PREFERRED METAL TECHNOLOGIES, INC.
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July 3, 2014 PMT Report No. 14-01

**U.S. Nuclear Regulatory Commission**
Attn: Document Control Desk
Washington, DC 20555-0001

**Subject**: Interim Report – 10CFR Part 21 Evaluation Regarding Potential Deficiencies

The purpose of this letter is to provide the NRC a report in general conformity to the requirements of 10CFR Part 21.21 (a)(2).

Preferred Metal Technologies (PMT) was notified by Steris Isomedix Services that the applied radiation dose reported on their Component Irradiation Certificates did not account for all the uncertainties involved (i.e. density of unrelated products in carriers, off-carrier location within the irradiator and Cobalt-60 source decay). This potential defect was originally identified as part of NRC Inspection Report No. 99901445/2014-201.

Required information as per 10CFR Part 21.21(d)(4) follows:

(i) Name and Address of the individual or individuals informing the Commission:

Tim Stewart, Vice President Nuclear
Preferred Metal Technologies, Inc.
140 East Tower Drive
Burr Ridge, Illinois 60527

(ii) Identification of the facility, the activity, or the basic component supplied for such facility or such activity within the United States which fails to comply or contains a defect:

The Radiation Qualification of the following basic components is affected by this discrepancy:

(a) Electric Spring Return Actuator, PC # T-7360 (PMT Project No. N1839)

(b) Various non-metallic materials (Gasket PC # T-7621, Bearings PC # T-7597, Seal PC # T-6669 and Adhesive PC # T-7594) utilized as part of a complete damper assembly (PMT Project No. N1893)

Refer to section (vi) of this letter for specific project details.

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(iii) Identification of the firm constructing the facility or supplying the basic component which fails to comply or contains a defect:

Preferred Metal Technologies, Inc.
140 East Tower Drive
Burr Ridge, Illinois 60527

(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:

Preferred Metal Technologies (PMT) was notified by Steris Isomedix Services, a 10CFR 50 Appendix B supplier who provides component irradiation services, regarding an evaluation that they performed on the applied radiation dose for items processed in off-carrier locations within their irradiator. This evaluation was performed as a result of an NRC Inspection of the Steris Isomedix Services facility in Whippany, NJ. This evaluation determined that the actual dose delivered may have differed up to ±5.1% from that value reported on their Component Irradiation Certificate depending on the location within the irradiator where the component was processed. The worse case variability (±5.1%) is based on the density variation, source decay and intercomparison variability. This variance is in addition to the standard uncertainty of the dosimetry system (±6.5%). As a result, there is a potential safety hazard that the basic components supplied by PMT may not be qualified for operation at the postulated radiation levels that may occur during an accident.

(v) The date on which the information such defect or failure to comply was obtained:

Notification was received on the afternoon of June 23, 2014

(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:

After a thorough review of all purchase orders issued to Steris Isomedix Services and PMT Projects that the irradiation test results were utilized on, PMT has determined that there are two projects where the applied radiation dose may have failed to meet the minimum required radiation dose to ensure that the safety related equipment would continue to operate satisfactorily during / after an accident. The details of those two projects are as follows:

| PMT Project Number | Owner | Facility | Owner's Purchase Order Number | Quantity and Description of Equipment Supplied |
|---|---|---|---|---|
| N1839 | Tennessee Valley Authority | Browns Ferry | 473351 | 6 (Six) Electric Spring Return Actuators |
| N1893 | Commisión Federal de Electricidad | Laguna Verde | 700419016 | 32 (Thirty Two) Damper Assemblies |

(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:

PMT has documented the deficiency per our procedure PMT 16.1.G, on Corrective Action Report (CAR) No. 64. Concurrent with this notification to the NRC, PMT is providing notification of this failure to comply to the affected Owners. PMT Engineering will determine and implement a supplemental test program on the original qualification components such that the minimum dose applied meets or exceeds the original environmental qualification requirements contained within the Owner's purchase order. Affected documents (e.g. EQ reports) will be supplemented or revised as applicable. PMT will review the supplier restrictions imposed on Steris Isomedix Services for inclusion of additional requirements to prevent recurrence. Final corrective actions to be implemented will be as specified within the PMT disposition to CAR No. 64 and will be documented within the Final Part 21 Report issued to NRC. Final closure of CAR No. 64 is targeted for the week of August 4, 2014.

(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:

Each owner / utility will need to review the radiation dose applied, take into account the applicable reduction due to the reported variance, and then evaluate whether or not the environmental qualification testing performed still envelopes the minimum requirements for the application.

(ix) In the case of an early site permit, the entities to whom as early site permit was transferred:

Not Applicable

If you have any questions or wish to discuss this matter or this report, please feel free to contact me.

Sincerely,

Tim Stewart
Vice President Nuclear

cc: John Berzanskis, Jr., President – Preferred Metal Technologies, Inc.
Joe Emerson, Quality Assurance Manager – Preferred Metal Technologies, Inc.
USNRC, Region III, Lisle, IL
TVA Nuclear, Nuclear Assurance and Licensing, Attn: Manager, Operating Experience
Comisión Federal De Electricidad, Attn: Ing. Agustin Lozano Laez