UNITED STATES OF AMERICA

NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of	§	
	§	
HOUSTON LIGHTING & POWER COMPANY	§	Docket No. 50-466
	§	
(Allens Creek Nuclear Generating Station, Unit No. 1)	§	

THIRD SET OF INTERROGATORIES AND REQUESTS FOR PRODUCTION OF DOCUMENTS FROM HOUSTON LIGHTING & POWER COMPANY TO BRENDA A. MC CORKLE

Pursuant to Sections 2.740b and 2.741 of the Commission's Rules of Practice, Houston Lighting & Power Company (Applicant) propounds this Third Set of Interrogatories and Requests for Production of Documents to Brenda A. McCorkle (Intervenor). Applicant incorporates herewith the instructions and definitions set forth in its Second Set of Interrogatories and Requests for Production of Documents to Brenda A. McCorkle.

A. McCorkle Contention 9

1. Identify the location of the large sulfur well which "caught fire near the proposed site" and the date of such fire which you reference in your answer to Interrogatory A.1.c. of the "Second Set of Interrogatories and Requests for Production of Documents from Houston

Lighting & Power Company to Brenda A. McCorkle" (hereinafter "Second Interrogatories").

a. State the toxic gas or gases released from this well.

b. Provide the toxicity limit for these gases.

c. Provide your analysis which shows that gases from this well would have affected power plant control operators at the Allens Creek site.

2. a. Itemize, if you can, the toxic chemicals and their toxicity limits for every toxic chemical "being transported on the rail line nearby" the ACNGS site.

b. Provide the documents or other information you have showing that such chemicals are transported near the Allens Creek site.

c. Provide the largest quantities per railroad car or tank truck of toxic gases carried near the ACNGS site.

d. State all other means by which quantities of toxic gas may be transported to the ACNGS site and the largest quantities of toxic materials that may be transported.

3. a. Specify the facts upon which you rely for proving that Applicant's toxic gas protection design is not in compliance with Regulatory Guide 1.95 (copy attached).

b. State which provisions of Regulatory Guide 1.95 are not being complied with, and every reason, with every fact supporting these reasons, why you believe that the pertinent design is in noncompliance.

4. a. Specify the facts upon which you rely for proving that Applicant's design is not in compliance with Regulatory Guide 1.78 (copy attached).

b. State which p... sions of Regula ry Guide 1.78 are n... being complied with, and every reason, with very fact supporting these reasons, wh' you believe that the pertinent design is in noncompliance.

5. Specify the facts upon which you rely for proving that compliance with Regulatory Guides 1.95 and 1.78 is insufficient as a plan to protect plant operators from the danger of poisoning from gases.

6. a. What meteorological conditions do you assume in arriving at your conclusion that "wind could carry the toxic gases from their point of origin?" State wind speed, air temperature, and Pasquill stability classification as defined by Table 2 of Regulatory Guide 1.23 (copy attached).

b. Provide every fact showing that the meteorological conditions you assumed are applicable to the meteorological conditions found at the Allens Creek site.

c. Provide your calculations which show that, given the above meteorological conditions, a toxic level of the toxic gases itemized in your response to Interrogatory 3 would be available to enter the control room air intakes.

7. a. List every toxic gas you expect will be kept on the Allens Creek site.

b. State the location where you expect such gases would be stored.

c. State the toxicity limits for these gases.

B. McCorkle Contention 14

1. In your response to Interrogatory B.1.a of the Second Interrogatories, the term "active metal" was used.

a. Define "active metal" and state whether the fuel rod clad is an active metal.

b. Provide all information or documents supporting your response.

2. Is zirconium metal reactive with hydrogen? If yes, state the source of your answer and produce any documents relied upon for your answer.

3. a. Identify all sourses of hydrogen "from the plant site that could get inside the fuel rods."

b. What quantity of moisture inside a fuel rod will result in clad failure through hydriding? Provide the source of your response.

c. Is there a threshold level of moisture below which failure of the fuel rod will not occur? Identify this level and the source of your answer.

4. List every instance you are aware of where fuel manufactured by General Electric for a BWR failued due to hydriding since November, 1974. List the reactor, the date these failures were reported, the number of failed rods, and the source of this information.

