UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

DOCKETED
USNRC

'83 OCT 24 P12:16

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

CITIZENS CONCERNED ABOUT NUCLEAR POWER (CCANP)
MOTION FOR NEW CONTENTION

I. INTRODUCTION

For years, Citizens Concerned About Nuclear Power (CCANP) has heard rumors and stories about the instability of the soils underneath the South Texas Nuclear Project. There has not been, however, substantive evidence brought to CCANP's attention supporting those allegations.

The one time CCANP did receive possible evidence of uneven settlement of a building at STNP, the subsequent NRC investigation determined the evidence to be unreliable. See Attachment 1 hereto, Allegation No. 3.

Recently, however, CCANP received a copy of a 10 C.F.R. Section 50.55(e) report regarding a tilt in the reactor vessel exceeding the tolerance level set by the manufacturer. See Attachment 2 hereto. The tilt appears to result from uneven settlement of the Reactor Containment Building. Id. Also see Attachment 3 hereto.

II. New Contention

CCANP contends there is now sufficient evidence to warrant inquiry into the stability of the soil beneath the South Texas Nuclear Project. CCANP proposes a new contention as follows:

D503

The soil beneath the South Texas Nuclear Project is not sufficiently stable to ensure the safe operation of the plant over the projected time span of that operation in accordance with 10 C.F.R. Section 50.57(a)(3)(i).

III. JUSTIFICATION FOR LATE FILING

According to previous rulings of the Commission, a late filed contention is first examined to see if there is good reason for lateness and then a balancing test is conducted of the five factors in 10 C.F.R. Section 2.714(a)(i-v) to determine if the contention is admitted. Pacific Gas and Electric Company (Diablo Canyon Nuclear Power Plant, Units 1 and 2), CLI-81-5, 13 NRC 361, 364 (1981).

A. There is good cause for lateness in filing an additional contention.

CCANP recognizes that the time for filing contentions expired in 1978. At that time, however, there was no evidence suggesting the soil beneath STNP would be so unstable as to affect the safe performance of the project. In the ensuing years, there were rumors and unconfirmed reports but again no evidence. Only since the discovery of the tilting reactor vessel has there been such evidence.

B. Assuming good cause for lateness is established, the balancing of the five factors in 10 C.F.R. Section 2.714(a)(i-v) determines whether the contention is admitted.

The five factors in 10 C.F.R. Section 2.714(a)(i-v) are:

(1) good cause, if any, for failure to file on time;

(2) the availability of other means whereby petitioner's interests will be protected;

(3) the extent to which petitioner's participation may reasonably be expected to assist in developing a sound record;

(4) the extent to which the petitioner's interest will

be represented by existing parties; and

(5) the extent to which the petitioner's participation will broaden the issues or delay the proceedings.

1. The new contention is filed on time.

The events providing the basis for this contention occurred within the last three months. CCANP filed the additional contention within a reasonable time of petitioner's receipt of the information on which the contention is based. The first factor, therefore, favors admission.

2. Only admission of the new contention can protect Intervenor interests.

Only the Nuclear Regulatory Commission has authority over the safety of nuclear power plants. Petitioner challenges the stability of the soil underneath the buildings at the South Texas Nuclear Project. If the new contention proves to be true, then the remedy is to deny the license unless the instability can be corrected. Only the NRC can provide the remedy sought by petitioner.

The second factor favors admission.

3. Absent admission of this contention and CCANP's participation in litigating the contention, the record in this proceeding will be seriously incomplete.

The physical stability of the project site is obviously of crucial importance. Only CCANP has raised this issue before the Board. CCANP's record of participation is sufficient guarantee CCANP will contribute to the development of a sound record. This third factor favors admission.

4. The issue of CCANP's interests being represented by existing parties is moot.

As an admitted intervenor, CCANP is already recognized as

representing an independent viewpoint from any other [illegible].

5. The admission of the new contention will broaden the issues in this proceeding but will not cause delay.

Admission of the soils stability contention would open a new area of inquiry for this proceeding. But the importance of this contention far outweighs the fact that an additional area of inquiry is now to be undertaken. If the soils underneath the buildings at STNP are unstable, such instability could pose a serious threat to public health and safety.

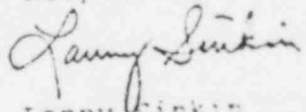
The current schedule of construction calls for the first unit of STNP to go on line in 1987. Adding the soils stability contention will not delay the proceeding beyond the usual time table for NRC operating license hearings. The fifth element favors admission.

