurements are made at D-site using one precision DC Current Transducer and one optically isolated shunt per circuit. Voltage measurements are at C-site using voltage transducers from line to ground, one from each pole of each circuit to ground. Also included are signal conditioners that receive the current</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>	

**Date: 9/15/03**