

U. S. NUCLEAR REGULATORY COMMISSION

REGION III

Report No. 030-04214/89001(DRSS)

Docket No. 030-04214

License No. 12-11184-01

Category K

Priority IV

Licensee: Rosemount
KayRay/Sensall Division
1400 Business Center Drive
Mount Prospect, IL 60056

Inspection Conducted: July 14 through November 16, 1989

Inspectors: *Colleen C. Casey*
Colleen C. Casey
Radiation Specialist

Dec 13, 1989
Date

Bryan A. Parker
Bryan A. Parker
Radiation Specialist

12/14/89
Date

Reviewed By: *D. J. Sreniawski*
D. J. Sreniawski, Chief
Nuclear Materials Safety
Section 1

Dec 14, 1989
Date

Approved By: *Bruce S. Mallett*
Bruce S. Mallett, Ph.D., Chief
Nuclear Materials Safety Branch

12/15/89
Date

Inspection Summary

Inspection during the period July 14 through November 16, 1989 (Report No. 030-04214/89001(DRSS))

Areas Inspected: This was a special inspection performed in response to NRC Region III's receipt of allegations concerning activities at the Danlin Metal Corporation (non-licensee) in Woodstock, Illinois, as they relate to the licensee, Rosemount, in Mount Prospect, Illinois. The inspection consisted of telephone interviews with licensee representatives and a representative of Danlin Metal Corporation.

Results: One of the two allegations was substantiated; however, no violations of NRC requirements were identified.

DETAILS

1. Persons Contacted

+Alan J. Peterson, Radiation Safety Officer (RSO), Rosemount
John DiMartino, Product Manager, Rosemount
*Linda Witonski, Manager/Owner, Danlin Metal Corporation

+Telephone exit interview on November 15, 1989.

*Telephone exit interview on November 16, 1989.

2. Licensed Program

NRC License No. 12-11184-01 authorizes Rosemount to use and possess up to a maximum of 5 curies (Ci) cobalt-60, 410 Ci cesium-137 and 40 Ci americium-241 as sealed sources incident to the installation, removal, repair, storage, transfer, and servicing of gauging devices.

The principal contact for this license is Alan Peterson, RSO.

The activities of this license are coincidental to the issues raised in the allegations. The allegations concern Rosemount's activities as a supplier of electronic equipment, including ion chambers for industry, specifically nuclear power plants.

Danlin Corporation welds and manufactures components for various devices, including nuclear gauges and ion chambers, as a vendor for Rosemount.

3. Inspection History

Since April 1977, this license has been inspected 11 times, including routine and special inspections. Two inspections identified no violations and the remaining nine inspections identified from one to four violations. The most recent inspection was performed June 26, 1985 at which time one violation was identified for an extremity exposure exceeding 10 CFR 20 limits.

4. Purpose of Inspection

This special inspection was initiated by the NRC's receipt of allegations on March 27, 1989. The allegations concern whether the Danlin Corporation is required to have certified individuals weld ion chambers for Rosemount and Danlin's quality control over welding rods.

5. Allegation Followup

Inspection activities consisted of a series of telephone interviews with Danlin and Rosemount representatives during the period July 14, 1989 until November 16, 1989. A telephone exit interview was conducted with Alan Peterson of Rosemount on November 15, 1989 and Linda Witonski of Danlin Metal on November 16, 1989.

No violations of NRC requirements were identified as a result of this inspection. The specific allegations and inspector's findings are discussed below. (AMS No. RIII-89-A-0047(Closed))

6. NRC Findings

A.1. Allegation

The Danlin Metal Corporation does not have a program to certify welders who work on ion chambers/detectors for Rosemount and these devices are used at nuclear power plants.

A.2. Findings

Ms. Witonski advised the inspector that Danlin's welders are not required to be certified for any work that they perform for Rosemount, their primary client. Ms. Witonski stated that Rosemount provides her with the specifications for a job on the purchase order and Danlin complies with these specifications. Rosemount's specifications do not require that welding be conducted by certified welders.

Mr. Peterson agreed that no welder certification was required for work that Danlin performed on their ion chambers and detectors and that their specifications do not require the work be conducted by certified welders. The allegation also stated that Rosemount's ion chambers/detectors were sold to and used by nuclear power plants. Mr. Peterson acknowledged that this was true in that he is aware of at least one ion chamber installation in a nuclear power plant and there may be others (see Attachment A). Mr. Peterson added that Rosemount has only one product, a Brenner Two-Phase Mixer used in their 3260 Steam Quality Measurement System, which required the work of a certified welder during its development two years ago. This product is not used in nuclear power plants; it is used primarily in "enhanced oil recovery" operations. Danlin performed the welding on this product and provided a certified welder at the time. Mr. DiMartino corroborated Mr. Peterson's statements above.

A.3. Conclusion

Although the allegation was substantiated in that Rosemount's ion chambers are used at nuclear power plants and certified welders do not weld ion chamber components, no violations were identified since the NRC had no requirements in these areas.

B.1. Allegation

Danlin obtained surplus welding rods from Elgin Salvage Company. The allegation implied that Danlin did not control welding rods to ensure their quality.