A balancing of the four relevant factors in 10 C.F.R. Section 2.714(a)(i-v) favors admission of the new contention.

IV. DISCOVERY AND FURTHER HEARINGS

Upon acceptance of this new contention, CCANP moves for a ninety day discovery period to commence after the Findings of Fact and Conclusions of Law in Phase II are submitted by all parties. After completion of this discovery period, hearings would be scheduled.

Respectfully submitted,



Lanny Sinkin
Counsel for Intervenor
Citizens Concerned About
Nuclear Power, Inc.
114 W. 7th, Suite 220
Austin, Texas 78701
(512) 478-7197

Dated: October 20, 1983

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

DOCKETED
USNRC

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

'83 OCT 24 P12:16

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

OFFICE OF SECRETARY
DOCKETING & SERVICE
BRANCH

CERTIFICATE OF SERVICE

I hereby certify that copies of CITIZENS CONCERNED ABOUT NUCLEAR POWER (CCANP) MOTION FOR NEW CONTENTION have been served on the following individuals and entities by deposit in the United States mail, first class, on this 24th day of October 1983.

Charles Bechhoefer, Esquire
Chairman
Atomic Safety and Licensing Board
U. S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dr. James C. Lamb, III
Administrative Judge
313 Woodhaven Road
Chapel Hill, North Carolina 27514

Ernest E. Hill
Administrative Judge
Lawrence Livermore Laboratory
University of California
P. O. Box 808, L-46
Livermore, California 94550

Mrs. Peggy Buchorn
Executive Director
Citizens for Equitable Utilities
Route 1, Box 1684
Brazoria, Texas 77422

William S. Jordan, III, Esq.
Harmon and Weiss
1725 I Street, N.W.
Washington, D.C. 20006

Pat Coy
5106 Casa Oro
San Antonio, Texas 78233

Brian Berwick, Esq.
Asst. Atty. Gen.
State of Texas
Environmental Protection
P. O. Box 12548, Capitol Sta.
Austin, Texas 78711

Robert G. Perlis, Esq.
Office of the Exec. Legal Dir.
U. S. Nuclear Regulatory Comm.
Washington, D.C. 20555

Jack R. Newman, Esq.
1025 Connecticut Avenue, N.W.
Washington, D.C. 20036

Melbert Schwarz, Esq.
Baker and Botts
3000 One Shell Plaza
Houston, Texas 77002

Atomic Safety and Licensing Bd.
U. S. N. R. C.
Washington, D.C. 20555

Atomic Safety and Licensing
Appeal Board
U.S.N.R.C.
Washington, D.C. 20555

Docketing and Service Section
U.S.N.R.C.
Washington, D.C. 20555

Lanny Sinkin

ATTACHMENT 1

July 29, 1981

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'83 OCT 24 P12:16

OFFICE OF SECRETARY
DOCKETING & SERVICE
BRANCH

In Reply Refer To:
RIV
Dockets: 50-498/Rpt. 81-24
50-499/Rpt. 81-24

Houston Lighting & Power Company
ATTN: Mr. G. W. Oprea, Jr.
Executive Vice President
Post Office Box 1700
Houston, Texas 77001

Gentlemen:

This refers to the investigation conducted by Messrs. R. K. Herr and J. I. Tapia of our staff on July 14-15, 1981, at your facility in Bay City, Texas, concerning allegations dealing with falsification of painting records, use of out-of-specification welding rod, and uneven settlement of the Unit 2 Reactor Containment Building. The investigation and our findings are discussed in the enclosed investigation report.

Within the scope of this investigation, we found no instance where you failed to meet NRC requirements.

In accordance with 10 CFR 2.790 of the Commission's regulations, a copy of this letter and the enclosed investigation report will be placed in the NRC's Public Document Room. If this report contains any information that you believe to be exempt from disclosure under 10 CFR 9.5(a)(4), it is necessary that you (a) notify this office by telephone within 10 days from the date of this letter of your intention to file a request for withholding; and (b) submit within 25 days from the date of this letter a written application to this office to withhold such information. If your receipt of this letter has been delayed such that less than seven days are available for your review, please notify this office promptly so that a new due date may be established. Consistent with Section 2.790(b)(1), any such application must be accompanied by an affidavit executed by the owner of the information which identifies the document or part sought to be withheld, and which contains a full statement of the reasons on the basis which it is claimed that the information should be withheld from public disclosure. This section further requires the statement to address with specificity the considerations listed in 10 CFR 2.790(b)(4). The information sought to be withheld shall be incorporated as far as possible into a separate part of the affidavit. If we do not hear from you in this regard within the specified periods noted above, the report will be placed in the Public Document Room.

