Tel: +1.724.658.3711
Free: 1.800.245.0354
U.S. Nuclear Regulatory Commission Document Control Desk
Washington, D.C. 20555-0001
Phone: (301) 816-5100
Fax: (301) 816-5151
EMail: EIE@nrc.gov

SUBJECT: Interim Report Notification Pursuant To 10 CFR Part 21.21, Regarding Supply Of 1" Sch. 80 (0.179" Wall) SB466 UNS C71500 Buttweld Long Radius 90 Degree Elbow; Manufacturer: Flowline; Heat No: 27668; 27 pieces - Heat Code: 127514, Fitting IDs: 16836-1-1 through 27; 1 piece Heat Code: 127976, Fitting ID: 16836-1-28.

This letter provides an interim report in accordance with $\S 21.21$ concerning the supply of 1" Sch. 80 ( $0.179 "$ Wall) SB466 UNS C71500 Buttweld Long Radius 90 Degree Elbow to the Duke Energy Brunswick Nuclear Plant. Flowline Division, as Ezeflow's QMO, was contracted to supply the fittings. Flowline Division manufactured these fittings at our New Castle, PA facility. Please see Attachment 1, "Interim Report Notification Information per §21.21", for additional details and clarification.

Nine pieces of the 28 supplied have been found to be nonconforming to the wall thickness requirements of ASME B16.9. It has been reported to us by Tioga that three pieces of the nine nonconforming pieces have been installed. The remaining six pieces have been identified and are being returned to Mackson by Duke and ultimately to Flowline at the time of this report's issuance.

If you have any questions, please feel free to contact me at (412) 925-4946 or our Engineering Manager, Brad Seidel, at (724) 761-5850.


Flowline Inc.


NRA

1400 New Butler Road New Castle, PA USA 16101

Tel: +1.724.658.3711
Free: 1.800.245.0354
flowlinefittings.com

Enclosures:

1) Attachment 1, Interim Report Notification Information per $\$ 21.21$
2) Flowline Final Inspection Dimensional Report for Shop Orders 127514 and
TANUC127976

Cc:
Bernard Stabile, Ezeflow
Dom Baggetta, Flowline
Brad Seidel, Flowline
Marty Capoferri, Flowline

## Attachment 1 <br> Interim Report Notification Information per \$21.21

I. Name and address of the individual or individuals informing the Commission:

John Gloninger
President
Flowline Inc.
1400 New Butler Road
New Castle, PA 16101
II. Identification of the facility, the activity, or the basic component supplied which fails to comply or contains a defect.

28 pieces of 1" Sch. 80 (0.179" Wall) SB466 UNS C71500 Buttweld Long Radius 90 Degree Elbow; Manufacturer: Flowline; Heat No: 27668, Fitting IDs: 16836-1-1 through 28 were shipped direct from Flowline to the Brunswick Nuclear Plant on Ezeflow PO 82870, Line 1 and Tioga PO 03160591, Line 1 (Tioga Sales Orders Number: 372275 Position 10). Fitting IDs 16836-1 through 27 were supplied on July 21, 2023, and Fitting ID 16836-1-28 was supplied on November 8, 2023. The following is a clarification of the heat code identification associated with the first 27 pieces supplied on July 21, 2023 and the last piece which was supplied on November 8, 2023. The same starting pipe heat number 27668 was used for the manufacture of all 28 pieces. The heat code associated with the heat treatment of the 27 pieces supplied on July 21, 2023 is Heat Code 127514. The heat code associated with the heat treatment of the 1 piece supplied on November 8, 2023 is Heat Code 127976. The heat code is only associated with the heat treatment process. Of the 28 pieces supplied, based upon final dimensional inspection reports provided by Flowline to Tioga on November 21, 2023 and November 28, 2023, the

## 1400 New Butler Road Tel: +1.724 .658 .37 T

following Fitting IDs do not meet the wall thickness requirements of Duke Energy Brunswick PO 03160591, Line 1 and ASME B16.9: 16836-1-1; 16836-13; 16836-1-6; 16836-1-7; 16836-1-11; 16836-1-14; 16836-1-15; 16836-1-20; and 16836-1-21.
III. Identification of the firm constructing the facility or supplying the basic component which fails to comply or contains a defect.

