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A Centenor Energy Company

DONALD C. SHELTON  
Vice President--Nuclear  
(419) 249-2300

Docket Number 50-346

License Number NPF-3

Serial Number 1728

December 5, 1989

United States Nuclear Regulatory Commission  
Executive Director for Operations  
Washington, D. C. 20555

Subject: Request for Exemption from 10CFR20 Appendix A to Allow Credit for  
Use of a Radioiodine Protection Factor for Mine Safety Appliance  
Company GMR-I Filter Canisters (TAC Number 75234)

Gentlemen:

Appendix A to 10CFR20 establishes protection factors for air-purifying respirators for particulates only, and footnote d-2(c) states that "no allowance is to be made for the use of sorbents against radioactive gases or vapors." In accordance with 10CFR20.103(e), where a particular type of respiratory protection does not have current National Institute for Occupational Safety and Health/Mine Safety and Health Administration (NIOSH/MSHA) certification, no allowance for protection may be made without specific authorization by the Commission. An application for this authorization must include a demonstration by testing or on the basis of reliable test information that the material and performance characteristics of the equipment are capable of providing the proposed degree of protection under anticipated conditions of use.

Adequate respiratory protection from airborne radioiodines is currently provided at Davis-Besse Nuclear Power Station (DBNPS) Unit 1 by the use of air lines or self contained breathing apparatus (SCBA). However, the use of light weight, less cumbersome, air purifying respirators in lieu of air lines or SCBA can provide increased worker comfort and mobility. The corresponding increase in efficiency and decrease in on the job time can result in overall dose savings.

In accordance with 10CFR20.501 and 10CFR20.103(e), Toledo Edison requests an exemption from 10CFR20, Appendix A, footnote d-2(c), and authorization to credit a radioiodine protection factor for the use of Mine Safety Appliance Company (MSA) GMR-I canister (Number 466220) at the DBNPS. The following conditions, limitations and restrictions will apply to the use of MSA GMR-I canisters for radioiodine protection at the DBNPS:

THE TOLEDO EDISON COMPANY    EDISON PLAZA    300 MADISON AVENUE    TOLEDO, OHIO 43652

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- ° A protection factor equal to 50 as a maximum value will be used.
- ° The maximum permissible use time will be eight hours after which the canister will be discarded. The use time will begin when the canister is unsealed and will include periods of non-exposure.
- ° Canisters will not be used in the presence of organic solvent vapors. Fainting or the use of organic substances will be prohibited while the GMR-I canister is in use.
- ° Canisters will be stored in sealed, humidity barrier packaging in a cool, dry environment. The GMR-I canisters will be maintained in Class "A" storage (as defined in ANSI N45.2.2) except for those maintained for ready issuance in the respirator issue area.
- ° Canisters will be used only with a full facepiece proven capable of providing the individual with a protection factor greater than 100 by a quantitative respirator fit test.
- ° Canisters will not be used in total challenge concentrations of organic iodines and other halogenated compounds greater than 1 ppm, including non-radioactive compounds.
- ° Canisters will not be used in environments where temperatures exceed 110°F. Temperatures at work locations where GMR-I canisters are in use will be measured each shift and/or coincidentally with operations which heat the work areas to assure that this limit is not exceeded.
- ° The following program verification measures during initial GMR-I canister implementation will be used:
  - a. weekly whole body counts of individuals using the GMR-I canister for radioiodine protection will be performed;
  - b. a whole body count will be given to individuals who exceed 30 MPC hours in seven consecutive days prior to their next entry into a radioiodine atmosphere;
  - c. if an individual measures 35 nCi or greater iodine uptake to the thyroid during a whole body count, the individual will be restricted from further entries into radioiodine atmospheres pending a health physics evaluation;
  - d. a whole body count survey data base will be compiled to coordinate the results of the program.

These restrictions, limitations and controls applicable to the use of MSA GMR-I canisters are consistent with conditions applicable to similar exemptions granted by the Commission to Alabama Power, Southern California Edison and Union Electric.

Toledo Edison references the results of previous testing conducted by MSA which demonstrate that the GMR-I canister is capable of providing the proposed

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degree of radiiodine protection, as satisfying 10CFR20.103(e) in support of this exemption request. The results of this testing were previously accepted by the NRC in conjunction with the review of similar exemption requests from other utilities. The MSA test results are documented in the attachment to the Union Electric Company's October 22, 1985 letter to the NRC requesting a similar exemption.

Approval of this exemption is requested by February 1, 1990 to permit credit to be taken for use of MSA GMR-I canisters during the upcoming sixth refueling outage. Pursuant to 10CFR20.103(g) this letter constitutes 30 days prior notification of an intent to use the MSA GMR-I canister (Number 466220) under conditions and limitations described above, pending NRC approval of this exemption request.

If you have any questions regarding this request, please contact Mr. R. W. Schrauder, Nuclear Licensing Manager at (419) 249-2366.

Very truly yours,



PWS/ssg

cc: P. M. Byron, DB-1 NRC Senior Resident Inspector  
A. B. Davis, Regional Administrator, NRC Region III  
✓ T. V. Wambach, NRC/NFR DB-1 Senior Project Manager