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RECORD #37

TITLE: ... Exemption Request, MSA GMR-I Canister... Radiodine
Protection Factor

FICHE: 67442-329



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

Respiratory Protection

JUN 28 1984

MEMORANDUM FOR: Gus C. Lainas, Assistant Director
for Operating Reactors, DL

FROM: Daniel R. Muller, Assistant Director
for Radiation Protection, DSI

SUBJECT: FARLEY 1 & 2 - 10 CFR PART 20 EXEMPTION REQUEST, MSA GMR-I
CANISTER (PART NO. 466220) RADIOIODINE PROTECTION FACTOR

The Radiological Assessment Branch (RAB) has reviewed Alabama Power Company's application for exemption to 10 CFR 20, Appendix A, footnote d-2(c) to allow credit for a radioiodine protection factor in employing the MSA GMR-I Canister (Part No. 466220) at Farley 1 & 2, as stated in their submittal of January 13, 1984.

In accordance with the provisions of 10 CFR Part 20.103(e), RAB recommends that the exemption be approved, with restrictions, based on the following:

- (1) the exemption is allowable under the provisions of 10 CFR Part 20.103(e);
- (2) the licensee has provided reliable test information which demonstrates that the GMR-I canister has been acceptably tested in accordance with the recommended protocol for testing conditions and acceptance criteria established by NRC-funded research in NUREG/CR-3403, "Criteria and Test Methods for Certifying Air-Purifying Respirator Cartridges and Canisters Against Radioiodine" (August 1983) which supports the utilization of a protection factor for the GMR-I canisters;
- (3) the licensee has provided for routine quality assurance testing of these canisters that is equivalent to proposed criteria in the NUREG and will assure adequate control of lot testing of canisters in accordance with accepted methods and procedures in lieu of a NIOSH/MSHA certification schedule.
- (4) the licensee has provided information which indicates the capability to implement the proposed radioiodine respiratory program successfully;
- (5) the licensee has initiated program and usage restrictions for the GMR-I canister and accepted additional controls as proposed by the staff;
- (6) a similar program was successfully implemented at TMI during 1979 with NRC approval;
- (7) the licensee will evaluate the program and provide the results to NRC.

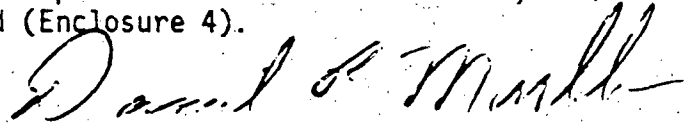
A Safety Evaluation Report (SER) detailing the staff's review is enclosed (Enclosure 2). Background information is also enclosed (Enclosure 1).

Approval of this action can be expected to have the following impacts:

- (1) additional inspection effort may be required at Farley 1 & 2 (and eventually other units) to verify implementation of the radioiodine protection program;
- (2) once the precedent is set, additional requests for Part 20 exemptions to enable the use of radioiodine protection factors can be expected from the majority of utilities, and may involve other canister manufacturers in addition to MSA;
- (3) a generic evaluation might be necessary to provide a generic exemption for the industry;
- (4) implementation of a testing and certification schedule by NIOSH/MSHA will be expedited due to the precedent set in this exemption and due to knowledge and experience gleaned from the staff's evaluation of this exemption.
- (5) pertinent sections of Part 20 may require revisions (e.g. Appendix A, footnote d-2(c)).

Alabama Power Company has notified the Region II Regional Administrator of their intent to utilize radioiodine protection factors as a Part 20 exemption as required in 10 CFR Part 103(g) through distribution of their January 13, 1984 submittal to the NRR Office Director. RAB recommends concurrence of both the NRR Office Director and the Region II Regional Administrator; to this end, an exemption format for the proposed exemption is enclosed (Enclosure 3).

This review was conducted in consultation with RAB's counterparts in radiation protection from the Regions, IE and RES. Technical input was provided by Lynette Hendricks (RES/ORPB). The principal reviewer was R. J. Serbu, RPS/RAB (X27594). SALP input is also provided (Enclosure 4).



Daniel R. Muller, Assistant Director
for Radiation Protection, DSI

Enclosures:

1. Background
2. Safety Evaluation Report
3. Concurrence Format
4. SALP Input

cc: S. Varga
L. Hendricks
F. Congel
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G. Jenkins (RII)
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ENCLOSURE 3

EXEMPTION FORMAT

In accordance with the provisions of 10 CFR Part 20, §20.103(e), exemption to the restrictions of 10 CFR Part 20, Appendix A, footnote d-2(c) is granted to Alabama Power Company for their Joseph M. Farley Nuclear Plant- Units 1 and 2 regarding the utilization of the MSA GMR-I Canister (Part Number 46620) with a protection factor for radioiodine gases and vapors, subject to restrictions enumerated by the NRC staff in their Safety Evaluation Report and summarized here as follows:

1. protection factor =50
2. 8 hour maximum continuous use time after which the canister will be discarded.
3. not to be used in the presence of organic solvent vapors.
4. to be stored in sealed, humidity barrier packaging in a cool, dry environment.
5. service life to be calculated from the time of unsealing including periods of non-exposure.
6. to be used with a full facepiece capable of providing protection factors greater than 100.
7. not to be used in total challenge concentrations of organic iodines and other halogenated compounds greater than 1 ppm, including nonradioactive compounds.
8. not to be used in environments with temperatures greater than 110°F.

This exemption is subject to amendment by the NRC staff and shall remain in effect until rescinded by the NRC staff or superseded by regulation.