Mackson Nuclear is an ASME QSC holder and supplied these fittings to Duke Energy Brunswick for PO\# 03160591, Line 1. Mackson ordered these fittings from Tioga Pipe, who owns Mackson, is an ASME QSC holder and is audited and approved by Mackson. Tioga ordered the fittings from Ezeflow, an ASME N -Stamp holder and is audited and approved by Tioga. Ezeflow had their Flowline division manufacture the fittings and Ezeflow generated and supplied the certification documentation package. Flowline has been audited and approved by Ezeflow as a qualified material organization to Ezeflow.
IV. Nature of the defect or failure to comply and the safety hazard which is created or could be created by such defect or failure to comply.

On November 15, 2023, Flowline was contacted by Ezeflow regarding the wall thickness of one piece of SB466 UNS C71500 1" Sch. 80 (0.179" Wall) Buttweld Long Radius 90 Degree Elbow, Heat\# 27668 Heat Code 127976 Fitting ID\# 16836-1-28 and supplied to Ezeflow as ASME Section II and Section III Subsection ND Class 3, 1986 Edition No Addenda material for Ezeflow PO\# 82870, Line 1. Tioga went back to Ezeflow to request this information, and Ezeflow went back to their supplier of the material, Flowline, to request the final wall thickness measurements of this fitting. During this process, the wall thickness measurements for the previous 27 pieces of the same material with Fitting ID\#s 16836-1-1 through -27 which were supplied to Ezeflow for PO\# 82870, Line 1 on July 21, 2023 were obtained from Flowline. Fitting ID\# 16836-1-28 met the Brunswick Specification BX-M-046 Revision 12 wall thickness requirement detailed in Section 4.2 .5 of the specification. However, upon review of the Final Inspection Dimensional Sheet supplied by Ezeflow for Fitting ID\#s 16836-1-1 through -27, it was determined by Mackson that the incorrect wall thickness of $0.120^{\prime \prime}$ was referenced as the minimum wall thickness acceptance criteria on the Final Inspection Dimensional Report. Based on BX-M-046 Revision 12 Section 4.2 .5 and ANSI/ASME B16.9 requirements, the minimum wall thickness acceptance criteria should have been $0.1575^{\prime \prime}$ and not $0.120^{\prime \prime}$. Flowline then reviewed all the wall thickness

1400 New Butter Road
New Castle, PA
USA 16101

Tel: +1.724 .658 .3711
Free: 1.800.245.0354
flowlinefittings.com
measurements and determined that the following Fitting ID\#s do not meet the wall thickness requirement based on what is recorded on the Final Inspection Dimensional Report (see attached copy of the report): Fitting ID\#s 16836-1-1; 16836-1-3; 16836-1-6; 16836-1-7; 16836-1-11; 16836-1-14; 16836-1-15; 16836-1-20; and 16836-1-21.
V. The date on which the information of such defect or failure to comply was obtained.

- On November 15, 2023, Flowline was contacted by Ezeflow QC regarding the wall thickness of one piece of SB466 UNS C71500 1" Sch. 80 ( $0.180^{\prime \prime}$ Wall) Buttweld Long Radius 90 Degree Elbow, Heat\# 27668 Heat Code 127976 Fitting ID\# 16836-1-28 and supplied to Ezeflow as ASME Section II \& Section III Subsection ND Class 3, 1986 Edition No Addenda material for Ezeflow PO\# 82870, Line 1.
- On November 17, 2023, Flowline reviewed the dimensional reports for fitting ID\#s 16836-1-1 through -27. It was then determined that nine of the 27 fittings did not minimum wall thickness requirements of B16.9. At this point Ezeflow was notified of the nonconformance.
- On November 21, 2023, Tioga and Mackson were provided the dimensional data from Flowline for fittings supplied to Duke on July 21, $\underline{2023}$
- On November 28, 2023, Ezeflow issued a Return Material Authorization (RMA 212) and provided Tioga and Mackson the dimensional data from Flowline for the fitting supplied to Duke on November 8, 2023. It was verified that this fitting did comply with the thickness requirements of ASME B16.9.
- Tioga notified Flowline on December 7, 2023 that three of the nine BW elbows identified above have been installed in the plant. The Fitting ID\#s of the BW elbows that have been installed are as follows: 16836-1-3, 16836-1-14, 16836-1-20.
VI. In the case of a basic component which contains a defect or fails to comply, the number and location of these components in use at, supplied for, being supplied for, or may be supplied for, manufactured, or being manufactured for one or more facilities or activities subject to the regulations in this part.