RSM	IES	RSM	PSB	RPB	EIB	IES	DD-RIV
JITapia/nn	RKHerr	REHall	WACrossman	GLMadsen	WCSeidle	JEGagliardo	JTCollins
7/23/81	7/ /81	7/ /81	7/ /81	7/ /81	7/ /81	7/ /81	7/ /81

Should you have any questions concerning this investigation, we will be pleased to discuss them with you.

Sincerely,

"Original Signed by:
W. C. SEIDLE"

W. C. Seidle, Chief
Engineering Inspection Branch

Enclosure:
IE Investigation Report 50-498/81-24
50-499/81-24

bcc to DMB for dist. 8-10-81

bcc dist. by RIV 8-10-81

BC	NRR/DHFS	Texas Dept. of Health Resources
PM	NRR/OLB	RRI-South Texas
AEOD	RAD ASMT BR	
ELD	RESEARCH	
IE FILE	LPDR	
IE/RPRIB	NSIC	
NRC PDR		

U.S. NUCLEAR REGULATORY COMMISSION
OFFICE OF INSPECTION AND ENFORCEMENT

REGION IV

Report: 50-498/81-24; 50-499/81-24

Docket: 50-498; 50-499 Category A2

Licensee: Houston Lighting & Power Company
Post Office Box 1700
Houston, Texas 77001

Facility Name: South Texas Project, Units 1 and 2

Investigation at: Bay City, Matagorda County, Texas

Investigation conducted: July 14-15, 1981

Investigator: _____ 7-28-81
R. K. Herr, Investigator Date
Investigation and Enforcement Staff

Inspector: _____ 7-28-81
J. I. Tapia, Reactor Inspector Date
Engineering and Materials Section

Approved: _____ 7/29/81
J. E. Gagliardo, Director Date
Investigation and Enforcement Staff

_____
R. E. Hall, Acting Chief Date
Engineering and Materials Section

Investigation Summary

Investigation on July 14-15, 1981 (Report 50-498/81-24; 50-499/81-24)
Areas Investigated: Allegations of falsification of painting records, use of out-of-specification welding rod, and uneven settlement of the Unit 2 Reactor Containment Building. This investigation involved twenty-eight investigative man-hours by one NRC investigator and one NRC inspector.
Results: The allegations were not confirmed.

SUMMARY

Investigation disclosed that no documents pertaining to the preparation of walls in the Unit 1 Reactor Containment Building were falsified. According to the accused falsifier, the only documents changed during any painting activities were the time cards in order to reflect the actual time worked. It was determined that a power shortage at Material Issue Substation No. 5 did occur, but the welding rods in question were not used in any safety-related welding, but rather were sent to the on-site welding school for use in practice welding by students. The actual settlement measurements of the Unit 2 Reactor Containment Building were reviewed and found to be generated by, and the responsibility of, the Geotechnical Department. The values which resulted in an expressed concern by a field engineer (surveyor) were data used in the construction erection process and are not values generated from the monuments used by the Geotechnical Department.

BACKGROUND

On June 24, 1981, an individual contacted a Region IV Reactor Inspector and alleged that, according to his sources, painting records were falsified; that a power shortage had resulted in the use of out-of-specification welding rod; and that the Unit 2 Reactor Containment Building was experiencing uneven settlement.

Interview of Material Distribution Station Attendant

Interview of the Material Distribution Station Attendant assigned to Material Issue Substation No. 5 in June 1981 disclosed that on or around June 22, 1981, power was lost for four and one-half hours and that all the welding rod in the ovens at the time was downgraded. The attendant stated she removed all rods from the ovens and placed the rods in green cans that are designated for downgrading. She stated that shortly thereafter the Material Control Supervisor came to her office and removed the green cans containing the downgraded rods. The attendant also referred to the memorandum from the Electrical Department to the Chief Welding Engineer documenting the loss of power on June 22, 1981.

Interview of Material Control Supervisor

Interview of the Material Control Supervisor disclosed that he personally transported two hundred and twenty-five pounds of downgraded welding rod from Material Issue Substation No. 5 to the on-site welding school on June 22, 1981. The Supervisor also provided his daily logbook which contained documentation of the transfer of the material to the welding school.

