

Staff's Thermal Issues with HI-STORM 100 Storage Cask

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Porous Media Model

Calculation of Friction Factor

- Holtec assumes constant per unit length pressure drop
- This assumption appears to be non-conservative

Porous Media Model

Calculation of Friction Factor

- The staff would find acceptable either the wall shear stress method (area weighted average) or pressure drop method (for the heated region)
- Some local effect is considered for either of the above two approaches

Porous Media Model

Calculation of Friction Factor

- Both Methods (with limitations) have demonstrated, as documented in Holtec's Calculations, that the parameters Holtec used to calculate SAR results are non-conservative

Holtec's MPC Hydraulic Model

Non-conservative Hydraulic Parameters

- Use of non-conservative hydraulic parameters in Holtec's MPC hydraulic model will result in non-conservative maximum fuel cladding temperature