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> March 27, 1995 ST-HL-AE-5037 File No.: S07.05 10CFR73.5 10CFR73.55

Director, Office of Nuclear Reactor Regulation U. S. Nuclear Regulatory Commission Washington, DC 20555

**The Light** 

# South Texas Project Units 1 and 2 Docket Nos. STN 50-498; STN 50-499 Request for Exemption from Certain Requirements of 10 CFR 73.55

In accordance with the provisions of 10 CFR 73.5, "Specific exemptions," Houston Lighting & Power requests an exemption from certain requirements of 10 CFR 73.55, "Requirements for physical protection of licensed activities in nuclear power reactors against radiological sabotage." Specifically, Houston Lighting & Power requests an exemption from the part of 10 CFR 73.55(d)(5) which states that: "An individual not employed by the licensee but who requires frequent and extended access to protected and vital areas may be authorized access to such areas without escort provided that he receives a picture badge upon entrance into the protected area which must be returned upon exit from the protected area ..." The request for exemption is made so that the South Texas Project may use a hand geometry system as a means of controlling personnel access to the protected area. The hand geometry system would preclude the need for issuing and retrieving badges during the protected area entry/exit.

A justification for the requested exemption is provided in Attachment 1. The proposed Phys as Security Plan changes needed to implement hand geometry access controls are provide. Attachment 2.

If you have any questions, please contact Mr. F. R. Timmons at (512) 972-7084 or me at (512) 972-8664.

J. F. Groth Vice President, Nuclear Generation

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MESC-95/095-069-001

Attachments: 1) Justification for Exemption 2) Proposed physical security plan sections

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Project Manager on Behalf of the Participants in the South Texas Project 9504040034 950327 PDR ADDCK 05000498 F PDR In uston Lighting & Power Company South Texas Project Electric Generating Station

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# INTRODUCTION

In accordance with the provisions of 10 CFR 73.5, "Specific exemptions," Houston Lighting & Power Company requests an exemption from certain requirements of 10 CFR 73.55, "Requirements for physical protection of licensed activities in nuclear power reactors against radiological sabotage" for South Texas Project, Units 1 and 2. Specifically, Houston Lighting & Power requests an exemption from part of 10 CFR 73.55(d)(5). This part states that, "An individual not employed by the licensee but who requires frequent and extended access to protected and vital areas may be authorized access to such areas without escort provided that he receives a picture badge upon entrance into the protected area which must be returned upon exit from the protected area..."

10 CFR 73.55 states that, "The licensee shall establish and maintain an onsite physical protection system and security organization which will have as its objective to provide high assurance that activities involving special nuclear material are not inimical to the common defense and security and do not constitute an unreasonable risk to the public health and safety." 10 CFR 73.55 specifies that the Commission may authorize an applicant or licensee to provide measures for protection against radiological sabotage other than those required by 10 CFR 73.55. This can be accomplished if the applicant or licensee demonstrates that the measures have the same high assurance objective as specified in the regulation, and that the overall level of system performance provides protection against radiological sabotage equivalent to the regulation and meets the general performance requirements of the regulation.

This exemption is requested to all v the use of a hand geometry biometric system to control unescorted access into the protected va of the South Texas Project in conjunction with taking the photograph identification badges offsite.

# CURRENT SITUATION

Currently, unescorted access into South Texas Project is controlled through the use of a photograph on a badge/keycard (hereafter referred to as a "badge"). The security officers at each entrance station use the photograph on the badge to identify the individual requesting access. Under the current system, badges are not taken offsite and are issued, stored and retrieved at each entrance/exit station.

Under the proposed system, each individual who is authorized unescorted access will have the physical characteristics of their hand (hand geometry) registered with their badge number in the access control system. Since no one can use a badge to gain access except the individual whose hand geometry has been registered to that badge, individuals (including individuals not employed by the licensee i.e., contractors) will be allowed to keep their badge with them when they depart the site. All other access processes, including search function capability, will remain the same except for elimination of the process to issue, retrieve and store badges at the entrance stations to the plant. At least one security officer will continue to be positioned within a bullet-resistant structure to be responsible for the last act of access control.

