

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD



In the Matter of ( )  
( )  
HOUSTON LIGHTING AND POWER ( ) Docket Nos. 50-498 OL  
COMPANY, ET AL. ( ) 50-499 OL  
( )  
(South Texas Project, ( )  
Units 1 and 2) ( )

CITIZENS CONCERNED ABOUT NUCLEAR POWER (CCANP)  
SUPPLEMENTAL ANSWER TO APPLICANTS' SEVENTH  
SET OF INTERROGATORIES AND REQUESTS FOR  
PRODUCTION OF DOCUMENTS

I. INTRODUCTION

In a filing dated May 31, 1983, CCANP provided responses to Applicants' seventh set of interrogatories. Subsequent to that filing, CCANP received additional information relevant to those interrogatories. CCANP herein supplements its initial answers. See also Attachment 1.

As stated in the initial answers, CCANP does not accept the premise that the present location of the South Texas Nuclear Project is or can be an acceptable site for the placement of a nuclear power plant. At the same time, CCANP is answering the Applicants' interrogatories as if the inquiry to be made by the licensing board is a meaningful inquiry.

All documents relied upon are available for inspection and copying in Austin, Texas or, if Applicants so desire, CCANP will respond to requests for copying of particular documents.

II. SUPPLEMENTAL ANSWERS

1. Hurricane Allen in 1980 was one of the most spectacular and dangerous hurricanes yet recorded. "On three separate occasions - and for at least 12 hours each time - Allen mustered sustained winds of at least 170 miles per hour, qualifying the storm as a '5' on the Simpson scale of 1 to 5 (with the highest number denoting the greatest intensity). When Allen passed north of the Yucatan Peninsula on the morning of August 7, the mammoth storm's mass virtually covered all of the western half of the Gulf of Mexico. ... What is more, its central pressure had bottomed out at an incredible 26.70 inches, and sustained winds near the center were gaged at an astounding 183 miles per hour."<sup>1</sup>

Allen "inexplicably but fortuitously weakened a few hours before it roared ashore just south of Port Mansfield,"<sup>2</sup> demonstrating again the highly unpredictable nature of these storm systems.

2. While most hurricane spawned tornadoes are smaller in width and travel shorter distances than non-hurricane generated tornadoes, there are exceptions. "[M]any of Allen's tornadoes were especially significant because of their strength, longevity, and movement through several heavily-populated areas of South Central Texas."<sup>3</sup> One tornado had a width of 600 feet and traveled 47 miles.<sup>4</sup>

7. Hurricanes and tropical storms bring heavy rains. Hurricane Fern in September 1971 brought up to 26.0 inches of rain to the Coastal Bend area of Texas.<sup>5</sup>

A tropical storm in 1981 dropped so much rain in the drainage basin of the Lavaca River that the flood crest reached 41.2 feet.<sup>6</sup>

A resulting concern is the cumulative effect of heavy rains in the Colorado River drainage basin while a storm surge prevents the river emptying into the Gulf. The consequent flooding of the area around STN? would be more severe than that caused by the storm surge or the river flooding alone; the flooding river would add its overflow to the storm surge waters moving across the land.

#### FOOTNOTES

1. Bomar, George W., "1980: When Scorching Heat Gripped Texas," Texas Department of Water Resources, LP-187, January 1983 at 72.

2. Id. at 71.

3. Id. at 99.

4. Id. at 99, 100

5. Storm Data, U.S. Dept. of Commerce/NOAA, Vol. 13, No. 9, 1971 at 169; Climatological Data: National Summary, U.S. Dept. of Commerce/NOAA, Vol. 22, No. 13 1972 at 749.

6. Bomar, George W., "1981: A Year of Torrential Downpours," Texas Department of Water Resources, LP-183, December 1982 at 71.

10. All answers are by Lanny Alan Sinkin.

Respectfully submitted,

*Lanny Alan Sinkin*

Lanny Alan Sinkin  
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Dated: June 13, 1983

STATE OF TEXAS (

)

COUNTY OF TRAVIS (

BEFORE ME, the undersigned authority, on this day personally appeared LANNY ALAN SINKIN, who upon his oath stated that he has supplemented his answers to Applicants' Seventh Set of Interrogatories and Requests for Production of Documents to CCANP in his capacity as counsel for Citizens Concerned About Nuclear Power, Inc. and that all statements contained therein are true and correct to the best of his knowledge and belief.

*Lanny Alan Sinkin*  
\_\_\_\_\_  
LANNY ALAN SINKIN

SUBSCRIBED AND SWORN TO BEFORE ME by the said LANNY ALAN SINKIN on this 14th day of June 1983.

