

NCSX Engineering Meeting

Status of Winding R&D & Conductor Testing

Presented by: James H. Chrzanowski

January 15, 2003

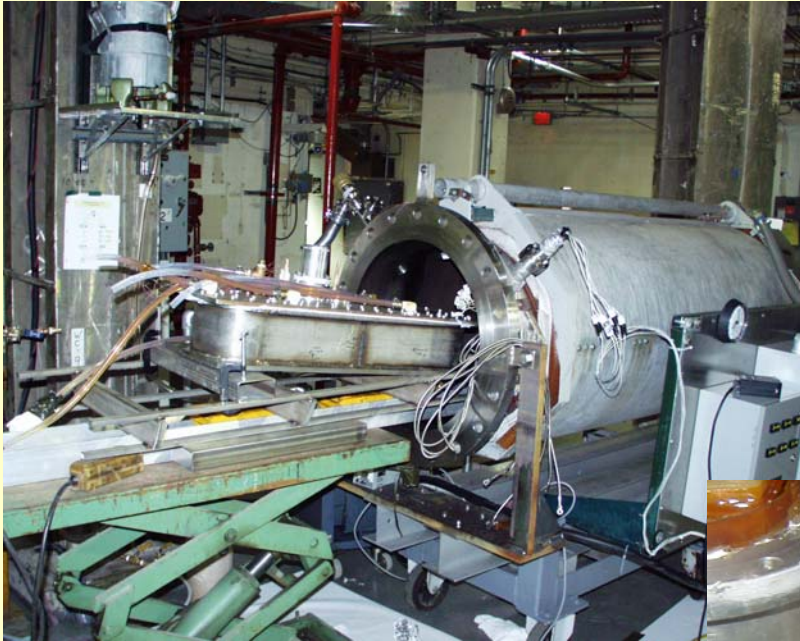
Mold & VPI Process

- Agenda
 - Epoxy Testing program
 - VPI of University of Tennessee coil
 - Tee section castings
 - Keystone testing
 - General updates

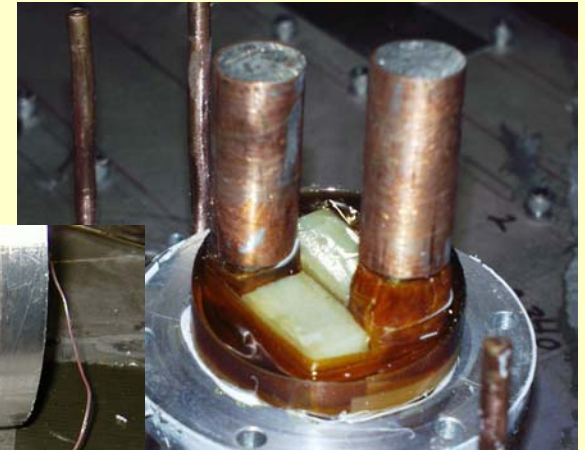
Epoxy Testing program

- A Statement of Work has been generated by Irv Zatz for the contract requirements to determine the mechanical and thermal properties of the NCSX epoxy and impregnated copper cable conductor
- The SOW “**NCSX-SOW-142-02-00**” is presently out for review.
- Once approved, a contract will be made with an outside epoxy consultant to complete the testing activities.
- All tests are scheduled to be completed by March 31, 2003

