

# SIEMENS

March 4, 1994

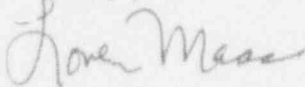
U.S. Nuclear Regulatory Commission  
Attn: Document Control Desk  
Washington, DC 20555

Gentlemen:

Re: Letter, J.H. Reese to Siemens Power Corporation, "Notice of Violation, NRC Inspection Report No. 70-1257/94-01," dated February 3, 1994.

Enclosed is Siemens Power Corporation's reply to the Notice of Violation contained in the referenced letter. If you have any questions regarding this reply, please contact me at 509-375-8537.

Very truly yours,



L. J. Maas, Manager  
Regulatory Compliance

LJM:pm

cc: K.E. Perkins, Acting Regional Administrator  
NRC Region V

090143

Siemens Power Corporation

Nuclear Division - Engineering and Manufacturing Facility

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## REPLY TO NOTICE OF VIOLATION (94-01)

### Statement of Violation A

10 CFR 19.12 requires, in part, that all individuals working in a restricted area be instructed in the precautions and procedures to minimize exposure to radioactive materials, and in the applicable provisions of the Commission's regulations and licenses. This instruction is to be commensurate with the potential radiological health protection problems in the restricted area.

Contrary to the above, as of January 14, 1994, the licensee had not instructed personnel, to an extent commensurate with the potential health effects for those personnel working with radioactive materials, on the applicable provisions of the Commission's regulations expressed in the revised 10 CFR Part 20. Specifically: (1) individuals working with radioactive materials in a restricted area had not been instructed in the provisions of 10 CFR 20.1208, "Dose to an embryo/fetus," which prescribes reduced occupational dose limits for a declared pregnant woman, and (2) all personnel working with radioactive materials had not been informed of the new occupational dose limits to the eye, the skin and the extremities as specified in 10 CFR 20.1201(a)(2).

This is a Severity Level IV violation (Supplement IV).

### SPC Response

#### Reason for the Violation

Dedicated planning, initial work activity, and task assignments by SPC necessary to achieve implementation of the revised 10CFR20 regulations began in the latter part of 1992, well over a year before the required implementation date of January 1, 1994. There was early recognition that the revised regulations would have substantial impact and require significant changes to SPC's radiation protection program. SPC's most challenging task was that of developing a system for monitoring, tracking, calculating and reporting the internal dose contribution to individual total effective dose equivalent and subsequently performing full dose assessment calculations. The first project schedule for design, development, and implementation of this health physics system was formally issued on February 19, 1993, along with initial project team assignments. Throughout 1993 frequent review and problem resolution meetings took place both on the health physics system project and on general implementation of the radiation protection program requirements. Because of the complexity of the health physics system project, management attention and health physics resources were mainly focused on internal exposure control issues and the internal dose tracking system startup. Schedule slippage in hardware installation and computer program software testing and validation occurred in the Fall of 1993 which resulted in increased attention on that portion of the project. Because of this diversion of attention and resources, management oversight of the implementation of administrative and training requirements was insufficient. Startup of the dose tracking system in December 1993

has allowed management to shift an appropriate level attention to training and other administrative requirements.

When the bulk of annual refresher training for radiation workers was conducted in November 1993, the internal dose tracking system was not yet ready for startup. New occupational dose limits for, and methods of determining, total effective dose equivalent to individual workers that would become effective on January 1, 1994, were therefore not presented. During the refresher training only the occupational exposure limits then in effect were reviewed in detail with the workers. Upcoming changes in 10 CFR 20 and their potential effects were discussed in general terms. When startup of the new internal dose tracking system did occur, training sessions were conducted during the period of December 8-23, 1993, for radiation workers requiring access to the contamination controlled areas of the plant. These training sessions covered both operation of the new internal dose tracking system and new occupational dose limits for adults for total effective dose equivalent. Because the focus of this training was on the new contribution of internal exposure from airborne activity, the lesson plan failed to include instruction on new annual limits of exposure to the lens of the eye, to the skin, and to the extremities as well as the new limit for dose to an embryo/fetus. This deficiency was the result of a misunderstanding of the required scope of the lesson plan by the manager responsible for providing the training.