# CURRENT SITUATION (Continued)

The hand geometry system is superior to the current process because it provides a nontransferable means of identifying people; unlike photographs on the badge. During the registration process, hand measurements are made. This forms a template of the user's hand which is stored for later use in the actual verification process. A registered user enters his/her badge into the card reader and places the hand on the measuring surface. The system detects when the hand is properly positioned and then records the image. The unique characteristics are extracted from this image and then compared with the previously stored template.

Houston Lighting & Power proposes to use the ID3D HandKey Three Dimensional Hand Geometry Identifier, produced by Recognition Systems, Inc. of Cambell, California. The system has been performance tested by the Sandia National Laboratories (reference 1) and is now in use at other NRC licensed nuclear generating facilities.

# **BASIS FOR EXEMPTION**

Houston Lighting & Power requests, in accordance with the provisions of 10 CFR 73.5, "Specific exemptions," an exemption from certain requirements of 10 CFR 73.55, "Requirements for physical protection against radiological sabotage" for South Texas Project, Units 1 and 2.

Currently, positive identification of personnel authorized and requesting access to the protected area is established by security personnel making a visual comparison of a picture badge and the individual requesting access. Under the current system, badges are not taken offsite and are issued, stored and retrieved at each entrance/exit station. Houston Lighting & Power proposes to use a hand geometry biometric system, in conjunction with the existing card reader system, to control unescorted access into the protected area of South Texas Project. This system would eliminate the need to issue and retrieve badges at each entrance/exit station and would allow individuals to keep their badge with them when departing the site.

In order to implement this system, exemption is needed from just that part of 10 CFR 73.55(d)(5) which states that, "An individual not employed by the licensee but who requires frequent and extended access to protected and vital areas may be authorized access to such areas without escort provided that he receives a picture badge upon entrance into the protected area which must be returned upon exit from the protected area..."

# BASIS FOR EXEMPTION (Continued)

10 CFR 73.5 states that, "The commission may, upon application of any interested person or upon its own initiative, grant such exemptions from the requirements of the regulation in this part as it determines are authorized by law and will not endanger life or property or the common defense and security, and are otherwise in the public interest." Additionally, 10 CFR 73.55(a) specifies that the commission may authorize an applicant or licensee to provide measures for protection for radiological sabotage other than those required by 10 CFR 73.55. This can be accomplished if the applicant or licensee demonstrates that the measures have the same high assurance objective as specified in the regulation, and that the overall level of system performance provides protection against radiological sabotage equivalent to the regulation and meets the general performance requirements of 10 CFR 73.55.

# ASSURANCE OBJECTIVE

As discussed in American National Standard, ANSI/ANS-3.3, "Security for Nuclear Power Plants," identification of individuals authorized access without escort can be accomplished by the use of "A device that reads fingerprints, hand prints, or some other unique physical feature..." Under the proposed system, each individual who is authorized unescorted access will have the physical characteristics of their hand registered with their badge. Visual verification of a picture badge will be replaced with a hand geometry system which provides for a nontransferable means of identifying people, coupled with the use of a badge reader. All other access processes, including search function capability, will remain the same except for elimination of the process to issue, retrieve and store badges at the entrance stations to the protected area. The current Houston Lighting & Power access control process for identifying individuals meets the ANSI/ANS-3.3 criteria. The proposed hand geometry access control process, as well, meets the ANSI/ANS-3.3 identification criteria.

The biometric access control system will provide the same high assurance objective regarding onsite physical protection, and is not inimical to the common defense and security and does not constitute an unreasonable risk to the public health and safety.

# SYSTEM PERFORMANCE

Houston Lighting & Power proposes that the hand geometry equipment selected will meet the detection probability of 90% with a 95% confidence level. Testing conducted by Sandia National Laboratories (reference 1) demonstrated that the hand geometry equipment possesses strong performance characteristics and is capable of meeting the proposed detection probability and confidence level. Houston Lighting & Power will have a process for testing the system. The Physical Security Plan will be revised accordingly to include testing of the hand geometry access control system.

# SYSTEM PERFORMANCE (Continued)

Implementation of the hand geometry access control system will continue to provide the overall level of performance equivalent to that which is called for in 10 CFR 73.55.

