

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

SUMMARY DESCRIPTION

WBS Number: 445	Title: Coil Protection Systems
Originator: Raki Ramakrishnan	
<u>Description</u>	
<p>This WBS element consists of the effort to design, specify, procure, program, and implement hardware and software as required to provide 1) Coil protection system and 2) Ground fault detection system for the Modular, PF, and TF coil systems. The coil protection system uses the coil current measurements as input and declares a fault if electrical, thermal, or mechanical limits are exceeded. The ground fault detection system declares a fault if excessive ground current flow is detected.</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