

HENEX 100% Design Review October 2001 (NIF Milestone M3):

The Engineering 100% design review is where the diagnostic detailed design will be reviewed by the National NIF Diagnostic Program or their nominees, the relevant expert group members, and the NIF user community. The review includes all work necessary to fabricate, assemble, offline test, and field the final diagnostic and will consist of the following sections:

- 1) Demonstrate compliance with design requirements (*Larry*)
- 2) Address comments and action items documented at the M2 - Engineering 65% design review (*John*)
- 3) Verification of compliance with interface control documents (*Glenn and Rob*)
- 4) Present RAM analysis - An estimate of the expected reliability and/or availability when operated on the NIF, based on experimental results (*John*)
- 5) Present final risk mitigation plans (*John*)
- 6) Present final safety analysis of the diagnostic and layout (*John and Glenn*)
- 7) Present calculations and analysis of design performance (electrical circuit evaluation, structural response, shielding, etc.) (*Rob, Layne, Glenn*)
- 8) Demonstrate that the design is complete
 - Design models are complete and checked for form, fit, and function (*Layne*)
 - Drawing packages are complete (*Layne*)
 - Manufacturability of components (*Layne*)
 - List of control and monitor points (*Rob*)
 - Electronic designs, printed circuit board designs and cable layout details (*Rob*)
 - All detail drawings must be approved by the diagnostic project engineer, and placed into configuration management system per the NIF diagnostic standards and guidelines (*Layne*)
 - Present results of prototype and component testing (*Larry, Glenn, and Rob*)
- 9) Present the status of the software design, ready for coding - Software Requirement Specifications and Software Design Specifications - identify software manuals, Prototype SW demonstrating or evaluation design concepts (optional) (*Rob*)
- 10) Demonstrate compliance with the NIF Diagnostic Standards and Guidelines documents (*Glenn and Rob*)
- 11) Update the cost and schedule information (*John*)
- 12) Present the procurement plan
 - List of all components to be purchased (*Glenn*)
 - Bid estimates to support procurement of all components (*Glenn*)
 - Specifications written for all purchased components (*Glenn*)
 - Suppliers of components identified (*Glenn*)
 - Drafts of Statements of Work (*Glenn*)
- 13) Present drafts of the assembly and fabrication procedures (*Layne and Glenn*)
- 14) Present drafts of Off-line and On-line acceptance test procedures (*Rob and Glenn*)
- 15) Present drafts of calibration procedures (*Larry*)
- 16) Present drafts of the alignment procedures (*John and Glenn*)
- 17) Present drafts of installation procedures (*John and Glenn*)
- 18) Identification of operation plans (*Rob and Glenn*)

Comments and action items will be recorded, and addressed in the M4a - Fabrication and Assembly Complete Report.

The National NIF Diagnostic Program or their nominees will accept or decline milestone completion within 5 working days of presentation. This review will not be considered complete until the acceptance of the set of requirements. The completion criteria for this review are that all

work has been done that is required to start the procurement, fabrication, and assembly tasks for the diagnostic.