# GENERAL PERFORMANCE REQUIREMENT

The performance requirement of 10 CFR 73.55(d)(1) is to ensure that the licensee controls all points of personnel access into a protected area. Under the proposed system, Houston Lighting & Power will continue to control all points of personnel access into a protected area. Houston Lighting & Power believes that the basis for the wording in 10 CFR 73.55(d)(5), regarding individuals not employed by the licensee having to receive and return their badges at entry/exit, was to ensure that the badges could not be compromised or stolen by being taken offsite, and as a result, unauthorized persons could potentially enter the protected area. Under the proposed system, individuals not employed by the licensee and requiring frequent and extended access would be allowed to take their badges offsite. However, both the badge and hand geometry would be necessary for access into the protected area. Houston Lighting & Power points out that even if a badge were to be compromised or stolen, access would not be provided without the hand geometry of the person registered to the badge. Houston Lighting & Power maintains that the proposed system would continue to provide for a combination of identity verification processes.

The access process will continue to be under the observation of security personnel located within a hardened cubicle who have final control over the release of the entrance station turnstiles. The existing requirement for all persons authorized unescorted access to wear and display their photo identification badge while within the protected area shall remain unchanged. The photo badge and hand geometry system will not be used for persons requiring escorted access, i.e., visitors.

# REFERENCE(S)

MISC 43125.069 (k).

 Holmes, J.P & Wright, L.J: "A Performance Evaluation of Biometric Identification Devices", (SAND91--0276 UC--906 Unlimited Release, June 1991)

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### ATTACHMENT

### ITEM OLD OLD NEW NEW SECTION PAGE SECTION PAGE

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### JUSTIFICATION

### 431 21 21 1 431

Personnel enter the PA through either the East or West gatehouse. Before PA entry, persons are searched and identified. Persons authorized unescorted access must request and receive their assigned badge (Section 4.3.5.1) from a security officer located within a bullet-resistant access control station. Before issuing the badge, the security officer will identify the individual by comparing the badge photograph to the person requesting access. Actual entry to the PA is through turnstiles which are controlled by the security system. [Sentence containing Safeguards Information omitted] For persons authorized unescorted access, two (2) actions are required to unlock a turnstile for a single entry; 1) passing a valid badge (Section 4.3.5.1) through an entry cardreader and, 2) entering a personnel identification number (PIN) on a cipher pad. From within the access control area, a security officer can observe the entry turnstiles and activities in the search area. The officer can also through doors which bypass the control final access by pushing a

Personnel enter the PA through either the East or West gatehouse. Before PA entry. persons are searched and identified. Actual entry to the PA is through turnstiles which are controlled by the security system. [Sentence containing Safequards Information omitted] For persons authorized unescorted access, two (2) actions are required to unlock a turnstile for a single entry; 1) passing a valid badge (Section 4.3.5.1) through an entry cardreader and, 2) using a hand geometry identification system (Section 4.3.6).. From within the access control area, a security officer can observe the entry control equipment and activities in the search area. The officer can also control final access by pushing a button which locks down the turnstiles. For visitors to

access the PA, a security officer

within the access control station

must push a button to unlock an

means of accessing the PA is

turnstile barriers.

entry turnstile. An alternative

Changes are made to indicate the use of a hand geometry access control system and to delete references to badge issue and identification by security officers and PIN numbers for access control.

A sentence has been changed to indicate that the access control equipment, which includes the hand geometry readers, can be observed by security personnel within the access control station.

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### ITEM SECTION PAGE SECTION PAGE CHANGED FROM JUSTIFICATION CHANGED TO 4.3.1 21 4.3.1 21 (Continued from preceding page) 1 (Continued from preceding page) (See preceding page) (Con) button which locks down the When not in use, these doors are kept locked and alarmed. When a turnstiles. For visitors to access the PA, a security officer door must be opened, two (2) within the access control station security officers, one (1) of

must push a button to unlock an entry turnstile. An alternative means of accessing the PA is through doors which bypass the turnstile barriers. When not in use, these doors are kept locked and alarmed. When a door must be opened, two (2) security officers, one (1) of whom must be armed, shall be posted to control and , if necessary, record access. When the gatehouses are in service. they shall be staffed by at least two (2) security officers, one (1) officer shall be in the search area and the other within the access control station. Cardreaders which control the PA exit turnstiles are located within badge is deactivated and cannot the access control station. Persons leaving the PA must return the PA. their badge to security in order to pass through an exit turnstile. When a badge has been used at an exit cardreader, the badge is deactivated and cannot be used to access doors within the PA.