VPI of University of Tennessee Coil



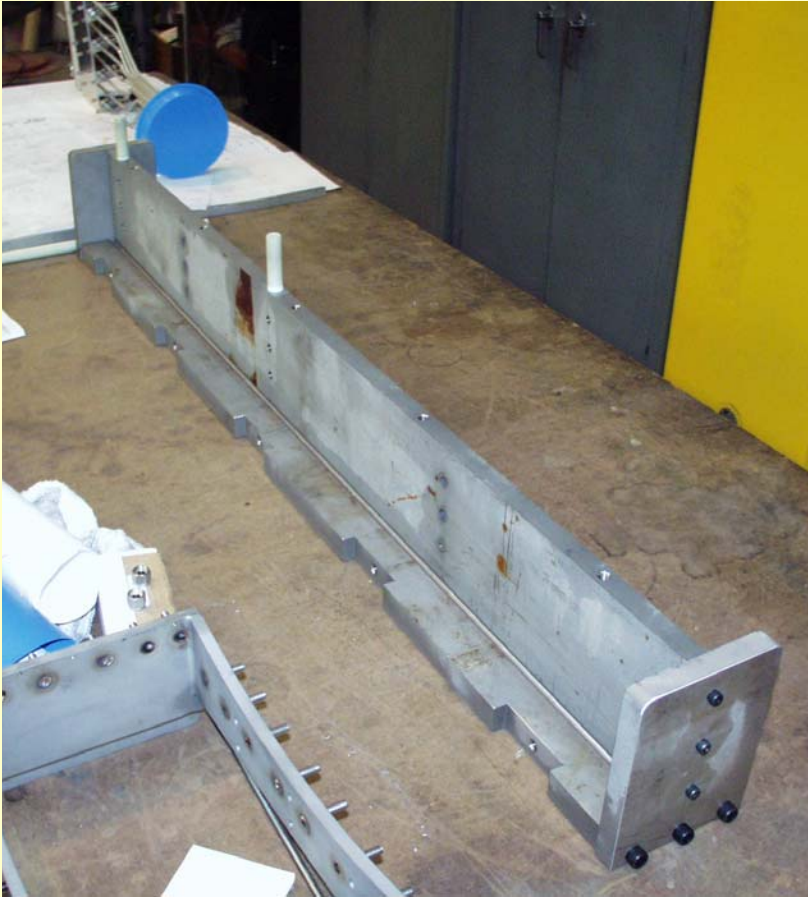
- The UT coil was epoxy impregnated on January 6, 2003



- Following a preliminary electrical test, the coil will be shipped to ORNL



Straight Tee Section



- Straight Tee section has been fabricated in the PPPL shops and is in the queue for installation of copper turns, mold and VPI

Special Tee Sections



- J.P Pattern was awarded the contract Dec. 17. 2002
- Four segments (2) of each type are being fabricated
- (1) will be sent to ORNL while the remaining (3) will be used for VPI trials at PPPL
- Verified delivery January 31, 2003

