

Georgia Power Company
333 Piedmont Avenue
Atlanta, Georgia 30308
Telephone 404 526-6526

Mailing Address:
Post Office Box 4545
Atlanta, Georgia 30302

W. G. Hairston, III
Senior Vice President
Nuclear Operations

the southern electric system

VL-41
0018e
X76J17-V000

August 26, 1988

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D. C. 20555

PLANT VOGTLE - UNIT 1
NRC DOCKET 50-424
OPERATING LICENSE NPF-68
EXEMPTION REQUEST - WORKER RESPIRATORY
PROTECTION APPARATUS

Gentlemen:

In accordance with the provisions of 10CFR 20.103(e) and 10CFR20.501, Georgia Power Company (GPC) hereby requests an exemption from 10CFR20, Appendix A, footnote d-2(c) which states, with respect to establishing personnel protection factors, "No allowance is to be made for the use of solvent canisters against radioactive gases and vapors." GPC proposes to use a protection factor equal to 50 for solvent iodine canisters in an atmosphere containing radioiodine. A safety analysis is provided as Attachment 1 which demonstrates the exemption will not result in an undue hazard to life or property.

The requested exemption would allow utilization of air purifying respirators in lieu of supplied air or self-contained breathing apparatuses. The air purifying respirators, MSA GMR-I canisters, which GPC proposes to use would be manufactured by Mine Safety Appliance Company. A copy of the MSA test report is included as Attachment 2 to this letter.

Previously, Alabama Power Company, Southern California Edison Company, Kansas Gas and Electric Company, Union Electric Company, Pacific Gas and Electric, and the Grand Gulf Nuclear Station have been issued exemptions that allow the use of the MSA GMR-I canister. Additionally, the Washington Public Power Supply System has also requested an exemption allowing the use of these canisters.

10CFR20.103(e) allows the Commission to authorize the use of equipment which has not been certified by NIOSH/MSHA but which has been tested reliable under proposed conditions of use. The MSA GMR-I canister has been adequately tested, as evidenced by the MSA tests and previously granted exemptions. GPC

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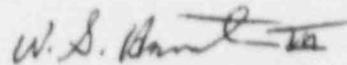
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asks that this request for an exemption be acted on by the NRC by September 15, 1988 to allow the use of these canisters in Plant Vogtle's initial refueling outage which is scheduled to begin October 7, 1988.

Pursuant to the requirement of 10CFR170, a check for \$150 is enclosed.

Sincerely


W. G. Hairston, III

PAH:11h

Enclosures:

1. Safety Analysis
2. MSA Test Report
3. GPC Check (\$150)

c: Georgia Power Company
Mr. P. D. Rice
Mr. G. Bockhold, Jr.
Mr. M. Sheibani
Mr. J. P. Kane
GO-NORMS
NORMS

U. S. Nuclear Regulatory Commission
Dr. J. N. Grace, Regional Administrator
Mr. J. B. Hopkins, Licensing Project Manager, NRR (2 copies)
Mr. J. F. Rogge, Senior Resident Inspector - Operations, Vogtle

ENCLOSURE 1 TO VL-41

PROPOSAL FOR EXEMPTION FROM 10 CFR 20, Appendix A, footnote d-2(c)
Allowing Use of the GMR-I Canister Against Radioiodine

ABSTRACT:

This proposal is a request for exemption from 10 CFR 20, Appendix A, footnote d-2(c) in accordance with 10 CFR 20.103 (e) and will cover Georgia Power's facility Vogtle Electric Generating Plant Units 1 & 2. The desired conclusion is the use of the MSA GMR-I canister and a full facepiece, that has the capability of providing a protection factor of 50 or greater, to achieve a protection factor of 50 against radioactive iodine and particulates.

JUSTIFICATION:

The benefits associated in using the GMR-I over Air-Lines or SCBA's are an increase in worker safety and a reduction in worker exposure to radiation.

WORKER SAFETY is greatly improved by (1) reducing the respiratory protection equipment weight causing a decrease in probability for back injury or falling/tripping injury, (2) eliminating accidents caused by a loss of air situation, (3) reducing worker fatigue by deleting entangled air lines, uncomfortable harnesses and eye irritation caused by the air flow, (4) removing the false feeling of coolness caused by the air flow across the face that can lead to heat strokes and eventually fainting, and (5) reducing workers time in the respiratory protection equipment by 25-50% due to the increased work efficiency.

Exposure Reduction is achieved by the decrease in work time to the corresponding measures of 25-50% in cases that normally require the use of Air-lines or SCBA applications.

OPERATING CONDITIONS:

With guidance from NUREG/CR-3403, the following precautions and limitations are proposed:

- (1) The maximum permissible continuous use time for a GMR-I canister is eight (8) hours after which the canister is discarded. This time will be calculated from the moment the canister is unsealed, and will include periods of non-exposure.
- (2) The GMR-I canister will not be stored or used in the presence of organic solvent vapors. Procedure will deny the use or storage of these canisters in areas that painting or use of organic vapors/chemicals is in progress or has recently been completed.

