

STATUS REPORT

SUBCONTRACT No.	S-04284-F
JOB TITLE	NCSX Vacuum Vessel Manufacturing Study

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1. General

According to the statement of the work, the schedule of the activities has been planned. :

(See, Attachment-1)

From the PPPL ftp site, the Pro/E files have been successfully obtained, and the contents in the files have been confirmed.

2. Status

1) Review and recommendation on manufacturing processes

Investigation of typical four processes has been started, and general features have been investigated and summarized in the Attachment-2.

2) Identification of design change

Cost effective process and design is being investigated. Currently, it is planned to review the structural materials and investigate the structural analysis results. As found in our previous proposal presented at the August meeting, SS316LN seems a preferable option instead of Inconel 625. Preliminary comparison between Inconel 625 and SS316LN on material properties, manufacturability and cost has been performed and summarized in the Attachment-3.

3) Proposal on R&D and prototype activities

As presented in the Attachment-1, this activity will be initiated at the beginning of the next January.

4) Estimation of cost and schedule for production of vessel

Based on the Pro/E drawing, the segmentation study has been started.

1st draft of manufacturing process is schematically shown in Attachment-4.

5) C&R of production specification and proposal on appropriate changes

Q&A sheet on the current specification draft extracted from the PPPL web site has been formed as the Attachment-5. PPPL's quick response to the questions is appreciated.

3. Others

Our desirable option, currently considered, for the fabrication/design of the NCSX vacuum vessel is as follows ;

- 1) Materials : SS316LN
- 2) Process : Cold press forming
- 3) Port reinforcement : Simplification of stub structure
- 4) Optimization of inspections and procedures

Attachments

- 1) Plan for NCSX Vacuum Vessel Manufacturing Study
- 2) General Summary on Typical Fabrication Processes
- 3) Comparison of Candidate Materials for the NCSX Vacuum Vessel
- 4) NCSX Vacuum Vessel Fabrication Procedures
- 5) Questions to the Specification Document of NCSX Vacuum Vessel