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SUBJECT: Forwards addl info re 10CFR20, App A exemption request for worker respiratory protection apparatus, per 890315 request.

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L-89-174
10 CFR 20
Appendix A

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

Gentlemen:


Re: St. Lucie Units 1 and 2
Docket Nos. 50-335 and 50-389
Request for Additional Information - 10 CFR 20
Appendix A Exemption Request for Worker Respiratory
Protection Apparatus (TAC Nos. 67138 and 67139)

Per NRC letter dated March 16, 1988, the Staff requested additional information relating to the above subject for St. Lucie Plant, Units 1 and 2. Per letters L-88-209 dated May 5, 1988, and L-88-280 dated June 23, 1988, Florida Power and Light Company (FPL) provided a response to the request for information.

On October 4, 1988 and March 15, 1989, conference calls were held between the Staff and FPL to further discuss the information provided in the above FPL letters. The purpose of this letter is to provide the additional information requested by the Staff during the conference calls.

Should there be further questions, please contact us.

Very truly yours,


W. F. Conway
Senior Vice President - Nuclear

WFC/MSD/cm

Attachment

cc: Stewart D. Ebnetter, Regional Administrator, Region II, USNRC
Senior Resident Inspector, USNRC, St. Lucie Plant

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NRC Questions from 10-4-88 Conference Call and 3-15-89 Conference Call on FPL's Exemption Request for Worker Respiratory Protection Apparatus

Question 1) Will FPL have an active program to recognize other chemical contaminants which can potentially affect the SCOTT 631 TEDA-H chin canister?

Response

Florida Power and Light Company will have an active program to recognize chemical contaminants that may affect the canister. Health Physics Procedure, HP - 60 "Respiratory Protection Manual" and Health Physics Procedure, HP - 61 "Issue and Use of Respiratory Protection Equipment", will be modified to include requirements to evaluate the potential effects to the canister from work involving chemicals.

Question 2) Provide a discussion of the maximum TEDA desorption rate of approximately 2 mg/m³.

Response

Studies have been performed on the desorption characteristics of TEDA from impregnated activated carbons (1). It has been found that the desorption rate of TEDA is not a function of the linear flow rate or sorbent bed depth within the canister. However, desorption rates are linearly related to temperature on a semi-log plot. At 48.9°C (120°F), a maximum TEDA desorption rate of approximately 2 mg/m³ can be extrapolated from a plot of log (TEDA vapor concentration, mg/m³) vs. temperature, °C.

There is limited toxicological data available for TEDA, however, similarities exist between TEDA and other amine type compounds. A sample of several compounds and their threshold limit values are given below (2):

	(mg/m ³)	(ppm)
Ethylamine	18	10
Diethylamine	30	10
Triethylamine	40	10
Ethylenediamine	25	10
Diethylene triamine	4	1

The 2 mg/m³ desorption value at 48.9°C is below the lowest threshold limit value for similar type substances.

REFERENCES

(1) Wood, G. O.: Desorption of TEDA from Impregnated Respirator and Absorber Charcoals, Am. Ind. Hyg. Assoc. J. 45:622-625 (1984).

(2) American Conference of Governmental Industrial Hygienists: Threshold Limit Values and Biological Exposure Indices for 1988-1989, ACGIH, Cincinnati, Ohio (1988).

Question 3) Does FPL intend to use weekly whole-body/thyroid counts for individuals using the SCOTT canisters for radioiodine protection?

Response

Florida Power and Light will perform weekly whole body/thyroid counts for individuals using the SCOTT canister for protection against radioiodines. Health Physics Procedures, HP - 60 "Respiratory Protection Manual", HP - 61 "Issue and Use of Respiratory Protection Equipment" and HP - 35 "Bioassay Program" will be modified to reflect the need for whole body counting on a weekly basis for those individuals using the canister for protection from radioiodines.

Question 4) Will FPL determine the fit of the full facepiece (to be used with the canister) to be 10 times greater than the protection factor of 50.

Response

Florida Power and Light Company will verify that each individual has, prior to the initial use of the canister by each individual, received a respirator fitting with the type of full face respirator to be used with the canister and has achieved as a minimum a protection factor of 500 (ten times greater than the protection factor of 50). Health Physics Procedure, HP - 66A "Respirator Fitting" will be modified to incorporate the minimum required protection factor of 500 for full face respirators to be used with the SCOTT 631 TEDA-H canisters.



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