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Title	Design, Fabrication and Supply of Torus Cryo Pump Housing (TCPH) with Bellows and Other Loose items
Sub-title	**MANDATORY APPENDIX : II-TCPH-APB3_10_ENGINEERING ANALYSIS**

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CONTENTS

1. SCOPE

This appendix covers the requirements for engineering analysis in support of design of the jigs, fixtures and handling tools required for manufacturing, inspection, testing and transportation of TCPH. This appendix also covers the requirements in case of design changes and non-conformance observed during the manufacturing.

Calculations and computer codes implemented for the design and analysis shall be qualified in accordance with internal procedures of the Bidder. The proof of the qualification shall be submitted to I-I for approval.

For stress calculations, finite element software shall be used. The FEA software used should be agreed with I-I and IO.

2. TRANSPORTATION AND HANDLING ANALYSIS

Design of jigs, fixtures and transportation frame used for handling of equipment's shall be justified by finite element analysis (RDB3_10) under load conditions associated with the transportation plan described in II-TCPH-APB3_09.

3. ANALYSIS IN SUPPORT OF DESIGN CHANGE REQUESTS

If design changes are requested by the Bidder, the Bidder shall assess the impact on the TCPH due to design changes and provide I-I and IO with details of the design modifications (drawings, reports). I-I and IO shall assess the proposed modifications for its design impact. If necessary, Bidder shall perform the finite element analysis (RDB3_10) as per applicable load conditions covered in the load specification document (RDB3_05). The same shall be submitted along with the analysis files to I-I and IO for approval.

4. ANALYSIS IN SUPPORT OF NON CONFORMANCE

In case of non-conformance to the TCPH technical specification and ASME Section VIII Div. 2, the Bidder shall assess the impact of Non Conformance on TCPH design. The Bidder shall show justification following the design rules of ASME Section VIII Div. 2. I-I and IO shall assess the Non Conformance and its justification for its acceptance. If necessary, Bidder shall perform the finite element analysis (RDB3_10) as per applicable load conditions covered in the load specification document (RDB3_05). The same shall be submitted along with the analysis files to I-I and IO for approval.