Interview of Plant Construction Manager

Interview of the Project Construction Manager disclosed that on or around June 22, 1981, he was made aware by one of his subordinates that approximately 200 pounds of welding rod were downgraded due to a loss of power at Material Issue Substation No. 5. The manager could not place a monetary value on the 200 pounds of welding rod.

Investigation disclosed that a four and one-half hour power loss was experienced at Material Issue Substation No. 5, and that the affected welding rod was downgraded in accordance with Procedure No. MECP-3, Revision 5, "Control of Welding Materials," and subsequently sent to the on-site welding school. The two individuals identified by the alleger as having been "disturbed by this sequence of events" were identified as being members of the Electrical Construction Department and would therefore not be familiar with the Welding Department material issuance requirements and procedures.

Allegation No. 3

That, based on the setting of bench marks on June 28, 1979, and the subsequent taking of elevation readings on the same bench marks on May 9, 1979, by the Field Engineering Department, the Unit 2 RCB is settling faster on one side than the other.

Investigative Findings

Individual A submitted an internal B&R memorandum which he felt warranted investigation. The memorandum dated August 15, 1979, was from a Field Engineering Department surveying crew Party Chief to the then Chief Construction Engineer. The memorandum expressed a belief on the part of the Party Chief that the Unit 2 RCB was settling faster on one side than on the other. His conclusion was based on readings taken on construction control bench marks on the shell liner of the Unit 2 RCB. These bench marks were established to set elevations on all construction inside the Containment Building. Based on readings taken June 28, 1978, and May 9, 1979, the Party Chief reported an elevation change of one-quarter inch from one side of the building to the other. The specific surveying information is recorded in Field Book No. 37-D, pages 308-310 and Field Book No. 37-H, pages 636-638. These pages were attached to the submitted memorandum.

Interview of Lead Site Geotechnical Engineer

Interview of the Lead Site Geotechnical Engineer served to identify the procedures and responsibilities for on-site geotechnical monitoring. The interview disclosed that geotechnical monitoring is performed by his subordinates and not by the Field Engineering Department. He explained that Engineering Procedures Manual STP-PE-002-D, "Administration of Geotechnical Field Activities," and Technical Reference Document No. 5Y310SQ011, "Geotechnical Field Engineering," were the documents which controlled the acquisition of bench mark data for input into the computer program entitled, "Geotechnical Monitoring Information System," (GEMIS). The output of this program is subsequently used in calculations of differential settlement. The Lead Site Geotechnical Field Engineer then supplied the most recent (as of December 1980) calculation of differential settlement for the Unit 2 RCB. This calculation (No. 3Y310SC264-L/PCN #6, Subpart 18) was reviewed and showed the end to end tilt of the Unit 2 RCB in the east-west direction as 0.00 inches and 0.15 inches in the north-south direction. The general structural design criteria specifies a maximum differential of 0.5 inches at time of piping connections.

Interview of Geotechnical Monitoring Engineer

Interview of Geotechnical Monitoring Engineer disclosed that bench mark readings are taken every month and that the bench marks which are used are six brass caps set in the concrete Tendon Gallery floor. The engineer explained that these bench marks are not susceptible to damage or movement from construction activities and are more accurate since they are located on the top of the RCB base mat. The engineer supplied the raw data from readings taken in April and then in December of 1979. A review of this data by NRC personnel did not disclose an uneven settlement trend.

Interview of Assistant Chief Field Engineer

Interview of the Assistant Chief Field Engineer disclosed that geotechnical monitoring is not a responsibility of his department and that he recalled the events documented in the memorandum. He stated that the Party Chief was only responsible for setting elevations for the crafts and that while doing so he noticed a difference of one-quarter inch across the building and that he then reported this for additional verification. The Assistant Chief Field Engineer stated that subsequent measurements on the brass caps in the Tendon Gallery floor did not reflect the measurements taken by the Party Chief. The Assistant Chief Field Engineer felt that the measurements resulting in the memorandum from the Party Chief were not reliable to indicate the performance of the foundation.

Additional Concern

An additional memorandum submitted by Individual A is dated August 13, 1979, from the Chief Field Engineer to the Calibration Supervisor. The memorandum referred to the potential impact on the calibration of the K&E Paragon tilting levels from the adverse handling involved in sending the instruments by airplane to the Dallas-Fort Worth area for calibration. Individual A stated that this was not a specific concern, but rather, only wanted to know if this item was related to the uneven settlement concern.