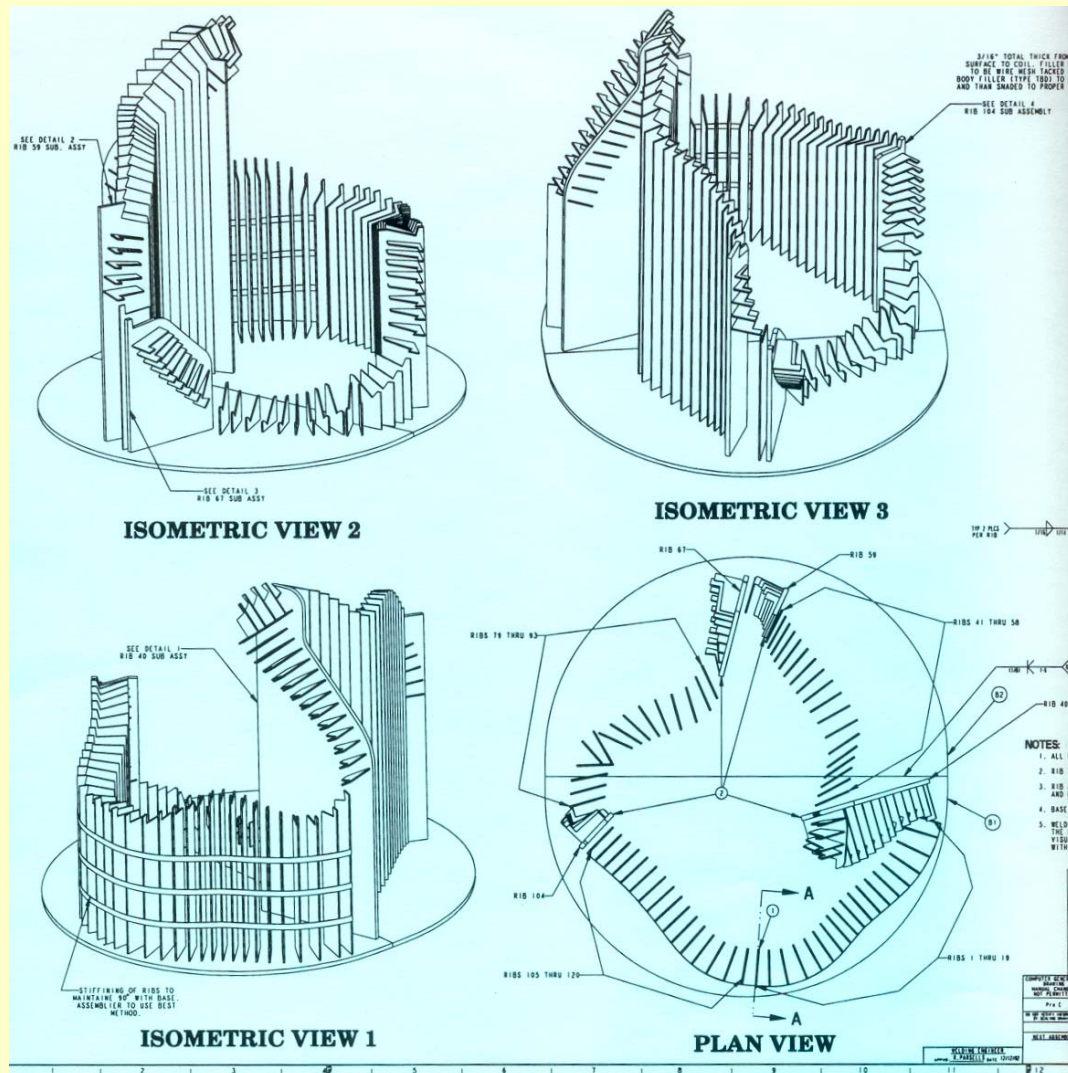


Keystone Trials



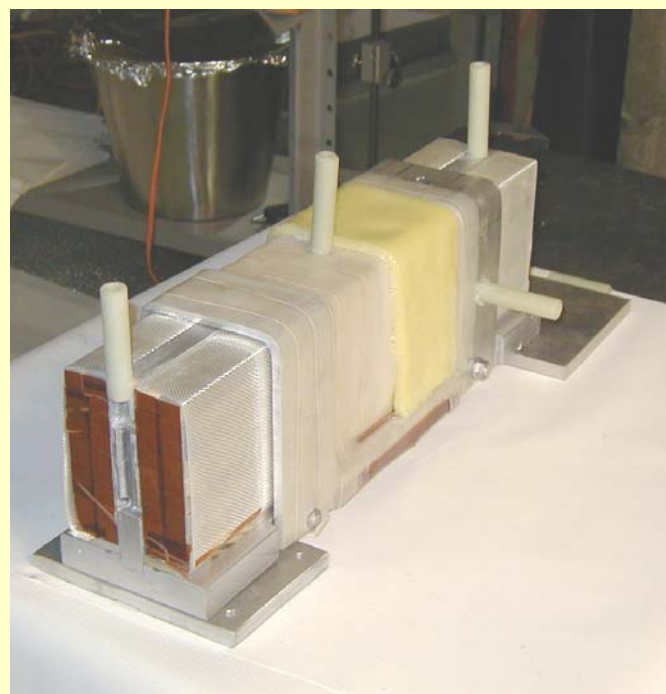
- Fabrication of the Keystoning winding form is continuing in the PPPL Tech shop
- The section sample in the photo is what the form will look like.
- Water jet fabricated steel components will be fitted and welded together
- The top surface will be made with stainless screen and an epoxy/glass build
- Trials are scheduled to begin in early February.

