

Checks for Calculation No: NSTXU-CALC-11-24-00

Revision No: 0

Title Eddy Current Calculations for OBD12 Tiles

Component was checked against latest design

Yes

All required load cases are included and current

Yes

Discuss method used in the calculation

An analytic method/formula was used to calculate eddy currents assuming a resistive limit as is appropriate for small, high resistance materials subject to a fixed dB/dt

Discuss how the calculation was checked (*)

An independent calculation was done using similar analytic methods

List issue identified and how they were resolved

None

Checker's name: Art Brooks

Technical Authority: _____ (sign and date)

(*) independent calculations can be appended

Minimum Requirements for Checking Calculations

1. Assure that inputs were correctly selected and incorporated into the design.
2. Calculation considers, as appropriate:
 - Performance Requirements (capacity, rating, system output)
 - Design Conditions (pressure, temperature, voltage, etc.)
 - Load Conditions (Electromagnetic (Lorentz Force), seismic, wind, thermal, dynamic)
 - Environmental Conditions (radiation zone, hazardous material, etc.)
 - Material Requirements
 - Structural Requirements (foundations, pipe supports, etc.)
 - Hydraulic Requirements (NPSH, pressure drops, etc.)
 - Chemistry Requirements
 - Electrical Requirements (power source, volts, raceway, and insulation)
 - Equipment Reliability (FMEA)
 - Failure Effects on Surrounding Equipment
 - Tolerance Buildup
3. Assumptions necessary to perform the design activity are adequately described and reasonable.
4. An appropriate calculation method was used.
5. The results are reasonable compared to the inputs.
6. Error bars (range) for inputs used, results / conclusions, assumptions, have been considered and are acceptable.

NOTE: IT IS THE RESPONSIBILITY OF THE CHECKER TO USE METHODS THAT WILL SUBSTANTIATE TO HIS/HER PROFESSIONAL SATISFACTION THAT THE CALCULATION IS CORRECT.

BY SIGNING CALCULATION, CHECKER ACKNOWLEDGES THAT THE CALCULATION HAS BEEN APPROPRIATELY CHECKED AND THAT THE APPLICABLE ITEMS LISTED ABOVE HAVE BEEN INCLUDED AS PART OF THE CHECK.