whom must be armed, shall be posted to control and , if necessary, record access. When the gatehouses are in service, they shall be staffed by at least two (2) security officers, one (1) officer shall be in the search area and the other within the access control station. With the exception of NRC personnel who have been issued a non-photo badge (Section 4.3.5.1), persons authorized unescorted access exit the PA by using their badge at cardreader located at an egress turnstile and carry their badges offsite. When a badge has been used at an exit cardreader, the be used to access doors within

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**ATTACHMENT 2** 

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ITEM	OLD SECTION	OLD PAGE	<u>NEW</u> SECTION	<u>NEW</u> PAGE	CHANGED FROM	CHANGED TO	JUSTIFICATION
2	4.3.5.1	23	4.3.5.1	23	Security Badges: A photo- identification badge/keycard (badge) is issued to all individuals authorized unescorted access to the PA. On the exterior, badges display the assignees photograph, name, and badge number. Badges may be color coded to indicate PA and/or VA authorization levels. Additional information, including the badge assignee's social security number. employment affiliation, VA authorizations and access expiration date are maintained in the Plant Access Authorization System's database. The Security System maintains a record of badge use at cardreader controlled VA and PA portals. To facilitate rapid access during emergencies and exercises, a special set of badge/keycards without a photograph is available for issue to responding NRC personnel. These badges are numbered and clearly marked "NRC". They provide iniversal access to portals controlled by the security system, but must be returned to a security officer within an access control station (Section 4.3.1) In order to pass through a PA exit turnstile. When issued, the non- photo badge shall be displayed in conjunction with the NRC issued photo identification badge.	Security Badges: A photo- identification badge/keycard (badge) is issued to all individuals authorized unescorted access to the PA. Encoded within each badge is a unique ID number which is used by the security system for entry control. Badges contain no other encoded information. On the exterior, badges display the assignees photograph, name, and badge number (different from the encoded number). Badges may be color coded to indicate PA and/or VA authorization levels. Additional information, including the badge assignee's social security number, employment affiliation, VA authorizations and access expiration date are maintained in the Plant Access Authorization System's database. The Security System maintains a record of badge use at cardreader controlled VA and PA portals. To facilitate rapid access during emergencies and exercises, a special set of badge/keycards without a photograph is available for issue to responding NRC personnel. These badges are numbered and clearly marked 'NRC'. They provide universal access to portals controlled by the security system, but must be returned to a security officer within an access control station (Section 4.3.1) In order to pass through a PA exit turnstile. When issued, the non-photo badge shall be displayed in conjunction with the NRC issued photo identification badge.	Nords are added to indicate that badges are digitally encoded only and contain to other encoded information relative to the badge is included to indicate that is included to indicate that encoded information appearing on the encoded number appearing on the encoded number.

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### ATTACHMENT 2

ITEM	OLD SECTION	OLD PAGE	NEW SECTION	NEW PAGE	CHANGED FROM	CHANGED TO	JUSTIFICATION
3	4.3.5,3	24	4.3.5.3	24	<text><list-item></list-item></text>	Display and Control: Security badges shall be displayed by all hadividuals while inside the PA. Security badges shall be worn of the upper front portion of the body and shall be clearly visible to be the upper front portion of the body and shall be clearly visible to be the upper front portion of the body and shall be clearly visible to the upper front portion of the body and shall be clearly visible to the upper front portion of the body and shall be clearly visible to the upper front portion of the body and shall be clearly visible to the upper front portion of the body and shall be clearly visible to the upper front portion of the body and shall be clearly visible to the worn on the upper front portion of the two upper front portion of the two upper front portion of the two upper front portion of the pa by security.	With the implementation of the hand geometry access control system, the section is changed to enable persons with unescorted access to remove their badges from the pa.

