

U.S. NUCLEAR REGULATORY COMMISSION

REGION I

Report No. 50-244/82-09

Docket No. 50-244

License No. DPR-18 Priority \_\_\_\_\_ Category C

Licensee: Rochester Gas and Electric Corporation

89 East Avenue

Rochester, New York 14649

Facility Name: R.E. Ginna Nuclear Power Plant

Inspection at: Ontario, New York

Inspection conducted: May 3-6, 1982

Inspector: *M. H. McBride*  
M. H. McBride, Ph.D., Radiation Specialist

8/10/82  
date signed

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Approved by: *Edward A. Greenman*  
E. G. Greenman, Acting Chief, Facilities  
Radiation Protection Section, Technical  
Programs Branch

8/11/82  
date signed

Inspection Summary:

Inspection on May 3-6, 1982 (Inspection Report 50-244/82-09)

Areas Inspected: Special, unannounced safety inspection to review allegations and circumstances concerning radiation training for visitors given access to radiologically controlled areas, and related dosimetry matters. The inspection consisted of selective examinations of procedures and representative records and interviews with personnel. The inspection consisted of 33 inspector-hours on-site by one NRC region-based inspector.

Results: One violation (two examples) was identified (Failure to follow requirements of special work permit procedure, Detail 3.1.1.3 and Detail 4).

## DETAILS

### 1. Persons Contacted

J. Bodine, Quality Control Engineer

L. Boutwell, Maintenance Supervisor

\* D. Filkens, Supervisor of Health Physics and Chemistry

\* D. Marchionda, Assistant Training Coordinator

\* B. Snow, Plant Superintendent

#### NRC

\* R. Zimmerman, Senior Resident Inspector

\* Denotes those present at exit interview.

Other persons were also contacted.

### 2. Notification

The following chronology depicts the sequence of events leading to this special inspection:

<u>Date</u>	<u>Event</u>
April 21, 1982	NRC Region I received a letter, dated April 20, 1982, from an individual regarding decontamination activities in the Turbine Building at the R.E. Ginna Nuclear Generating Station that he was involved in on January 26, 1982. The Turbine Building was contaminated from a steam generator incident on January 25, 1982 (NUREG-0909). In the letter to NRC Region I, this individual alleged that he had not received any formal radiological worker training prior to the decontamination work. The individual was also concerned about the accuracy of his exposure records and related dosimetry matters. He stated that he had brought these concerns to the attention of both his superior and the Health Physics Department, but had not received a satisfactory response.
April 24, 1982	A written response from Region I requesting additional information was sent to the individual after attempts to contact the individual by telephone were unsuccessful.

- April 26, 1982      The NRC Senior Resident Inspector at Ginna examined work permit records and confirmed that the individual in question as well as several others were listed as "untrained visitors" on a Special Work Permit (SWP) for decontamination work conducted during January.
- April 27, 1982      The individual was contacted by telephone and interviewed. He restated his concerns and provided additional details to the inspector and NRC management.
- May 3 to 6, 1982    An NRC inspector arrived onsite at Ginna Station and conducted a special, unannounced inspection of events associated with the work and training of the individual in question.

### 3. Review of Worker Allegations

The April 20th letter from the Ginna worker contained items of concern which involved the following four programmatic areas:

#### 3.1 Allegation No. 1, Use of Untrained Workers in a Radiologically Controlled Area

The worker alleged that he had not received training in 1) how to read a Special Work Permit (SWP), 2) how to use protective clothing, or 3) how to use a self reading dosimeter, prior to working in a radiologically controlled area on January 26. He stated that while he had attended a two-hour "safety training" course (presumably the Administrative/Security Indoctrination Course) prior to the work, he did not attend the radiation worker training course at Ginna until several days after the decontamination work he performed on January 26, 1982.

##### 3.1.1 Inspector Finding

###### 3.1.1.1 Formal Worker Training

The inspector reviewed the following Administrative/Security Indoctrination course documents:

- Administrative/Security Lesson Outline, March 1982.
- Administrative/Security Indoctrination Lesson Plan, April 1982, 82-A.
- Administrative/Security Indoctrination Lesson Plan, October 1981, 81-B.