Interview of Calibration Supervisor

Interview of the Calibration Supervisor disclosed that the memorandum addressing the calibration of K&E Paragon tilting levels resulted in cancellation of calibration services in the Dallas-Fort Worth area, and that the instruments were now being calibrated in Houston. He stated that recalibration occurs every two months, and that the instruments are hand-carried to and from Houston by his own personnel. The Supervisor supplied all the "Deficient Controlled Material and Testing Equipment Evaluation Reports" issued for the K&E Paragon tilting level identified in the memorandum (No. ST-CC-0947). These reports are generated in accordance with instrument calibration Procedure No. ICP-3, Revision 5, "General Calibration Procedure," every time an instrument goes out of calibration. A review of these reports by NRC personnel did not disclose an relationships to the alleged uneven settlement.

Document

The following document identified herein as Attachment 1 is maintained in the NRC Region IV Office:

Attachment 1 - B&R QA/QC Field Action Request No. 10344, dated June 22, 1981

ATTACHMENT 2

The Light company Houston Lighting & Power P.O. Box 1700 Houston, Texas 77001 (713) 228-9211

August 25, 1983
ST-HL-AE-996
File Number: G12.154

Mr. John T. Collins
Regional Administrator, Region IV
Nuclear Regulatory Commission
611 Ryan Plaza Drive, Suite 1000
Arlington, Texas 76011

Dear Mr. Collins:

South Texas Project
Units 1 & 2
Docket Nos. STN 50-498, STN 50-499
First Interim Report Concerning Reactor
Vessel Core Support Tolerance

On July 26, 1983, pursuant to 10CFR50.55(e), Houston Lighting & Power Company (HL&P) notified your office of an item concerning the reactor vessel core support ledge. Attached is the first interim report concerning this item. The next report will be submitted to your office by February 16, 1984.

If you should have any questions concerning this item, please contact Mr. Michael E. Powell at (713) 877-3281.

Very truly yours,

D. N. Baker for

G. W. Oprea, Jr.
Executive Vice President

MEP/mg
Attachment

cc: G. W. Oprea, Jr.
J. H. Goldberg
J. G. Dewease
J. D. Parsons
D. G. Barker
M. R. Wisenburg
R. A. Frazar
J. W. Williams
R. J. Maroni
J. E. Geiger
H. A. Walker
S. M. Dew
J. T. Collins (NRC)
A. Vietti (NRC)
W. M. Hill, Jr. (NRC)
M. D. Schwarz (Baker & Botts)
R. Gordon Gooch (Baker & Botts)
J. R. Newman (Lowenstein, Newman, Reis, & Axelrad)
STP RMS
Director, Office of Inspection & Enforcement
Nuclear Regulatory Commission
Washington, D. C. 20555

G. W. Muench/R. L. Range
Central Power & Light Company
P. O. Box 2121
Corpus Christi, Texas 78403

H. L. Peterson/G. Pokorny
City of Austin
P. O. Box 1088
Austin, Texas 78767

J. B. Poston/A. vonRosenberg
City Public Service Board
P. O. Box 1771
San Antonio, Texas 78296

Brian E. Berwick, Esquire
Assistant Attorney General
for the State of Texas
P. O. Box 12548
Capitol Station
Austin, Texas 78711

Lanny Sinkin
Citizens Concerned About Nuclear Power
5106 Casa Oro
San Antonio, Texas 78233

Robert G. Perlis, Esquire
Hearing Attorney
Office of the Executive Legal Director
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Charles Bechhoefer, Esquire
Chairman, Atomic Safety & Licensing Board
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Dr. James C. Lamb, III
313 Woodhaven Road
Chapel Hill, North Carolina 27514

Mr. Ernest E. Hill
Lawrence Livermore Laboratory
University of California
P. O. Box 808, L-46
Livermore, California 94550

William S. Jordan, III
Harmon & Weiss
1725 I Street, N. W.
Suite 506
Washington, D. C. 20006

Citizens for Equitable Utilities, Inc.
c/o Ms. Peggy Buchorn
Route 1, Box 1684
Brazoria, Texas 77422

South Texas Project
Units 1 & 2
First Interim Report Concerning Reactor Vessel Core Support Tolerance

I. Summary

An optical survey of the installed Unit 1 Reactor Pressure Vessel revealed two nonconforming conditions:

1) A tilt of the reactor vessel and associated tilt of the core support ledge in excess of allowable limits.

2) A waviness condition in the core support ledge that exceeds flatness criteria.