5. Your response to Interrogatory B.1.d, of the Second Interrogatories indicated that the hydrogen getter material was "not successful in all fuel rods" to prevent clad perforations due to hydriding. State every fact, and the source of those facts, which you rely on to support this statement and name the reactor, the number of failed rods using the hydrogen getter material, the date these failed rods were reported, and the sources of this information.

6. Your response to Interrogatory B.2.a. of the Second Interrogatories stated that fuel densification was "the shrinking of the volume of the UO_2 fuel pellets in the fuel rods." State the initial density of the fuel pellets and the expected amount of density increase as a percentage of maximum theoretical density for UO_2 for ACNGS fuel.

7. Give the linear heat generation rate you expect initially for Allens Creek and provide the value you would expect for Allens Creek fuel rods after densification has occurred. Provide all analyses, data, or documents supporting your response.

8. Your response to Interrogatory B.2.c. of the Second Interrogatories states that for fuel densification, "any increase will make the fuel rods unsafe." Explain why <u>any</u> increase in fuel densification will make the fuel rods unsafe and provide the source for your answer.

9. Your response to Interrogatory B.2.d. of the Second Interrogatories states that as a result of fuel densification, "heat generated can't be transferred to the reactor water so the electricity generated will be less." Does heat transfer to the reactor water from the fuel rods stop as a result of densification? If not, by what percent will the heat transfer coefficient between the UO_2 pellet and clad increase or decrease?

11. State every instance you know of where fuel rods in G.E. boiling water reactors have collapsed as a result of fuel densification. Provide the reactor name, the number of rods failed, the date the failures were reported, and the source of this information.

C. McCorkle Contention 17

1. Your response to Interrogatory C.1.a. of the Second Interrogatories states that the technical specification on bypass leakage should be "less than 1% of the total containment leakage and less than 1 cubic foot per hour."

a. How much leakage is "1% of the total containment leakage" in cubic feet per hour? Does the value 1% relate to weight or volume of atmosphere?

b. Does the phrase "1% of total containment leakage" mean that the leakage limit should be less than 1% of containment volume? If not, explain how a leakage limit of 1% of total containment leakage may be determined.

c. Over what time period would the 1% leakage limit you propose be measured?

d. How did you arrive at a value of 1% of total containment leakage as the technical specification limit? How did you arrive at a value of 1 cubic foot per hour as the technical specification limit? Provide documents, data, names of individuals or other sources relied upon for your answer.

2. Your response to Interrogatory C.2.a. of the Second Interrogatories states that "weather and the heat generated in the reactor as well as the heat from the radioactivity in the adsorber" will cause adsorber auto-ignition.

a. Which filters at ACNGS are exposed to weather? Describe the function of these filters and the area of the plant they serve.

b. Which filters at ACNGS are located in the reactor building? Describe the function of these filters.

c. For those filters located outside the reactor building, explain how heat from the reactor arrives at these filters. Assuming the reactor as a starting point, describe the pathway the heat travels to arrive at these filters.

d. What radionuclides will be trapped by these filters? Provide the element name, atomic mass number, and the radioisotopic power in watts/gram. Provide all documents used to support your response.

3. Your response to Interrogatory C.2.b. of the Second Interrogatories states that 10 degrees celsius (50°F) is the temperature limit that will safely maintain the adsorber material below the auto-ignition point?

a. Provide all documents relied upon for your response of 10 degrees C.

b. What is the adsorber material in these filters?

c. What is the adsorber material ignition temperature? Provide all documents relied upon for your response.

D. <u>Contention 10</u>

1. Refer to your response to Interrogatory E.1.a. of the Second Interrogatories.

a. Provide the "study done and recently released which shows that domestic air travel increased 25 percent in one year from July, 1977 to June, 1978."

b. Provide the names of the eight airlines added during the last twelve months and state the number of flights per week each new airline has which fly within five miles of the ACNGS site.

c. State the origin and destination for each of the flights listed in part b.

2. a. Are any new airports you allude to located within 10 miles of the plant site? If so, name them and provide the documents or other sources which support your response.

b. Are any new airports you allude to located within 20 miles of the plant site? If so, name and provide the documents or other sources which supports your response.

Respectfully submitted,

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CERTIFICATE OF SERVICE

I hereby certify that copies of the foregoing Third Set of Interrogatories and Requests for Production of Documents from Houston Lighting & Power Company to Brenda A. McCorkle in the above-captioned proceeding were served on the following by deposit in the United States mail, postage prepaid, or by hand-delivery this 19th day of September, 1979.

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