This course consists of is a two-hour general introduction to the Ginna site and includes three videotape segments and a slide presentation. The inspector reviewed radiologically-related segments of the videotapes and slide presentation.

The inspector also examined training records and verified that the individual who contacted Region I had completed this course in late 1981.

This course, while not designed to be a radiation worker training course, contained the following health physics information:

- Selected 10 CFR 19 information, including posting of required regulations, workers' right to request an inspection, and workers' right to privately contact the NRC inspector during an inspection (Instructor Outline).
- A brief discussion of airborne radioactivity and what to do if an air monitor alarm sounds (Emergency Tape).
- Instructions to evacuate a local area if an increase in radiation levels 1) is detected by self-reading dosimeter, 2) is detected by health physics technician with radiation monitor, or 3) occurs due to an unexpected water spill (Emergency Tape).
- A brief discussion of the hazards of internal contamination from open wounds and instructions to report all minor wounds to health physics (Emergency Tape).

The inspector's review indicated radiological warning signs were not included in this course material. The licensee stated that radiological warning signs would be shown beginning with the Administrative/Security Indoctrination course starting Monday, May 10, 1982, and with specific instructions to avoid such areas unless properly trained or escorted.

This item will be followed up during a subsequent inspection to ensure incorporation has been completed (50-244/82-09-01).

### 3.1.1.2 Visitors Dosimetry Log

A log of individuals entering controlled areas without having attended the Ginna radiation worker training course (i.e., "visitors") is maintained by the Health Physics Department. This log is summarized below, and showed a large increase in the number of visitors during the first four months of 1982.

<u>Month</u>	<u>Number of Visitor Entries into Radiologically Controlled Areas</u>
November, 1981	6
December, 1981	6
January, 1982	39
February, 1982	23
March, 1982	56
April, 1982	20

Documentation reviewed indicated that the individual who had contacted Region I initialed two SWP entries in the Visitor log during January, 1982. The first entry was for SWP 179, "Decon Turbine Deck," January 26, 1982, 1330 to 1700. The log shows that he was accompanied on this SWP by eight other visitors and four escorts as is permitted by plant procedures. The second entry (no SWP reference provided) was for January 28, 1982, and involved eight other visitors and one escort. Five of the nine visitor names in the second entry (including the individual who contacted Region I) were crossed out and initialed in the log. The licensee stated that the latter log entries were for SWP 226, "Wash down turbine bld," and that the individuals identified with crossed out entries did not enter a controlled area.

The inspector noted that 24 out of 39 entries for the month of January in the Visitor Dosimeter log were incomplete in that such information as SWP/RWP#, escort name, escort badge#, time out, dosimeter reading out, or total exposure were either not entered in the log or entered in the wrong columns.

The Visitor Dosimeter Log sheets refer to instructions in procedure HP-1.3. However, Procedure HP-1.3, "External Exposure Records," instructions are brief, and only state that the visitor pocket dosimeter readings should be entered on the Visitors Dosimeter Log and filed with the Personnel Exposure Record.

At the time of this inspection, informal log instructions were located in the front of the Visitor Dosimeter Log binder. These instructions stated, among other things, that an escort should insure that all data is entered on the Log.

The inspector review showed that the licensee had provided minimal formal guidance in this area. The licensee stated that additional procedural guidance for visitors who enter radiologically controlled areas would be developed and implemented by June 6, 1982. This guidance will define who is classified as a visitor, outline visitor escort responsibilities, and describe how the Visitor Dosimeter Log is to be completed and checked. Prior to completion of procedural changes, the licensee stated that the Visitor Dosimeter Log would be moved into the Health Physics Office and that the "Day" Health Physics Foreman would be assigned responsibility for control and periodic review of the log.

This item will be followed up during a subsequent inspection (50-244/ 82-09-02).

The licensee also stated that all additional entries in the Visitor's Dosimeter Log for 1982 would be reviewed to identify those visitors who worked for periods of time under the Visitor Log to ensure that they were properly escorted. The inspector also reviewed the escort listing and had no further questions.

