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October 31, 1985
ST-HL-AE-1482
File No.: G9.17

Mr. George W. Knighton, Chief
Licensing Branch No. 3
Division of Licensing
U.S. Nuclear Regulatory Commission
Washington, DC 20555

South Texas Project
Units 1 & 2
Docket Nos. STN 50-498, STN 50-499
Responses to DSER/FSAR Items

Dear Mr. Knighton:

The attachment enclosed provides STP's response to a Draft Safety Evaluation Report (DSER) item.

The item number listed below corresponds to that assigned on STP's internal list of items for completion which includes open and confirmatory DSER items, STP FSAR open items and open NRC questions. This list was given to your Mr. N. Prasad Kadambi on October 8, 1985 by our Mr. M. E. Powell.

The attachment includes mark-ups of FSAR pages which will be incorporated in a future FSAR amendment.

The item attached to this letter is:

Attachment	Item No.*	Subject
1	D 12.5-8	FSAR Section 7A.III.D.3.3-Iodine Instrumentation

If you should have any questions on this matter, please contact Mr. Mark A. McBurnett at (512)972-8530.

Very truly yours,

M. R. Wisenburg
Manager, Nuclear Licensing

MAM/bjf

Attachment: See Above

* Legend
D - DSER Open Item
C - DSER Confirmatory Item
F - FSAR Open Item
Q - FSAR Question Response Item
S8/NRC1/g

A001
1/1

Houston Lighting & Power Company

cc:

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Office of the Secretary
U.S. Nuclear Regulatory Commission
Washington, DC 20555
(3 copies)

*Advisory Committee on Reactor Safeguards
U.S. Nuclear Regulatory Commission
1717 H Street
Washington, DC 20555

Draft SER Open Item 12.5-8

State how STP plans to comply with NUREG 737 Item III.D.3.3.

Response

STPEGS plans to have on site approximately 14 portable high volume air samplers, 14 portable low volume air samplers and 6 portable continous air samplers. Procedures have been developed to measure the iodine activity entrained on the silver zeolites or carbon filter units. Personnel will be trained to operate the equipment. The counting rooms will have background activity low enough to permit counting; however, shielding materials will be available to facilitate the counting operation as necessary.

The filter units will be counted by a high resolution detector and a multichannel analyzer or similar device, thereby eliminating the need for purging noble gases.

III.D.3.3 IMPROVED INPLANT IODINE INSTRUMENTATION UNDER ACCIDENT CONDITIONS

Position

(1) Each licensee shall provide equipment and associated training and procedures for accurately determining the airborne iodine concentration in areas within the facility where plant personnel may be present during an accident.

(2) Each applicant for a fuel-loading license to be issued prior to January 1, 1981 shall provide the equipment, training, and procedures necessary to accurately determine the presence of airborne radioiodine in areas within the plant where plant personnel may be present during an accident.

Clarification

Effective monitoring of increasing iodine levels in the buildings under accident conditions must include the use of portable instruments using sample media that will collect iodine selectively over xenon (e.g., silver zeolite) for the following reasons:

(1) The physical size of the auxiliary and/or fuel handling building precludes locating stationary monitoring instrumentation at all areas where airborne iodine concentration data might be required.

(2) Unanticipated isolated "hot spots" may occur in locations where no stationary monitoring instrumentation is located.

(3) Unexpectedly high background radiation levels near stationary monitoring instrumentation after an accident may interfere with filter radiation readings.

(4) The time required to retrieve samples after an accident may result in high personnel exposures if these filters are located in high-dose-rate areas.

After January 1, 1981, each applicant and licensee shall have the capability to remove the sampling cartridge to a low-background, low-contamination area for further analysis. Normally, counting rooms in auxiliary buildings will not have sufficiently low backgrounds for such analyses following an accident. In the low background area, the sample should first be purged of any extrapped noble gases using nitrogen gas or clean air free of noble gases. The licensee shall have the capability to measure accurately the iodine concentrations present on these samples under accident conditions. There should be sufficient samplers to sample all vital areas.

For applicants with fuel-loading dates prior to January 1, 1981, provide by fuel loading (until January 1, 1981) the capability to accurately detect the presence of iodine in the region of interest following an accident. This can be accomplished by using a portable or cart-mounted iodine sampler with attached single-channel analyzer (SCA).

The SCA window should be calibrated to the 365 KeV of iodine-131 using the SCA. This will give an initial conservative estimate of presence of iodine and can be used to determine if respiratory protection is required. Care must be taken to assure that the counting system is not saturated as a result of too much activity collected on the sampling cartridge.

Response

STPEGS plans to have on site approximately 14 portable high volume air samplers, 14 portable low volume air samplers and 6 portable continous air samplers. Procedures have been developed to measure the iodine activity entrained on the silver zeolites or carbon filter units. Personnel will be trained to operate the equipment. The counting rooms will have background activity low enough to permit counting; however, shielding materials will be available to facilitate the counting operation as necessary.

The filter units will be counted by a high resolution detector and a multichannel analyzer or similar device, thereby eliminating the need for purging noble gases.