**Table 12:** MSR 1C1 nozzle #11 north loading

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Equipment ID → | | MSR 1C1 Nozzle #11 North | | | Allowable Load Reference → | | | Note 1 | |
| Equipment Dwg. | |  | | |  | | | 2 | |
| Attached Piping Data Summary | | | Computer Run ID | | | | Nozzle or Penetration Local Coordinate System | | |
| HSG Input | | | |
| NPS & Schedule: 8 / 40 | | | Note 1:  Allowable nozzle loads are not available for this nozzle. During MSR replacement, allowable loads will be established and included in this analysis. | | | | +X: Along nozzle axis, coming out of nozzle  +Y: Toward plant South  +Z: Determined by right-hand-rule | | |
| Pipe Material: Carbon Steel A106-B | | |
| Metal Area (in2): 8.4 | | |
| Section Modulus (in3): 16.81 | | |
| Load | | FAX | FS1 | FS2 | FSR | MTOR | MB1 | MB2 | MBR |
| Local Coordinate ID | | FX | FY | FZ |  | MX | MY | MZ |  |
| LB | LB | LB | LB | FT-LB | FT-LB | FT-LB | FT-LB |
| **NORMAL** | Dead Weight | 626.0 | 32.0 | 0.0 | 32.0 | -50.0 | 531.0 | 19.0 | 531.0 |
| TH-1 | 523.0 | 2931.0 | 734.0 | 3022.0 | -4000.0 | -2245.0 | 11561.0 | 11777.0 |
| TH-2 | 0 | 0 | 0 | 0.0 | 0 | 0 | 0 | 0.0 |
| Hot (weight + envelope of expansion cases) | 1149.0 | 2963.0 | 734.0 | 3054.0 | -4050.0 | -1714.0 | 11580.0 | 12308.0 |
|  |  |  |  |  |  |  |  |  |
| Maximum of the Absolute Value of (DW, Hot) | 1149.0 |  |  | 3054.0 | 4050.0 |  |  | 12308.0 |
|  |  |  |  |  |  |  |  |  |
| Allowable | Note 1 |  |  | Note 1 | Note 1 |  |  | Note 1 |
| Ratio | -- |  |  | -- | -- |  |  | -- |

**Table 12:** MSR 1C1 nozzle #11 north loading

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Equipment ID → | | MSR 1C1 Nozzle #11 North | | | Allowable Load Reference → | | | Note 1 | |
| Equipment Dwg. | |  | | | Discontinuity Point (DCP) → | | |  | |
| Attached Piping Data Summary | | | Computer Run ID | | | | Nozzle or Penetration Local Coordinate System | | |
| HSG Input | | | |
| NPS & Schedule: 8 / 40 | | |  | | | | +X: Along nozzle axis, coming out of nozzle  +Y: Toward plant South  +Z: Determined by right-hand-rule | | |
| Pipe Material: Carbon Steel A106-B | | |
| Metal Area (in2): 8.4 | | |
| Section Modulus (in3): 16.81 | | |
| Load | | FAX | FS1 | FS2 | FSR | MTOR | MB1 | MB2 | MBR |
| Local Coordinate ID | | FX | FY | FZ |  | MX | MY | MZ |  |
| LB | LB | LB | LB | FT-LB | FT-LB | FT-LB | FT-LB |
| **NORMAL** | Dead Weight |  |  |  |  |  |  |  |  |
| TH-1 |  |  |  |  |  |  |  |  |
| TH-2 |  |  |  |  |  |  |  |  |
| Hot (weight + envelope of expansion cases) |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
| Maximum of the Absolute Value of (DW, Hot) |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
| Allowable | Note 1 |  |  | Note 1 | Note 1 |  |  | Note 1 |
| Ratio | -- |  |  | -- | -- |  |  | -- |