### 3.1.1.3 Special Work Permit 179

The inspector reviewed SWP 179 used by the worker in question in January and found incorrect information had been recorded on the SWP (see Section 4) as follows:

- Job Description. The SWP states that the work was to "decon turbine deck." However, individuals who worked on the job stated that they did area decontamination work on and around the moisture separators on the Turbine Building Mezzanine floor (see Work Location and Contamination items).
- Work Location. The SWP states that the work took place on the "turbine deck." However, individuals who worked on the job stated the work took place on the Mezzanine floor of the Turbine Building, which is one level below the turbine floor (see section 3.1.1.4). An air sample data sheet attached to the SWP also listed the work location as the Intermediate (i.e., Mezzanine) Level in the Turbine Building.
- Area Radiation Levels. The SWP stated that both the general area and work location radiation levels were 2 to 4 mR/hr. However, a survey of the Turbine Building Mezzanine floor on January 25, at 2:45 p.m. shows all radiation levels less than 1 mR/hr. The licensee stated that this survey was indicative of area radiation levels during the decontamination work.
- Contamination Levels. The SWP states that area contamination levels were 1,000 dpm/100cm<sup>2</sup>. However, a survey of the work location prior to the job (survey at 2:45 p.m. on January 25) showed area contamination levels as high as 2,374 dpm/100cm<sup>2</sup> and surface contamination on one of the moisture separators as high as 12,800 dpm/100cm<sup>2</sup> (survey on January 26, no time). In a telephone conversation on May 14, 1982, the licensee stated that the group of visitors on SWP 179 had decontaminated the surface of this moisture separator.

The failure to properly specify the work location, work to be performed and radiological conditions is an example of failure to follow procedures and a violation of Technical Specification 6.11 and Procedure HP-4.3 (244/82-09-03).

### 3.1.1.4 Interviews of Personnel Associated with SWP 179

The inspector independently interviewed the Maintenance Supervisor who gave instructions to the visitors prior to work on SWP 179, two SWP 179

visitors, and two SWP 179 escorts. The visitors were randomly selected from the SWP 179 group. The following information was obtained during these interviews:

- Both visitors and escorts recalled that the decontamination work took place near the moisture separators on the Mezzanine level of the Turbine Building, located one floor level below the Turbine.
- Both visitors and escorts recalled that protective clothing was put on at the location of the job and that a frisker was set up at the job. Both groups said that the escorts helped the visitors to put on protective clothing and also to frisk themselves out of the contaminated area. The visitors stated that they had received additional instructions on protective clothing from a health physics technician at the job location.
- Both visitors and escorts stated that step off pads and ropes were used to control the work area.
- The supervisor, visitors, and escorts all stated that the SWP was discussed prior to the job. The visitors and escorts stated that a copy of the SWP was passed around for the workers to read in the maintenance shop prior to the job.
- The visitors stated that they had received instructions on their self-reading dosimeters in the maintenance shop, prior to the job. Those instructions included how to read a dosimeter and proper dosimeter care (i.e., do not bump or drop).
- The visitors stated that all documents associated with SWP 179 were signed the day of the job, January 26, 1982.
- The visitors stated that they received adequate training for the decontamination job. Subsequent to the job, the visitors interviewed successfully completed the Ginna Radiation Worker Training Course.

### 3.1.2 Summary of Inspector Findings for Allegation No. 1

The inspector was not able to verify this allegation. While the worker who contacted Region I had worked as a visitor on SWP 179 on January 26, other visitors in the group who accompanied him were apparently instructed on the SWP, protective clothing, and self-reading dosimeters. Additionally, the Administrative/Security Indoctrination Course which the worker had attended prior to performing decontamination work under SWP 179 provided the worker with additional radiological safety information. Further, Health Physics personnel were present and instructed personnel in the use of protective clothing and assisted in frisking.

### 3.2 Allegation No. 2, Not Shown a Copy of the Appropriate SWP Prior to the Decontamination Job

The worker alleged that he had not been shown an SWP prior to the decontamination job. He stated that he had signed pieces of paper prior to and after the job, but did not know what he was signing. In the April 27, 1982 telephone conversation with Region I personnel, the individual also stated that he was told to initial one piece of paper which he thought was related to the job, several days after the completion of the decontamination work.