- (3) The storing of the GMR-I canisters will be in a Class A or better environment, as defined in ANSI N45.2.2, by the manufacture, any third party distributors and the licensee. All orders placed for GMR-I canisters, that will be used for radioactive iodine protection, will state this condition.
- (4) The GMR-I canister will be used with a full facepiece capable of providing a protection factor equal to or greater than 50.
- (5) The GMR-I canister will not be used in temperatures greater than 110 degrees Fahrenheit or up to 120 degrees Fahrenheit if the dewpoint is equal to or less than 107 degrees Fahrenheit. Temperatures will be measured prior to and/or during the use of the GMR-I canister to assure the working temperatures are within limits.
- (6) Air samples will be taken prior to and during any activities that involve the use of the GMR-I canister for protection against radioactive iodine.
- (7) The organic vapors and chemicals of concern relative to GMR-I canister use at Vogtle Electric Generating Plant:

Xylene	111 Trichloroethane
Naphthalene	Methyl Ethyl Ketone
Methylnamyl Ketone	Toluene
Cychohexanone	Acetone
Trichloroflouroethane	Butanone

These vapors and chemicals are not of concern in areas where GMR-I canisters will be routinely stored. The canisters are purchased in a hermetically sealed condition and are not opened until placed in service.

Vogtle Technical Specification 4.7.7 defines the availability and surveillance requirements related to the Auxiliary Building Radiation Area Filter Exhaust and Continuous Exhaust System. The Containment Purification and Clean-up system and the Aux. Building Radiation Area Filter Exhaust and Continuous Exhaust System plant procedures, governing the operability and functioning of charcoal beds, are in compliance with Regulatory Guides 1.140 and 1.52 for design, testing and maintenance of filtration systems. These requirements are utilized to demonstrate system operability with respect to HEPA and charcoal filters. Since GMR-I canister will be in the same areas served by these systems, assurance of continuing operability of these systems will provide assurance of a proper environment (i.e., no organic vapors or chemicals) for GMR-I canister use.

- (8) A GMR-I canister found to have exceeded 3 years from date of manufacture will not be used for protection against radioactive iodine.

PROGRAM IMPLEMENTATION:

In the initial implementation of the GMR-I program, the following verification measures will be in effect:

- a. Weekly whole body counts for individuals using the GMR-I canisters for radioiodine protection.
- b. A whole body count for individuals that exceed 10 MPC in a week and used the GMR-I canister for respiratory protection in that period.
- c. Anyone that measures 70 nCi or greater iodine uptake to the thyroid during a whole body count will be restricted from entering a radioiodine atmosphere pending Health Physics evaluation.
- d. The radiological survey and whole body count information will be compiled to evaluate the effectiveness of the program.

These precautions will be relaxed as the data proves the effectiveness of the program.

RADIATION WASTE REDUCTIONS:

Due to the greater volume of the GMR-I canister over a standard particulate filter, the particulate filter will normally be used in situations permitted to reduce the generation of radioactive waste.

PROCEDURES AND TRAINING:

Upon approval, procedures will be created or revised to define the proper storage, issuing and use of the GMR-I canister prior to program implementation. These revisions will include the restrictions and limitations of the GMR-I canister that has been formulated in the proposal. The procedures that will be modified are Departmental VEGP 47001-C and Administrative VEGP 00970-C. Training of the workers on the proper use and the limitations of the GMR-I canister will be performed prior to issuing and shall be incorporated into the GET respirator training program. The Health Physics staff will be qualified on the procedures and shall receive training on the characteristics of the GMR-I canister.

Additionally, onsite Quality Assurance audits and surveillance of the Respiratory Protection Program will be expanded to include GMR-I canister use and associated procedures and controls.

ENGINEERING CONTROLS:

This proposal does not lessen the responsibilities of the licensee in the use of engineering controls to relieve the needs for respiratory protection as required in 10 CFR 20.103 (b) (1). These measures include but are not limited to, degasification of the reactor coolant system, crud burst clean up, process to confine or eliminate airborne radioactivity, delay breacher of primary systems to allow decay of radioisotopes and area decontamination to decrease possibilities of generating airborne radioactive material.

QUALITY ASSURANCE:

The Quality Assurance program established and maintained by the Mine Safety Appliances Company is sufficient in supplying the GMR-I canister in proper operating condition. Only canisters covered by the MSA GMR-I Quality Assurance program will be used for the protection against radioactive iodine. To ensure that the MSA GMR-I canisters meet standards for quality control, procedure number 47001-C or a Departmental Instruction will require personnel verify that for each canister used with the protection factor that the seal is intact, the canister shelf life has not expired and the following MSA label is attached to the GMR-I canister:

"This canister meets the NRC Quality Assurance Specification required for Radioiodine Protection Factor Credit, in addition to the NIOSH/MSHA Requirements. Credit may only be taken by licensees who have been granted a NRC Exemption."

TEST DATA:

This proposal is based on studies performed by the Mine Safety Appliances Company, Attachment # 1, and NUREG/CR 3403, Attachment # 2 and structured after NRC approved programs at Alabama Power Company and Union Electric Company. The parameters of the studies specifically air temperature and humidity, cover the conditions that exist at Vogtle Electric Generating Plant.

CLOSING STATEMENT:

This proposal is based on data and contains the controls deemed acceptable by the NRC as a proper GMR-I canister program. This exemption will allow Georgia Power Company to increase worker safety, by a decrease in work stress and radiation exposure, without affecting the safety of the general public. This proposal also acts as notification of GMR-I canister use 30 days preceding exemption approval.