**Table 12:** MSR 1C1 nozzle #11 north loading

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Equipment ID → | | MSR 1C1 Nozzle #11 North | | | Allowable Load Reference → | | | Note 1 | |
| Equipment Dwg. | |  | | | Discontinuity Point (DCP) → | | |  | |
| Attached Piping Data Summary | | | Computer Run ID | | | | Nozzle or Penetration Local Coordinate System | | |
| HSG Input | | | |
| NPS & Schedule: 8 / 40 | | | Note 1:  Allowable nozzle loads are not available for this nozzle. During MSR replacement, allowable loads will be established and included in this analysis. | | | | +X: Along nozzle axis, coming out of nozzle  +Y: Toward plant South  +Z: Determined by right-hand-rule | | |
| Pipe Material: Carbon Steel A106-B | | |
| Metal Area (in2): 8.4 | | |
| Section Modulus (in3): 16.81 | | |
| Load | | FAX | FS1 | FS2 | FSR | MTOR | MB1 | MB2 | MBR |
| Local Coordinate ID | | FX | FY | FZ |  | MX | MY | MZ |  |
| LB | LB | LB | LB | FT-LB | FT-LB | FT-LB | FT-LB |
| **NORMAL** | Dead Weight |  |  | 0 |  |  |  |  |  |
| TH-1 |  |  |  |  |  |  |  |  |
| TH-2 |  |  |  |  |  |  |  |  |
| Hot (weight + envelope of expansion cases) |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
| Maximum of the Absolute Value of (DW, Hot) |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
| Allowable | Note 1 |  |  | Note 1 | Note 1 |  |  | Note 1 |
| Ratio | -- |  |  | -- | -- |  |  | -- |

**Table 22:** Support load information

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Node Pt.** | **Support Mark No. [REF]** | **D**  **I**  **R** | **Maximum Support Loads (lbs)** | **Minimum Support Load (lbs)** | **Structural Capacity (lbs)** | **Spring Working Range (lbs)** | **Comments1** |
| 17 | 1-MCT-HS-H322 | FX |  |  |  |  | Capacity Check → OK  Spring in Range → YES |
| FY | -2935.0 | -2792.0 |  |  |
| FZ |  |  |  |  |
|  |  | FX |  |  |  |  | Capacity Check → OVER (Note 2) |
| FY |  |  |  | -- |
| FZ |  |  |  |  |
|  |  | FX |  |  |  |  | Capacity Check → OK |
| FY |  |  |  | -- |
| FZ |  |  |  |  |
|  |  | FX |  |  |  |  | Capacity Check → OK  Spring in Range → YES |
| FY |  |  |  |  |
| FZ |  |  |  |  |
|  |  | FX |  |  |  |  | Capacity Check → OK  Spring in Range → YES |
| FY |  |  |  |  |
| FZ |  |  |  |  |
|  |  | FX |  |  |  |  | Capacity Check → OK |
| FY |  |  |  | -- |
| FZ |  |  |  |  |
|  |  | FX |  |  |  |  | Capacity Check → OK |
| FY |  |  |  |  |
| FZ |  |  |  |  |
|  |  | FX |  |  |  |  | Capacity Check → OK  Spring in Range → YES |
| FY |  |  |  |  |
| FZ |  |  |  |  |
|  |  | FX |  |  |  |  | Capacity Check → OK  Spring in Range → YES |
| FY |  |  |  |  |
| FZ |  |  |  |  |
| TS1 | Tank Support #1 | FX |  |  |  |  | (Note 3) |
| FY | -3456 | -2470 | -- | -- |
| FZ |  |  |  |  |
| TS2 | Tank Support #2 | FX |  |  |  |  | (Note 3) |
| FY | -3904 | -1847 | -- | -- |
| FZ |  |  |  |  |
| TS3 |  | FX |  |  |  |  | (Note 3,4) |
| FY |  |  | -- | -- |
| FZ |  |  |  |  |
| TS4 | Tank Support #4 | FX |  |  |  |  | (Note 3,4) |