The cause of the tilt and waviness is unknown. The NSSS supplier has been directed to perform an analysis of the tilt situation and the waviness to determine the safety implications, if any.

II. Description of Deficiency

On July 26, 1983, pursuant to 10CFR50.55(e), Houston Lighting & Power Company (HL&P) notified the NRC Region IV of an item concerning the reactor vessel core support ledge. A detailed description of the identified concerns follows:

Core Support Ledge Tilt

Data from an optical survey of the reactor vessel and reactor vessel core support ledge and flange indicated that the core support ledge does not conform to tolerance requirements relative to total overall slope or tilt.

Although no definite cause for this condition has been identified, it is possible that RCB differential settlement since the vessel was set may have caused the overall slope of the ledge to exceed allowable limits. The current RCB differential settlement is well within allowable limits for structural considerations.

Core Support Ledge Waviness

Field surface measurements of the core support ledge also indicated waviness in the core support ledge that exceeds total flatness criteria. The cause of the waviness in the core support ledge has yet to be determined.

III. Corrective Action

Core Support Ledge Tilt

Preliminary assessment by Westinghouse indicates that the overall vessel tilt is not a safety or operability concern.

Core Support Ledge Waviness

The NSSS supplier (Westinghouse) has been directed to evaluate the waviness to determine if this is a safety concern and to recommend appropriate corrective action. Further analysis is required to determine the stress related effects of the waviness. Corrective action will be determined following completion of this analysis.

IV. Recurrence Control

Recurrence Control cannot be addressed until the cause of these conditions is determined.

V. Safety Analysis

Core Support Ledge Tilt

Experience on another project (Foreign) with support ledge induced slope due to building differential settlement indicates that this aspect of the problem is not a safety issue. A detailed evaluation is currently being performed to confirm this.

Core Support Ledge Waviness

Preliminary assessment of the vessel support ledge survey data indicates that the waviness of the support ledge will result in increased bearing stress between the core barrel flange and the support ledge. A detailed analysis is being performed to confirm this assessment and to determine the impact of increased stresses, if any.

No conclusions can be drawn at the present time as to the impact of these conditions on the safety of plant operations.

ATTACHMENT 3

Austin American Statesman 9/13/83

Nuke reactor tilting beyond tolerance level

By BILL MCCANN
American-Statesman Staff

One of the South Texas Nuclear Project's twin reactors is tilting.

It is not like the Leaning Tower of Pisa or anything. In fact, the tilt is less than a tenth of an inch — an amount imperceptible to the eye.

But it is serious enough for Houston Lighting & Power Co., the project's managing partner, to report it to the Nuclear Regulatory Commission.

The Unit 1 reactor vessel and a support ring inside the vessel are tilting in excess of the tolerances set by the manufacturer.

In addition, the steel support ring, known as the core support ledge, is wavier than the manufacturer's limits. A concern is that the waviness could cause uneven stress within the vessel, resulting in excessive wear.

THE STEEL REACTOR vessel is inside the giant Unit 1 containment building, which is made of concrete and steel. The 14-foot-diameter vessel holds the reactor core containing the nuclear fuel. Heat produced in the vessel turns water to steam that drives an electrical generator.

"You are talking about some pretty small variations," said Houston Lighting & Power official Don Beeth. For example, the maximum tilt allowed for the reactor vessel is .007 of an inch. The tilt measures .071 of an inch, about 10 times the allowable amount. But the variance is still only .02 of a degree, Beeth said.

Houston Lighting & Power officials say they do not know what caused the tilt and the wavy support ring. But they have asked Westinghouse Electric Corp. to determine whether the conditions pose problems and need to be corrected. The report is due by Nov. 1.

"RIGHT NOW WE can draw no conclusions as to the significance of the conditions or how they came about," Beeth said. "But just because tolerance limits are exceeded does not mean the reactor won't operate properly."

Settling of the containment building that houses the reactor may be responsible for the tilt, according to a memo from the power company to the regulatory commission.

Nuclear Regulatory Commission officials in Arlington said the problems do not appear to be serious. But they are awaiting results of the study before making any determination.

Opponents of the project have been warning for years that serious settling problems are possible because there is no solid ground beneath the complex of buildings that make up the project. In 1981, questions were raised about uneven settling of the Unit 2 reactor building, but regulatory commission inspectors reported finding no problems.

The two reactor units, each capable of producing 1.25 million kilowatts of power, are being built near Bay City. Project officials held a celebration last week to mark the completion of exterior concrete work at the Unit 1 containment building.