9 pieces of 1" Sch. 80 (0.180" Wall) SB466 UNS C71500 Buttweld Long Radius 90 Degree Elbow; Manufacturer: Flowline; Heat No: 27668; Heat Code:
127514; Fitting ID\#s 16836-1-1; 16836-1-3; 16836-1-6; 16836-1-7; 16836-1-

Tel: +1.724 .658 .3711
Free: 1.800.245.0354
flowlinefittıngs.com

11; 16836-1-14; 16836-1-15; 16836-1-20; and 16836-1-21 delivered to the Brunswick Nuclear Plant on Ezeflow PO 82870, Tioga PO 03160591, Line 1.
VII. The corrective action, which has been, is being, or will be taken; the name of the individual or organization responsible for the action; and the length of time that has been or will be taken to complete the action.

Flowline will conduct a thorough Corrective Action investigation upon receipt of the fittings in question. Brad Seidel, Flowline's Engineering Manager, has conducted an initial investigation into the reported minimum wall thickness parameter and concluded that the inspector incorrectly reported the limiting minimum wall thickness dimension as the result of a mathematical error.

## Completed Actions:

1. Flowline issued Return Material Authorization (RMA 212) on November 28, 2023, to Tioga Pipe for the nine fittings that have been found to be nonconforming.
2. Flowline has implemented a second tier of inspection of $100 \%$ of all nuclear fittings, as well as a second verification of the limiting dimensions, by either the Chief Inspector or the Engineering Manager.
3. Flowline also added a third verification of the limiting dimensions by the Quality Documentation Specialist during documentation preparation and review.

Open Actions:

1. Flowline will, upon receipt of the returned fittings, issue a formal internal corrective action and conduct a root cause analysis.

Brad Seidel is responsible for investigating, completing and closing this corrective action.
VIII. VIII. Any advice related to the defect or failure to comply about the facility, activity, or basic component that has been, is being, or will be given to purchasers or licensees.

Any uninstalled material should be quarantined and tagged as nonconforming and returned to Flowline for evaluation and disposition.

1400 New Butler Road New Castle, PA USA 16101

Tel: +1.724.658.3711
Free: 1.800.245.0354
flowlinefittings.com
IX. IX. In the case of an early site permit, the entities to whom an early site permit was transferred.

Not applicable.

## C Folune




| $\begin{aligned} & \text { \# } \\ & \text { 䍖 } \\ & \text { Ma } \end{aligned}$ | NOMINAL WALL |  | O.D. |  | I.D. |  | C/E C.M.E. OR:H |  | OVALITY | BEVEL |  | ANGEES |  | MEPLAT |  | $\begin{gathered} \text { APPROVED BY } \\ \text { \& DAEAE } \\ (24)^{0} \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 0.180 |  | 1320 |  | 0.960 |  |  |  |  |  |  |  |  |  |  |  |
|  | $\begin{gathered} \text { Min. } \\ \text { (inch) } \end{gathered}$ | $\begin{aligned} & \text { Max. } \\ & \text { (inch) } \end{aligned}$ | $\begin{gathered} \text { Min. } \\ \text { (inch) } \end{gathered}$ | $\begin{gathered} \text { Max: } \\ \text { (inch) } \end{gathered}$ | Min. <br> (inch) | $\begin{gathered} \text { Max. } \\ \text { (inch) } \end{gathered}$ | Min. (inch) | Max. <br> (inch) | Max <br> (inch) | Nom. | $\begin{gathered} \text { Tol. } \pm \\ \hline \end{gathered}$ | INT. MAX <br> - | EXT MAX <br> - | Nom. (inch) | Tol. $\pm$ <br> (inch) |  |
| $1^{17}$ | 0.120 | 0.340 | 1.29 | 1.38 | 0.900 | 1.020 | 2.14 | 2.26 | 0.090 | 37.5 | 2.5 | 18 | 30 | 0.06 | 0.03 | INITIALS |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | DATE |