B.2. Findings

Ms Witonski advised the inspector that all welding wire Danlin uses

meets an appropriate military, steel or lead manufacturer certifications. According to Ms. Witonski, Danlin obtained welding rods from Elgin Salvage Company about one and one-half years ago that met military certifications necessary for their application.

According to Mr. Peterson, specifications for the ion chambers they manufacture for nuclear power plant application do not address weld rod quality control requirements.

B.3. Conclusions

The allegation was not substantiated in that Danlin does assure the quality of their welding rods. No violations were identified in that the NRC had no requirements in this situation.

7. Exit Interview

On November 15, 1989 a telephone exit interview was conducted with Mr. Peterson and on November 16, 1989 a telephone exit interview was conducted with Ms. Witonski. The specific allegations and NRC findings were discussed. No licensee identified proprietary information (exempted from public disclosure in accordance with 10 CFR 2.790) was discussed during this special inspection.

Ms. Witonski also advised the inspector that she is aware of other allegations made about Danlin as both the U. S. Environmental Protection Agency and the Illinois Department of Nuclear Safety (IDNS) have inspected Danlin recently. NRC received a copy of an inspection report from IDNS dated June 27, 1989 (Attachment B) in which allegations regarding radiological concerns were investigated and no problems or violations were identified. Ms. Witonski added that the U.S.E.P.A. did not find problems with Danlin's handling of chemicals either.

Attachments:

- A. Ltr from Rosemount
to NRC dtd 11/15/89
- B. Memo from IDNS to Incident
File dtd 6/27/89

ROSEMOUNT

Measurement
Control
Analytical
Valves

ATTACHMENT A

Key-Ray/Sensall, Inc.
1400 Business Center Drive
Mt. Prospect, IL 60056
Tel: (708) 803-5100
Telex 62970165
Fax (708) 803-5466

November 15, 1989

Ms. Colleen Casey
Materials Section
USNRC, Region III
799 Roosevelt Road
Glen Ellyn, IL 60137

Re: License No. 12-11184-01

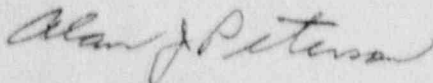
Dear Ms. Casey:

This is in response to our telephone conversation of November 15, 1989, in which you requested a written statement regarding the use of Kay-Ray/Sensall equipment at nuclear power plants and the employment of certified welders in the manufacture Kay-Ray/Sensall equipment.

1. We do not require the services of a certified welder in the fabrication of most of our equipment, including ionization chambers. We do, however, require a certified individual to weld the Brenner Two-Phase Mixers used in our 3260 Steam Quality Measurement System. Danlin Metal Works was involved in the fabrication of the first mixers. An individual at Danlin was certified at that time for the type of welding required. Danlin is no longer involved in the manufacture of our two-phase mixers.
2. Our equipment is sometimes used in nuclear power plants. I know for sure of one ion chamber based installation in a nuclear power plant and there may be others. The Brenner Two-Phase Mixers, however, have never been used in a nuclear power plant.

I hope this answers your questions. If you have any more, I am at your service.

Yours truly,
Kay-Ray/Sensall, Inc.



Alan J. Peterson
Radiation Safety Officer

cc: John DiMartino, Product Manager
Craig McIntyre, Marketing Manager
Paul Das, Quality Assurance Manager

NOV 20 1989

MEMORANDUM

TO: Incident File

FROM: Joanne B. Kark, Health Physicist *JBK*

DATE: June 27, 1989

SUBJECT: Investigation of Uncontrolled Radioactive Sources at
Danlin Metal Works
726 McHenry Avenue
Woodstock, IL 60098
815/338-6460

On June 20, 1989, Andy Gulczynski was contacted by Mike Eisele of the McHenry County Health Department regarding a multi-agency investigation to be conducted at Danlin Metal Works on June 26, 1989. The investigation was to include evaluations of hazardous waste disposal, safety aspects of welding in the vicinity of combustible material, and the allegation of uncontrolled radioactive sources.

The author arrived on site at approximately 11:30 A.M. on June 26, 1989. As stated by Linda Witonski, Manager/Owner, no radioactive sources had been present when her family bought the company several years ago, and none had been obtained since then.

A survey was performed of the entire indoor facility using: (a) Eberline, PRM-6, S/N 1468, with SPA-3 probe; and (b) Eberline, RO-2, S/N 4126. The results were the following:

	<u>NaI Probe (gross cpm)</u>	<u>Ion Chamber (gross mR/h)</u>
Background	2.5 - 4K	≤ 0.1
(5) Cs-137 button sources, each 10uCi		7.5 at contact
Cs-137 storage cabinet		1 at contact
Tungsten (thorium) welding stingers	34K	0.2
Granite block	20K	

The Witonski family was informed that the Cs-137 sources that they had received from Kay-Ray, Inc. were radioactive and of exempt quantity. It was learned that the sources were used to perform function tests of ion chambers filled with Argon. Their company was contracted by Kay-Ray to manufacture ion chambers ranging from 1-10 feet in length, as well as lead housing units. The components were assembled by Kay-Ray into moisture measurement systems (ACCU-SENSE).

From a radiological standpoint, this matter may be considered closed.

JBK:mb