

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

SUMMARY DESCRIPTION

WBS Number: 44	Title: DC Systems
Originator: Raki Ramakrishnan	
<u>Description</u>	
<p>This WBS element consists of the following subsystems:</p> <ul style="list-style-type: none">• Electrical Interlocks (WBS 441);• Kirk Key Interlocks (WBS 442);• Real Time Control Systems (WBS 443);• Instrumentation Systems (WBS 444);• Coil Protection Systems (WBS 445); and• Ground Fault Monitoring System (WBS 446).	
<p><u>Description of Existing Equipment/Facilities to be Reused:</u> Components from the existing kirk key system will be reused whenever practical.</p>	
<p><u>Description of Major Modifications Required to Existing Equipment/Facilities:</u> Some modifications to the existing hardwired control system logic of the D-site power system and to the Transrex and Robicon power supply local controls will be needed to ensure compatibility with the new PLC scheme.</p>	

Date: 9/15/03