| 1 | 0.150 | 0.210 | 1.32 | 0.948 | 2.25 | 0.010 | 38.000 | ACC | ACC | 0.050 | 0.050 | $137-10-23$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 0.170 | 0.200 | 1.32 | 0.969 | 2.25 | 0.002 | 38.000 | ACC | ACC | 0.058 | 0.058 | 1 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2 | 0.172 | 0.182 | 1.32 | 0.945 | 2.25 | 0.010 | 38.000 | ACC. | ACC | 0.055 | 0.055 |  |
| 2 | 0.182 | 0.210 | 1.32 | 0.954 | 2.25 | 0.005 | 38.000 | ACC | ACC | 0.058 | 0.058 |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| 3 | 0.152 | 0.205 | 1.32 | 0.950 | 2.25 | 0.002 | 38.000 | ACC | ACC | 0.055 | 0.055 |  |
| 3 | 0.185 | 0.195 | 1.32 | 0.953 | 2.25 | 0.001 | 38.000 | ACC | ACC | 0:055 | 0.055 |  |
|  |  |  |  |  |  |  |  | . |  |  |  |  |
| 4 | 0.175 | 0.210 | 1.32 | 0.945 | 2.25 | 0.010 | 38.000 | ACC | ACC | 0.050 | 0.050 |  |
| 4 | 0.170 | 0.200 | 1.30 | 0.940 | 2.25 | 0.015 | 38.000 | ACC | ACC | 0.052 | 0.052 |  |
|  |  |  |  |  |  |  | 「. |  |  |  |  |  |
| 5 | 0.188 | 0.198 | 1.32 | 0.950 | 2.25 | 0.015 | 38.000 | ACC | ACC | 0.055 | 0.055 |  |
| 5 | 0.189 | 0.200 | 1.32 | 0.950 | 2.25 | 0.020 | 38.000 | ACC | ACC | 0.055 | 0.055 | $\xrightarrow{2}$ |
|  |  |  |  |  |  |  |  |  |  |  |  |  |

[^0]
## REIECTED [

Flowline
SHOP ORDER: $\qquad$ 127514

ITEM: $\qquad$
6836-1
MAT.TYPE: $\qquad$ SB-466 UNS C71500
DRAWING: $\qquad$ N/A $\qquad$

QTY: 27 DESCRIPTION: $\qquad$ SCH: $\quad .180^{\circ}$ wall STD \& YEAR : $\qquad$ REV.\# $\qquad$ N/A

|  | NOMINAL WALL |  | O.D. |  | I. ${ }^{\text {. }}$ |  | C/E C.M.E.ORH |  | OVALITY | BEVEL |  | ANGLES |  | MEPLAT |  | $\begin{gathered} \text { APPROVED BY } \\ \text { \& DATE } \\ .\binom{24}{24} \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 0.180 |  | 1.320 |  | 0.960 |  | 2.203 |  |  |  |  |  |  |  |  |  |
|  | Min. <br> (inch) | Max. (inch) | Min. <br> (inch) | $\begin{gathered} \text { Max } \\ \text { (inch) } \end{gathered}$ | Min. <br> (inch) | Max. <br> (inch) | Min. <br> (inch) | Max. <br> (inch) | Max, <br> (inch) | Nom. | $\text { Tol. } \pm$ | INT. MAX | EXT MAX | Nom. (inch) | Tol. $\pm$ <br> (inch) |  |
| $1{ }^{\prime \prime}$ | 0.120 | 0.340 | 1.29 | 1.38 | 0.900 | 1.020 | 2.14 | 2.26 | 0.090 | 37.5 | 2.5 | 18 | 30 | 0.06 | 0.03 | INITIALS |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | DATE |

ACTUAL DIMENSIONS

| 6 | 0.145 | 0.218 | 1.32 | 0.960 | 2.25 | 0.030 | 38.000 | ACC | ACC | 0.050 | 0.050 | $387-10-23$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 6 | 0.180 | 0.201 | 1.32 | 0.945 | 2.25 | . 0.020 | 38.000 | ACC | ACC | 0.058 | 0.058 |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| 7 | 0.150 | 0.220 | 1.32 | 0.955 | 2.25 | 0.003 | 38.000 | ACC | ACC | 0.060 | 0.060 |  |
| 7 | 0.172 | 0.200 | 1.32 | 0.960 | 2.25 | 0.010 | 38.000: | ACC | ACC | 0,050 | 0.050 |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| 8 | 0.170 | 0.220 | 1.32 | 0.939 | 2.25 | 0.005 | 38.000 | ACC | ACC | 0.060 | 0.060 |  |
| 8 | 0.163 | 0.220 | 1.31 | 0.955 | 225 | 0.010 | 38.000 | ACC | ACC | 0.058 | 0.058 |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| 9 | 0.165 | 0.210 | 1.32 | 0.935 | 2.25 | 0.030 | 38.000 | ACC | ACC | 0.055 | 0.055 |  |
| 9 | 0.160 | 0.170 | 1.32 | 0.950 | 2.25 | 0.020 | 38.000 | ACC | ACC | 0.055 | 0.055 |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| 10 | 0.165 | 0.215 | 1.32 | 0.950 | 2.25 | 0.002 | 38.000 | ACC | ACC | 0.050 | 0.050 |  |
| 10 | 0.173 | 0.198 | 1.32 | 0.950 | 2.25 | 0.002 | 38.000 | ACC | ACC | 0.050 | 0.050 |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |

ACCEPT $X[$
INSTRUMENT[S] USED: SHIP-10, PRO-HOU, 2011-D, 2011-B, 112-225,22112315,295-253-A, TAPE-6
RE]ECTED $\square$

FRM-QUA-043 Rev. 0
$06 / 11 / 2020$


QTY: 27 DESCRIPTION: $\qquad$ SCH:_._180" wall STD \& YEAR : $\qquad$ REV. \# $\qquad$ /A

| $\begin{aligned} & \text { \# } \\ & \text { M } \\ & \text { M } \\ & \text { M } \end{aligned}$ | NOMINAL WALL |  | O.D. |  | I.D. |  | C/E.C.M.E. OR'H |  | OVALTTY | BEVEL |  | ANGLES |  | MEPLAT |  | $\begin{gathered} \text { APPROVED BY } \\ \text { \&DATE } \\ 24 \\ (24 \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 0.180 |  | 1.320 |  | 0.960 |  | 2.203 |  |  |  |  |  |  |  |  |  |
|  | $\begin{gathered} \text { Min. } \\ \text { (inch) } \\ \hline \end{gathered}$ | Max. <br> (inch) | Min. <br> (inch) | Max <br> (inch) | $\begin{gathered} \text { Min. } \\ \text { (inch) } \\ \hline \end{gathered}$ | $\begin{gathered} \text { Max. } \\ \text { (inch) } \end{gathered}$ | Min. <br> (inch) | $\begin{gathered} \text { Max } \\ \text { (inch) } \end{gathered}$ | Max <br> (inch) | Nom. <br> - | Tol: $\pm$ <br> 。 | $\begin{gathered} \text { INT. MAX } \\ \hline \end{gathered}$ | EXT MAX <br> - | Nom. <br> (inch) | Tol. $\pm$ <br> (inch) |  |
| $1{ }^{\prime \prime}$ | 0.120 | 0.340 | 1.29 | 1.38 | 0.900 | 1.020 | 2.14 | 2.26 | 0.090 | 37.5 | 2.5 | 18 | 30 | 0.06 | 0.03 | INITIALS |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | DATE |


| 11 | 0.155 | 0.203 | 1.32 | 0.943 | 2.25 | 0.035 | 38.000 | ACC | ACC | 0.050 | 0.050 | $35-7-10-35$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 11 | 0.175 | 0.198 | 1.31 | 0.950 | 2.25 | 0.010 | 38.000 | ACC | ACC | 0.055 | 0.055 |  |
| 12 | 0.178 | 0.200 | 1.31 | 0.950 | 2.25 | 0.010 | 38.000 | ACC | ACC | 0.052 | 0.052 |  |
| 12 | 0.175 | 0.195 | 1.32 | 0.941 | 2.25 | 0.015 | 38.000 | ACC | ACC | 0.055 | 0.055 |  |
| 13 | 0.175 | 0.210 | 1.32 | 0.955 | 2.25 | 0.005 | 38.000 | ACC | ACC | 0.055 | 0.055 |  |
| 13 | 0.165 | 0.200 | 1.30 | 0.952 | 2.25 | 0.025 | 38.000 | ACC | ACC' | 0.055 | 0.055 |  |
| 14 | 0.148 | 0.210 | 1.30 | 0.938 | 2.25 | 0.015 | 38.000 | ACC | ACG | 0.050 | 0:050 |  |
| 14 | 0.180 | 0.205 | 1.31 | 0.955 | 2.25 | 0.015 | 38.000 | ACC | ACC | 0.055 | 0.055 |  |
| 15 | 0.147 | 0.214 | 1.33 | 0.942 | 2.25 | 0.010 | 38.000 | ACC | ACC | 0.050 | 0.050 |  |
| 15 | 0.185 | 0.190 | 1.32 | 0.935 | $2: 25$ | 0.013 | 38.000 | ACC | ACC | 0.060 | 0.060 | , |