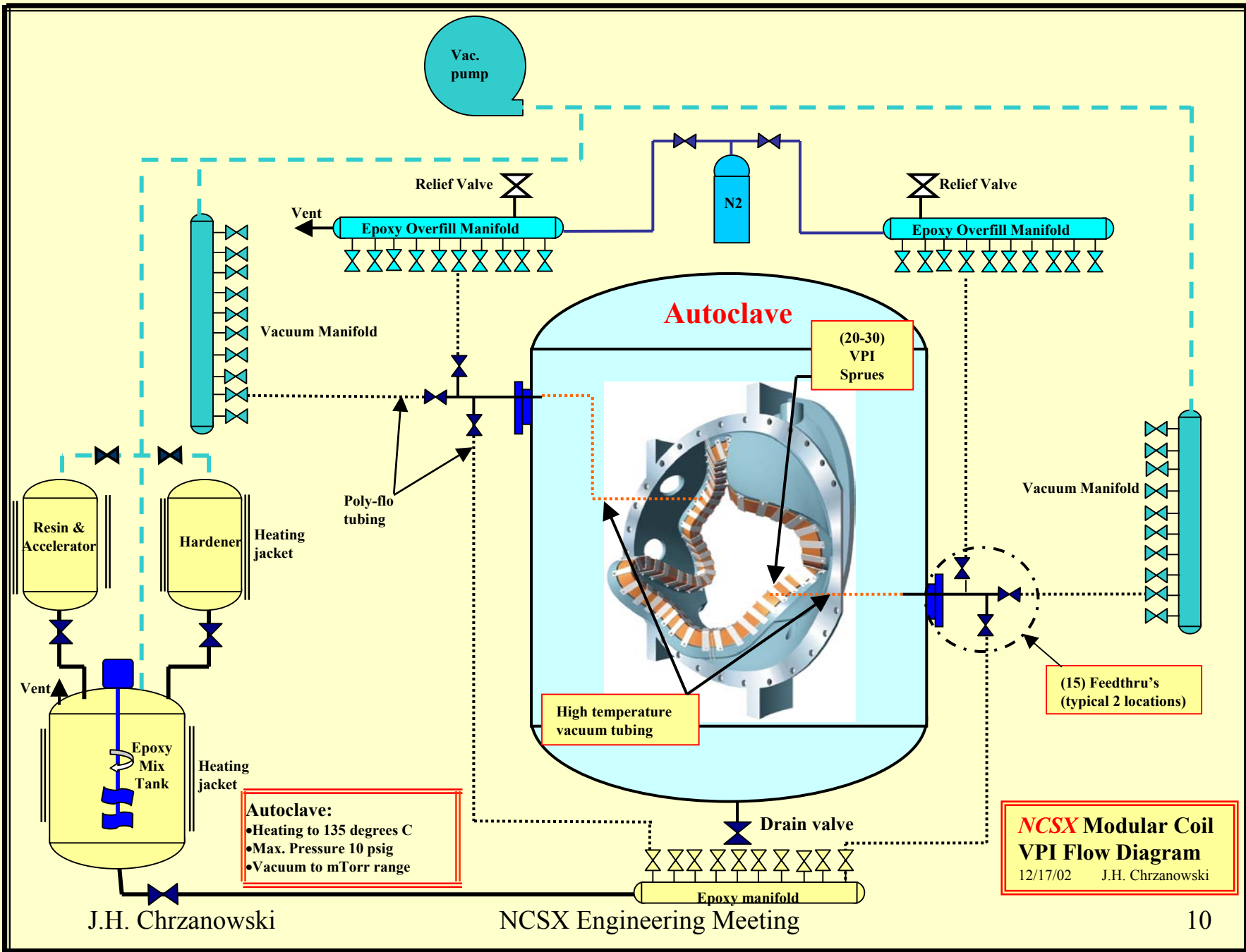
Keystone Trials



VPI and Mold Process

- A Peer Review was held this morning (January 15, 2003) on the proposed:
 - VPI mold construction
 - VPI System
 - VPI Process





General Updates

- The small copper conductor for 2 x 2 modular coil winding has been delivered to PPPL from New England Electric Wire on January 13, 2003
 - (6) 450 foot rolls [(3) left hand (3) right hand]
- A **successful PDR** on the Autoclave was held on January 8, 2003.
- The assembly of the straight Tee section, along with the proof of principle for the proposed mold are the next scheduled activities
 - VPI scheduled to be completed Feb. 17, 2003