*Frank J. [Signature]*  
\_\_\_\_\_  
Notary Public in and for  
Travis County, Texas

My Commission expires:

Nov 10, 1984

# Storms' ancient fury is traced

*State's fear of hurricanes follows long, turbulent past*

GALVESTON (AP) — Hurricanes have killed thousands of Texans this century, and damage from the violent tropical cyclones is estimated at hundreds of millions of dollars. But weather researchers say hurricanes have plagued mankind long before there was an Alamo.

Even the name "hurricane" is ancient. Experts report the Mayans feared the ferocious "hurakin," while Indians in Guatemala talked of the devastation from a "hurakan." The Carib Indians called the storms "urican," "aracan," or "huiranvucan."

Weather records show more than 100 hurricanes have hit Texas since 1766. But only 19 are classified as major storms.

The deadliest struck Galveston Island in September 1900. Called the worst natural disaster in U.S. history, the powerful storm claimed at least 6,000 lives and caused damage estimated at \$30 million to \$40 million.

THE ACTUAL DEATH count was never determined, but records show the toll could have been as high as 8,000.

Fifteen years later, another hurricane hit Galveston — this time in August.

The official death toll was estimated at 275, much lower than the great 1900 storm because storm-wary residents had raised the grade of the island and had built a seawall to protect them from surging tides blamed for most of the fatalities from any hurricane. Damage from the 1915 storm was set at \$50 million.

Another coastal city was unable to survive the onslaught of killer hurricanes. Indianola, once a flourishing port, was abandoned after being leveled by storms in 1875 and 1886.

This century, storms hit Freeport in July 1909, Corpus Christi in August 1916; south of Corpus Christi in September 1919; north of Brownsville in September 1933, Matagorda Bay in August 1942, east of Galveston in July 1943, Port O'Connor in August 1945 and Freeport in October 1949. These storms claimed 417 lives. Damage was at least \$100 million.



Lessons from hurricanes, like the one that hit Galveston in 1961, help keep injuries and damages down.

IN THE 1950s, meteorologists began calling hurricanes by women's names. The first storm so designated to hit Texas arrived in 1957.

Hurricane Audrey was blamed for 10 deaths in Southeast Texas June 27. The storm then cut diagonally across Louisiana and Alabama.

From Sept. 11 to 13, 1961, Hurricane Carla assailed Texas. The storm struck the coastal bend and moved directly north. Even though its strength diminished over land, remnants of the storm managed to cross Canada.

Carla killed 34 Texans, despite the evacuation of 250,000 coastal residents. Property damage was estimated at \$200 million, and crop losses were put at \$100 million.

Carla's wind gusts were clocked at 175 mph. It was the largest and most intense Gulf Coast hurricane in many years, with much of the damage attributed to unusually prolonged winds, high tides and flooding.

HURRICANE BEULAH was next to arrive in Texas. It moved ashore at Brownsville Sept. 20, 1967, and killed 15 people in South Texas before turning southward into Mexico the next day. Five of the deaths came from the record number of tornadoes — 115 — spun off from Beulah. Property losses were estimated at \$100 million, with crop damage from flooding estimated to be \$50 million.

Three years later, in 1970, Corpus Christi was the target of Hurricane Celia. It struck the coast Aug. 3 and moved westward.

Celia roared ashore with 130 mph winds gusting to 161, killing 11 people and causing \$50 million in damage.

Then began a more tranquil decade. Texas was hit by several tropical storms and had minor brushes with hurricanes. It wasn't until 1980 that the Lone Star State was again threatened by a major hurricane.

IT WAS CALLED Allen and was billed "the storm of the century."

Satellite pictures showed Allen filling the entire Gulf of Mexico. Its winds reached 185 mph. But Allen stalled off Brownsville and weakened, finally moving ashore Aug. 9 at an unpopulated area of the lower coast.

Two drownings were reported in Corpus Christi and damage was estimated at \$55 million as high winds, rain and tidal surges affected cities along the entire coastline and inland for many miles.



UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

CERTIFICATE OF SERVICE



I hereby certify that copies of CITIZENS CONCERNED ABOUT NUCLEAR POWER (CCANP) SUPPLEMENTAL ANSWER TO APPLICANTS' SEVENTH SET OF INTERROGATORIES AND REQUESTS FOR PRODUCTION OF DOCUMENTS was served by deposit in the United States Mail, first class postage paid to the following individuals or entities on the 14th day of June 1983.

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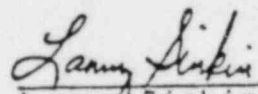
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