



Fax: 301-415-5074

CONAX BUFFALO CORPORATION • 2300 WALDEN AVENUE, BUFFALO, NEW YORK 14225
716-684-4500 • 1-800-223-2389 • FAX: 716-684-7433

IMI

United States Nuclear Regulatory Commission
Office of Nuclear Regulatory Research
Washington, D.C., 20555-0001

Attn: Satish K. Aggarwal, Senior Program Manager

Subject: NUREG/CR6412, Draft Copy,
"Aging and Loss-of-Coolant Accident (LOCA) Testing of Electrical
Connectors", dated July 31, 1996.

Dear Mr. Aggarwal:

Conax Buffalo has reviewed the above referenced draft report, and offers the following comments for the NRC's consideration:

- 1.) Para. 2.3.1, (p.10): Selection of one activation energy (1.15 eV) to calculate the aging temperature (98.8°C) by Arrhenius methodology for all of the test samples is very likely to lead to significant over or under aging of many samples, compared to using the actual activation energies listed per item in table 2.4.

For example, the Namco EC210 connector with an activation energy of 0.8 eV, is aged to the equivalent of only 14 years at 55°C at the Sandia aging temperature of 98.8°C and 182.625 days.

Similarly, the Conax Buffalo ECSA, with its given activation energy, aging at 98.8°C and 182.625 days, produces an equivalent service life of over 6 million years at 55°C! This means the ECSAs were **drastically** over-aged, and hence not at all representative of an installed condition.

- 2.) Para. 2.2, (p.7): The report states the connections were installed in accordance with the manufacturers instructions, as listed in table 2.3. Based on the descriptions and details given, or excluded from, para. 2.1 and 2.2, and the results of the testing, Conax Buffalo questions if the ECSAs were installed and handled as required by I & M manual, IPS-725, in that:

- a.) Adherence to minimum bend radii of the conductors; and/or
- b.) The use of flexible conduit over the six (6) foot conductor pigtail inside the test chamber; and/or

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- c.) Installation of the recommended heat shrink on the conductor pigtailed inside the test chamber; and/or
 - d.) The required "NPT" Grafoil[®] thread sealant for the threaded connection of the ECSA to the test "device enclosure".
- 3.) **References [3] and [4], (p.45):** The Conax Buffalo reports, IPS-725 and IPS-1079 are proprietary reports and should be referred to as "Conax Buffalo Proprietary Report" versus "Conax IPS-724 (or IPS-1079)" specifically.
- 4.) **Table 2.4, (p.10):** The Conax Buffalo activation energy value is considered proprietary data and cannot be reprinted in the subject report.
- 5.) **General:** The correct name of our company is "Conax Buffalo Corporation", not "Conax".

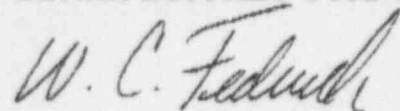
As you can appreciate, circulation of a report with misleading information, even in draft mode, serves no useful purpose. Based on these points, Conax Buffalo believes these comments raise questions regarding the validity of the reported test program experimental design, conduct and results.

We request that the above comments be addressed as soon as possible, certainly prior to report issuance. Also, we believe further technical discussions would be both very informative and useful for all parties, and hence would welcome such.

Should you have any questions, please contact us immediately.

Best regards,

CONAX BUFFALO CORPORATION



W. C. Federick,
Vice-President, Power Group

cc: Conax Buffalo: Dr. R. E. Dulski,
Director of Engineering