#### Inspector Finding

The inspector was not able to verify this allegation. Other visitors on SWP 179 stated that the SWP was shown and explained to them prior to the job and that all documents associated with this SWP were signed on January 26, 1982 (see Section 3.1.1.4).

### 3.3 Allegation No. 3, Not Given a Whole Body Count Until after the Decontamination Job

The worker stated that he was not given a whole body count until almost a week after the decontamination job.

The inspector reviewed whole body count records and verified that the worker in question had received a whole body count five days after the decontamination work. No radioactivity other than naturally occurring potassium-40 was detected in the count. The scheduling of this whole body count was found consistent with Licensee procedure HP-2.1, "Whole Body Counting Guide," Rev. 3, November 8, 1980.

This item is resolved.

### 3.4 Allegation No. 4, Inaccurate Personnel Exposure Record

The worker stated that his exposure record was inaccurate because he did not know how to read a self-reading dosimeter when he worked on SWP 179.

#### Inspector Finding

The inspector examined the dosimetry records and found that all personnel exposures for SWP 179 were less than 25 mR (most entries were found to be 0 mR). The personnel exposure records for the worker during January and February, 1982, showed a total accumulated exposure of less than 50 mR. Since surveys of the work area for SWP 179 indicated radiation levels of less than 1 mR/hr, the inspector concluded the worker would probably have received no more than 5 mR exposure during the 4.5 hr he was in the area. This exposure would not have significantly affected the worker's exposure record.

This item is resolved.



#### 4. Other Visitor-Worker Activities During January

The inspector reviewed SWP's for other jobs in January where visitors were used for decontamination work. The following information was gathered from SWP 207, "Construct Snow Decon Facility and Implement," dated January 27, 1982, from health physics records, and from interviews with health physics personnel.

- Work Location. The SWP states that the work took place in the basement of the "Turbine Deck" (presumably Turbine Building). The licensee stated that a portion of the job took place outside the Turbine Building, where contaminated snow was loaded into a vehicle for transport to the basement of the Turbine Building or the Upper Radwaste Storage Area.
- Radiological Conditions. The SWP states that the general area contamination levels were  $1 \times 10^3$  dpm/100cm<sup>2</sup> and the area dose rates were 0.1 mR/hr. However, surveys performed on January 26, 1982 of the outside areas where portions of the work took place show contact contamination levels of 1.5 to 2.5 x 10<sup>4</sup> counts/min (Eberline RM-14 survey instrument equipped with an HP-210 probe). In a telephone conversation on May 18, 1982, the licensee estimated from these measurements (with large uncertainty) that the snow contamination levels may have been as high as 3 to 5 x 10<sup>5</sup> dpm/100cm<sup>2</sup> and the radiation levels 1-2 mR/hr.
- Visitor Escort. A health physics technician is entered in the Visitors Dosimeter Log as the escort for six visitors on SWP 207. However, the technician stated that he was actually covering the job in several locations and did not formally escort the visitors. He stated he was not present when at least two of the visitors signed the Visitors Dosimeter Log. He stated he was aware that the visitors were on the job and remembers cautioning one visitor twice with respect to smoking in a controlled area.
- Visitor Dosimeter Log. The Visitor Dosimeter Log showed six entries for January 27, 1982, from approximately 8:00 - 12:00 p.m. with the above health physics technician entered on the log as an escort. The health physics technician signed on to SWP 207 from 8:00 p.m. on January 27 to 2:30 a.m. on January 28. Four visitor log entries do not include the appropriate SWP number or other means of SWP identification. One entry does not include the time out information.
- Whole Body Count Results. Subsequent whole body counts showed no detectable internal contamination in four of the six visitors involved with SWP-207. The remaining two visitors were not counted.

Licensee procedure HP-4.3, "Work Permit Use," Revision 17, April 16, 1981, requires that each SWP specify the location where work will be performed, describe the work, and describe the radiation hazards which may be encountered. Failure to adhere to HP-4.3 on SWP 179 and 207 is a violation of Technical Specification 6.11 (244/82-09-03).

5. Exit Interview

The inspector met with licensee representatives (denoted in paragraph 1) at the conclusion of the inspection on May 6, 1982. The inspector summarized the purpose and scope of the inspection and inspection findings. Inspection findings were further discussed by telephone on July 8, 1982.