#### Corrective Steps Taken

Since January 14, 1994, training sessions have been conducted with radiation workers on both the prenatal radiation protection program, including dose limits to an embryo/fetus, and on external occupational dose limits. Approximately 97% of the radiation workers have received this training. The remaining 3%, who were unavailable due to absence, are to be provided such training by March 15, 1994. By March 15, therefore, all radiation workers will have received the radiation health risk training required by 10 CFR 19.12.

Even though not required, SPC additionally expects to provide informational material on these aspects of radiation protection to all employees who are not designated as radiation workers at its Richland site.

#### Corrective Actions Taken to Avoid Further Violation

Training program lesson plans and instructional material have been revised to comply with the requirements of 10 CFR 20 relative to occupational radiation exposure risks and with 10 CFR 19.12. Such revisions have been reviewed for completeness and accuracy by the Health Physics Component. Any changes to 10 CFR 20 regulations are reviewed for applicability to SPC's radiation protection program and included, if necessary, in program revisions.

#### Date of Full Compliance

March 15, 1994

### Statement of Violation B

10 CFR 20.1008(a) and 20.1101(a) require that on January 1, 1994, each licensee develop, document, and implement a radiation protection program commensurate with the scope and extent of licensed activities and sufficient to ensure compliance with the provisions of the revised Part 20.

Contrary to the above, as of January 14, 1994, the licensee had not developed nor implemented a radiation protection program sufficient to ensure compliance with the provisions of the revised Part 20 which became effective January 1, 1994. Specifically, the licensee had not developed, documented or implemented as part of the radiation protection program, a program to ensure compliance with 10 CFR 20.1208(a) and (b), "Dose to an embryo/fetus," and 20.2106(e).

This is a Severity Level IV violation (Supplement IV).

### SPC Response

#### Reason for the Violation

The reasons for this violation are essentially the same as those discussed for violation A; i.e., the diversion of health physics resources and management attention to the substantial task of getting the health physics dose tracking and calculational system in place by the end of 1993.

In addition, female workers had been advised of the recommended maximum 0.5 rem dose during pregnancy in accordance with Regulatory Guide 8.13, but the additional step of informing them that this recommended dose was now an NRC limit had not been done. Historically at SPC, pregnant women have been assigned non-radiation work during pregnancy.

#### Corrective Steps Taken

Procedure 2.15, "Prenatal Radiation Protection Program" in SPC's "Site Radiological Operating Procedures", EMF-1508, has been approved to implement the requirements of 10 CFR 20 pertaining to controlling the dose to the fetus/embryo of a declared pregnant woman. This company-wide procedure describes the SPC program for informing radiation workers in general and female radiation workers in particular of the biological risks concerning prenatal exposure. It also instructs women on declaring pregnancy and, for those who have done so, provides for additional fetal monitoring and consultation. In addition the procedure requires SPC's Health Physics and Radiological Safety Components to monitor the doses received by the fetus/embryo of a declared pregnant woman to ensure that there are no substantial variations in exposure above a uniform monthly rate which would result in exceeding the allowed limit.

Procedure 5.4, "Prenatal Radiation Protection Program" in SPC's "Health Physics and Radiological Safety Procedure Manual", EMF-1507, has been approved to formalize

the specific actions to be taken by the Radiological Safety and Health Physics Components in providing training, dose tracking, consultation, and record keeping for declared pregnant women.

Corrective Steps Taken to Avoid Future Violations

The basic violation is that SPC's radiation protection program was not sufficient to comply with all aspects of the revised 10 CFR 20 requirements. Steps taken to correct specific discrepancies have been described above. To assure that the program maintains compliance with current regulations, SPC's Regulatory Compliance section reviews regulation changes on an ongoing basis and informs specific company components of pertinent changes; e.g., the Health Physics Component for 10 CFR 20 changes.

In addition the annual audit of radiation protection practices which will be conducted by Safety, Security and Licensing as required in 10CFR 20.1101(c) will assess program compliance with regard to regulations, identify problem areas if present, and assure that corrective actions are monitored by SPC management until completed.

Date of Full Compliance

Complete