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4. 4.3.6 25 4.3.6 25 Identification/Verification of Authorization Before being allowed unescorted access to the PA, all persons shall be positively identified and their access authorization verified. A security office shall identify persons authorized unescorted access to the PA, all persons authorized unescorted access to the PA, all persons and the security office shall identify persons authorized unescorted access to the PA, all persons and the security office shall identify persons authorized unescorted access authorized access au	ITEM	OLD SECTION	OLD PAGE	NEW SECTION	NEW PAGE	CHANGED FROM	CHANGED TO	JUSTIFIĈATION
	4.	4.3.6	25	4.3.6	25	Identification/Verification of Authorization: Before being allowed unescorted access to the PA, all persons shall be positively identified and their access authorization verified. A security officer shall identify persons authorized unescorted access by comparing the person being processed with their security badge (Section 4.3.1). Access authorization is verified by the individual's use of a valid badge in an entry card reader or by the person's name being included on an access list (hard- copy or database). Visitors requesting access to the PA shall be identified by presenting some form of photo-identification or by other means as described in procedures. Authorization by a person designated to approve visitor entry is required before a visitor may be escorted into the pA.	Identification/Verification of Authorization: Before being allowed unescorted access to the PA, all persons shall be positively identified and their access authorization verified. Identification of persons authorized unescorted access shall be by the use of a hand geometry reader which is integrated with the security system. The hand geometry readers, which are tamper indicating and self-checking (line supervised). provide a high degree of assurance (90% probability with a 95% confidence level) that an unauthorized person will be denied PA access. Identification may also be accomplished by a security officer comparing the person being processed with their security badge photo. Access authorization is verified by the individual's use of a valid badge in an entry card reader or by the person's name being included on an access list (hard-copy or database). Visitors requesting access to the PA shall be identified by presenting some form of photo-identification or by other means as described in procedures. Authorization by a person designated to approve visitor entry is required before a visitor may be escorted into the PA.	Changes are made to indicate the use of hand geometry readers at entrances to the PA to identify persons authorized unescorted access

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ITEM	OLD SECTION	OLD PAGE	NEW SECTION	<u>NEW</u> PAGE	CHANGED FROM	CHANGED TO	JUSTIFICATION
5	Х	X	8.6	43		Hand Geometry Reader: If all hand geometry readers at a PA entry fail, the compensatory action stated in Section 8.5 for the failure of entry card readers shall be taken and PA access shall be controlled in accordance with Section 4.3.6. If an individual cannot gain PA entry because of a miss-read at one (1) or more reader units, the individual shall be identified and his/her access authorization shall be verified and a new template of their hand recorded in the hand geometry system database. As an alternative, PA access through a turnstile or a door bypassing the turnstiles may be allowed (Section 4.3.6) after identification and verification of access authorization.	Text is added to establish compensatory measures for the failure of one (1) or more hand geometry readers or the rejection of an authorized person's hand image.
6.	8.6 8.6.1 8.6.2 8.7 8.8 8.9 8.10	43 43 43 44 44 44	8.7 8.7.1 8.7.2 8.8 8.9 8.10 8.11	43 44 44 44 44 44	Surveillance System Fixed Cameras PTZ Cameras Lighting Lock Failure Communications Search Equipment	Number change only Number change only Number change only Number change only Number change only Number change only Number change only	

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ITEM	OLD SECTION	OLD PAGE	NEW SECTION	<u>NEW</u> PAGE	CHANGED FROM	CHANGED TO	JUSTIFICATION
7.	9.3.5	47	9.3.5	47	First Sentence: Cardreader door controls, turnstiles and remotely operated doors and gate locks shall be tested at least once each seven (7) days, except as precluded by operations, safety or health physics concerns, and before being returned to service following maintenance work or periods of disuse.	First Sentence: Cardreader door controls, <u>hand geometry readers</u> , turnstiles and remotely operated doors and gate locks shall be tested at least once each seven (7) days, except as precluded by operations, safety or health physics concerns, and before being returned to service following maintenance work or periods of disuse.	To require operability testing of hand geometry readers.

### 8 X X 9.4.2 47

Hand Geometry Reader: Each hand geometry reader shall be tested annually and after maintenance, repair or recalibration work that could affect operational validity to verify that the unit has a probability of detection equal or superior to that described in Section 4.3.6.

To require probability testing of hand geometry readers.