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the southern electric system

VL-89
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October 6, 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
REVISION TO EXEMPTION REQUEST - WORKER
RESPIRATORY PROTECTION APPARATUS

Gentlemen:

Georgia Power Company (GPC) requested an exemption to 10 CFR 20 Appendix A, footnote d-2(c) by our letter VL-41 dated August 26, 1988. On September 16 and on September 26, 1988, the NRC Project Manager - Vogtle requested additional commitments on the part of GPC regarding the cited protection factors for the subject masks and the use of the masks in certain atmospheres. GPC hereby revises its proposal for exemption in response to your request.

GPC is requesting a protection factor of 50 with the GMR-I canister to be consistent with the current 10 CFR 20 Appendix A limits since these filters will be used with full facepiece respirators. This protection factor of 50 is derived from the integrated respirator (filter and facepiece). Since we are requesting use of an alternate filter only, it is appropriate to maintain the protection factor as allowed in Appendix A.

To assure that the actual protection provided in field use will be 50 or greater we will require all users of this canister to undergo a quantitative fit test with a measured protection factor of 500 or greater. The specific revisions to our August 26, 1988 exemption request are detailed below.

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Enclosure 1, "Proposal for Exemption From 10 CFR 20, Appendix A, footnote d-2(c) Allowing Use of the GMR-I Canister Against Radionuclides - Revision 1" has been revised as follows:

Item number 4 under Operating Conditions is revised to state;

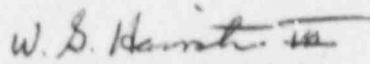
"(4) The GMR-I canister will be used with a full facepiece capable of providing a protection factor equal to or greater than 500."

Item number 9 is inserted into Operating Conditions to state;

"(9) Canisters are not to be used in total challenge concentrations of organic iodines and other halogenated compounds greater than 1 ppm, including nonradioactive compounds."

Georgia Power Company believes these revisions address fully the request of the NRC Project Manager - Vogtle, and asks that the proposed exemption be acted on in as timely a manner as practical. If you require further information, please contact this office.

Sincerely,


W. G. Hairston, III

WEB/11h

Enclosure: Revision 1 to Proposed Exemption to 10CFR20

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

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 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 SCB'a 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, (5) removing the false feeling of coolness caused by the air flow across the face that can lead to heat stroke 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 BMR-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 500.
- (5) The GMR-I canister will not be used in temperatures greater than 100 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
Methylanmyl Ketone	Toluene
Cychohexanone	Acetone
Trichlorofloroethane	Butanone

These vapors and chemicals are not of concern in areas where GMR-I canister 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 Radioaction Area Filter Exhaust and Continuous Exhaust System. The Containment Purification and Clean-up system and the Aux. Building Radioaction 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.
- (9) Canisters are not to be used in total challenge concentrations or organic iodines and other halogenated compounds greater than 1 ppm, including nonradioactive compounds.

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 intake 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 000970-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 ET 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, on site 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 breaches 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 NIOSM/MSHA Requirements. Credit may only be taken by licensees who have been granted a NEC 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 effecting the safety of the general public. This proposal also acts as notification of GMR-I canister use 30 days preceding exemption approval.