ACCEPT $\mathrm{X} \square$ REJECTED -


ACCEPT $X \square$ REIECTED $\quad$

## Qflowine

FINAL INSPECTION DIMENSIONAL REPORT


QTY : 27 DESCRIPTION : $\qquad$ SCH: . $180^{\prime \prime}$ wall $\quad$ STD \& YEAR : $\qquad$ REV. \# $\qquad$ N/A

|  | NOMINAL WALL |  | O.D. |  | I.D. |  | C/E C.M.E.OR H |  | OVALITY | BEVEL |  | ANGLES |  | MEPLAT |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 0.180 |  | 1.320 |  | 0.960 |  | 2:203 |  |  |  |  |  |  |  |  |  |
|  | Min. <br> (inch) | Max <br> (inch) | Min. <br> (Inch) | Max <br> (Inch) | $\begin{gathered} \text { Min } \\ \text { (inch) } \\ \hline \end{gathered}$ | Max. <br> (Inch) | $\begin{aligned} & \text { Min } \\ & (\text { inch }) \end{aligned}$ | Max. <br> (inch) | Max. <br> (inch) | Nom. <br> 。 | Tol. $\pm$ <br> - | INT. MAX | $\begin{gathered} \text { EXT MAX } \\ 0 \end{gathered}$ | Nom. <br> (inch) | Tol. $\pm$ <br> (inch) |  |
| $1{ }^{10}$ | 0.120 | 0.340 | 1.29 | 138 | 0.900 | 1.020 | 2.14 | 2.26 | 0.090 | 37.5 | 2.5 | 18 | 30 | 0.06 | 0.03 | INITIALS |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | DATE |

ACTUAL DIMENSIONS

| 21 | 0.180 | 0.210 | 1.32 | 0.945 | 2.25 | 0.004 | 38.000 | ACC | ACC | 0.050 | 0.050 | $\sqrt{5} 7-10523$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 21 | 0.155 | 0.220 | 1.30 | 0.955 | 2.25 | 0.020 | $38.000^{\circ}$ | ACC | ACC | 0.045 | 0.045 |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| 22 | 0.185 | 0.210 | 1.33 | 0.948 | 2.25 | 0.005 | 38.000 | ACC | ACC | 0.060 | 0.060 |  |
| 22 | 0.190 | 0.205 | 1.32 | 0.945 | 2.25 | 0.010 | 38.000 | ACC | AĆC | 0.060 | 0.060 |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| 23 | 0.180 | 0.208 | 1.33 | 0.955 | 2.25 | 0.015 | 38.000 | ACC ${ }^{\ldots}$ | ACC, | 0.055 | 0.055 |  |
| 23 | 0.170 | 0.210 | 1.32 | 0.960 | 2.25 | 0.010 | 38.000. | ACC | ACC | 0.060 | 0.060 |  |
|  | . |  |  |  |  |  |  |  |  |  |  |  |
| 24 | 0.192 | 0.212 | 1.33 | 0.950 | 2.25 | 0.025 | 38.000 | ACC | ACC | 0.055 | 0.055 |  |
| 24 | 0.165 | 0.215 | 1.32 | 0.944 | 2.25 | 0.005 | . 38.000 | ACC | ACC | 0.058 | 0.058 |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| 25 | 0.170 | 0.180 | 1.32 | 0.955 | 2.25 | 0.004 | 38.000 | ACC | ACC | 0.055 | 0.055 |  |
| 25 | 0.170 | 0.205 | 1.32 | 0.948 | 2.25 | 0.008 | 38,000 | ACC | ACC | 0.060 | 0.060 | +2 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |

ACCEPT X $\quad$ INSTRUMENT(S) USED: SHIP-10, PRO-HOU, 2011-D, 2011-B, 112-225,22112315,295-253-A, TAPE-6. REJECTED $\quad$

| SHOP ORDER : | 127.514 | ITEM: | 16836-1 | MAT.TYPE | SB-466 UNS ${ }^{\text {Cl }}$ | DRAWING |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |



|  | NOMINAL WALL |  | O.D. |  | I.D. |  | C/E C.M.E. OR H |  | OVALITY | BEVEL |  | ANGLES |  | MEPLAT |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 0.180 |  | 1.320 |  | 0.960 |  | 2.203 |  |  |  |  |  |  |  |  |  |
|  | Min. (inch) | Max. <br> (inch) | $\begin{gathered} \text { Min. } \\ \text { (inch) } \end{gathered}$ | Max. <br> (inch) | Min. <br> (inch) | Max. <br> (inch) | Min. <br> (inch) | $\begin{gathered} \text { Max } \\ \text { (Inch) } \end{gathered}$ | Max. <br> (inch) | Nom. <br> ${ }^{\circ}$ | $\begin{gathered} \text { Tol. } \pm \\ 0 \end{gathered}$ | INT. MAX <br> - | $\begin{gathered} \text { EXT MAX } \\ 0 \end{gathered}$ | Nom. <br> (inch) | $\begin{aligned} & \text { Tol. } \pm \\ & \text { ( } \mathrm{Inch} \text { ) } \end{aligned}$ |  |
| $1{ }^{\text {¹ }}$ | 0.120 | 0.340 | 1.29 | 1.38 | 0.900 | 1:020 | 2.14 | 2.26 | 0.090 | 37.5 | 2.5 | 18 | 30 | 0.06 | 0.03 | INITIALS |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | DATE |


| 26 | 0.165 | 0.197 | 1.32 | 0.949 | 2.25 | 0.010 | 38.000 | ACC | ACC | 0.055 | 0.055 | $\sqrt{3} 71023$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 26 | 0.163 | 0.206 | 1.32 | 0.943 | 2.25 | 0.011 | 38.000 | ACC | ACC | 0.048 | 0.048 |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| 27 | 0.180 | 0.202 | 1.34 | 0.955 | 2.25 | 0.020 | 38.000 | ACC | ACC | 0.050 | 0.050 |  |
| 27 | 0.170 | 0.210 | 1.35 | 0.965 | 2.25 | 0.030 | 38.000 | ACC | ACC | 0.055 | 0.055 | $\triangle$ |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |

## ACCEPT X $\square$ REIECTED. $\square$

INSTRUMENT(S) USED: SHIP-10, PRO-HOU, 2011-D, 2011-B, 112-225,22112315,295-253-A, TAPE-6



|  | NOMINAL WALL |  | O.D. |  | I.D. |  | C/E C.M.E. OR H |  | OVALITY | BEVEL |  | ANGLES |  | MEPLAT |  | $\begin{aligned} & \text { APPROVED BY } \\ & \left(\begin{array}{c} 85^{8} \text { BUE } \end{array}\right. \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 0.180 |  | 1.320 |  | 0.960 |  | 1.500 |  |  |  |  |  |  |  |  |  |
|  | Min. <br> (Inch) | Max <br> (inch) | $\begin{gathered} \text { Min. } \\ \text { (inch) } \end{gathered}$ | Max <br> (inch) | Min. <br> (inch) | $\begin{gathered} \text { Max. } \\ \text { (mch) } \\ \hline \end{gathered}$ | Min. (inch) | Max. (inch) | Max. <br> (inch) | Nom. <br> - | $\text { Tol. } \pm$ <br> 。 | $\begin{array}{\|c\|} \hline \text { INT. MAX } \\ \hline \end{array}$ | $\begin{gathered} \text { EXTMAX } \\ 0 \end{gathered}$ | Nom. (inch) | Tol. $\pm$ <br> (inch) |  |
| $1^{7}$ | 0.158 | 0.318 | 1.29 | 1.38 | 0.930 | 0.990 | 1.44 | 1.56 | 0.090 | 37.5 | 2.5 | 18 | 30 | 0.06 | 0.03 | INITLALS |
|  |  |  |  |  |  |  |  |  |  | 37.5 | 2.5 | 18 | 30 | 0.06 | 0.03 | DATE O |


| 1 | 0.190 | 0.210 | 1.31 | 0.950 | 1.50 | 0.010 | 37.500 | ACC | ACC | 0.060 | 0.060 | I |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 0.195 | 0.205 | 1.30 | 0.945 | 1.50 | 0.020 | 37.500 | ACC | ACC | 0.060 | 0.060 | $\downarrow$ |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  | . |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  | . |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  | - |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |

ACCEPT X

INSTRUMENT(S) USED: 22112315,112-225,1202,2011-A, 2011-B


[^0]:    ACCEPT X
    INSTRUMENT(S) USED: SHIP-10, PRO-HOU, 2011-D, 2011-B, 112-225,22112315,295-253-A, TAPE-6

