

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

SUMMARY DESCRIPTION

WBS Number: 131	Title: TF Coils
Originator: Mike Kalish	
<p><u>Description:</u> The set of toroidal field coils provide flexibility in the magnetic configuration. There are 18 identical, equally spaced coils providing a 1/R field at the plasma. The coils are wound from hollow copper conductor and vacuum impregnated with glass-epoxy. They operate at the same temperature as the poloidal and modular coil sets, nominally 80K (cooled by LN₂). The coils are supported by an external coil support structure (WBS 151). The coils are located at radial locations coincident with the modular coil (WBS 14) locations, both for symmetry and to avoid introducing additional obstructions to access.</p> <p>This WBS element consists of the manufacturing design and fabrication of the TF conductor and assembly of the TF winding packs including interface elements for connections to power and cooling supply at the coils. Local I&C for these TF and other conventional coils is included in the Conventional Coils Local I&C (WBS 134).</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>	