

HOUSTON LIGHTING & POWER COMPANY
NUCLEAR ENGINEERING & CONSTRUCTION
PROCEDURES MANUAL

SUMMARY OF REVISIONS

PROC NO EAD-2		SUBJECT Planning and Scheduling of Design Process Reviews and Technical Assessments			
REVISION NUMBER	REVISION DESCRIPTION				
		Training Required			
		yes	no		
0	Original issuance	<i>[Signature]</i>			
1	Changes "design process technical audit" to "design process review"		<i>[Signature]</i>		
2	Provides for review and comment by Manager, STP Engineering, and Manager, STP Licensing, on topics of Engineering Assurance reviews/assessments; includes additional guidelines for selecting and establishing priorities for review/assessment topics; updates flow chart; adds review/assessment scope and schedule cover sheet		<i>[Signature]</i>		
REVISION AUTHORIZATION					
REVISION NUMBER	0	1	2		
ISSUE DATE	12-1-82	6-15-83	2-1-84		
EFFECTIVE DATE	12-15-82	6-20-83	2-1-84		
PREPARED BY	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>		
APPROVED BY					
APPROVED BY	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>		

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1.0 Purpose

This procedure provides guidance and establishes criteria for developing the plan and schedule of design process reviews and technical assessments to be performed by the Engineering Assurance Department.

2.0 Scope

This procedure applies to all design process reviews and technical assessments performed by the Engineering Assurance Department. Engineering Assurance functions related to third-party design assessments are specified in Engineering Assurance Department Procedure EAD-6, Contracting and Administering Third-party Design Assessments.

3.0 References

- 3.1 Engineering Assurance Program Policy
- 3.2 Engineering Assurance Department Procedure EAD-3, Design Process Reviews and Independent Technical Assessments
- 3.3 Engineering Assurance Department Procedure EAD-6, Contracting and Administering Third-party Design Assessments

4.0 Definitions

- 4.1 Annual schedule - A list of subjects to be reviewed or assessed during a calendar year and the time frame during which these reviews/assessments are scheduled
- 4.2 Engineering Assurance Department engineer - A person in the Engineering Assurance Department having extensive engineering and design experience in his or her assigned discipline

5.0 Responsibilities

- 5.1 Manager, Engineering Assurance Department
Approves the plans and schedules for design process reviews and technical assessments

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- 5.2 Engineering Assurance Department engineer
Provides input to the list of topics deserving a comprehensive review, prepares plans and schedules for design process reviews and technical assessments, and resolves comments from South Texas Project Engineering and Licensing Departments on the list of topics selected

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6.0 Procedure

- 6.1 Preparation of a list of review/assessment topics
The Manager, Engineering Assurance Department, or his designee shall prepare and maintain a list of topics deserving a comprehensive review. Every six months this list shall be sent to the Manager, STP Engineering, and the Manager, STP Licensing, for review and comment. To establish the review topics and priorities for review, the following guidelines can be used:

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- 6.1.1 Select areas of review that represent the known technical problem areas in the industry.
- 6.1.2 Select areas that represent critical and complex analysis and design features and areas of known or suspected HL&P and/or contractor problems.
- 6.1.3 Select areas affecting safety, operability, and availability.
- 6.1.4 Select activities that require significant interfacing with NSSS vendor and other vendors supplying important equipment.
- 6.1.5 Select areas of analysis and design that provide input to subsequent design of many systems and components (e.g., seismic analysis, sub-compartment and containment pressurization analysis following a postulated accident).
- 6.1.6 Select representative samples of systems, the design and engineering of which are essentially complete, to determine that system design from conception to construction has been carried out in a controlled manner.
- 6.1.7 Select topics for design process review in a manner that addresses the various aspects of the design process (i.e., design input, interface, process, output, and changes) and provides a reasonable assurance of the adequacy of the design process.

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6.1.8 Select other topics of management concern.

6.2 Development of an annual schedule

The Engineering Assurance Department staff shall develop an annual schedule for design process reviews and independent technical assessments and shall submit the schedule to the Manager, Engineering Assurance Department, for approval. Emphasis shall be placed on the topics of importance, and consideration shall also be given to project schedule and effective utilization of the Engineering Assurance staff. The annual schedule shall contain a description of the review subjects, extent of assessment, anticipated man-hours, and start and completion dates for the assessments.

6.3 Review, approval, and distribution of annual schedule

The annual schedule shall be reviewed by the Vice President, Nuclear Engineering & Construction, and by other departments or reviewers determined by the Manager, Engineering Assurance Department. After the annual schedule has been reviewed by the Vice President, Nuclear Engineering & Construction, and approved by the Manager, Engineering Assurance Department, Engineering Assurance shall distribute the annual schedule to interested or affected organizations, including the South Texas Project Engineering Department.

6.4 Preparation of detailed review/assessment plan and schedule

6.4.1 Design process reviews

Design process reviews shall be scheduled and performed by Engineering Assurance Department engineers assigned by the Manager, Engineering Assurance Department. The objective of these reviews shall be to develop information by which to judge the adequacy of design controls on the basis of whether the results of the design activities of HL&P and its major contractors are correct and consistent with licensing commitments and represent good engineering practice. In preparing a detailed plan and schedule for a review, the following items, as a minimum, shall be addressed:

6.4.1.1 Scope, duration, and detailed breakdown of the review activities

6.4.1.2 Start date and duration of review activities, identification and collection of documents to be reviewed prior to review, schedule of pre-review meetings, and preparation of review checklist

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6.4.1.3 Schedule of post-review meeting and preparation, review, and approval of the review report

6.4.1.4 Projected man-hour requirements

6.4.2 Independent technical assessments

Independent technical assessments shall be performed by Engineering Assurance Department engineers assigned by the Manager, Engineering Assurance Department. The objective of these assessments shall be to provide independent verifications of designs. The Manager, Engineering Assurance Department, shall select the system or subject to be assessed and assign the most applicable Engineering Assurance Department discipline engineer(s) responsibility for developing a plan and schedule of assessment activities with necessary inputs from the Engineering Assurance Department discipline engineers. The schedule of assessment activities shall be consistent with the completion dates specified in the annual schedule. As a minimum, a detailed assessment plan shall include the following items:

- 6.4.2.1 Purpose, scope, special concerns, and areas to cover in the assessment
- 6.4.2.2 Detailed breakdown of the assessment activities indicating extent of assessments and the verification method (i.e., independent analysis or review of existing engineering calculations)
- 6.4.2.3 List of documents required for assessment and the schedule for obtaining the documents
- 6.4.2.4 Preparation of assessment checklists
- 6.4.2.5 Schedules of pre-assessment meetings for information exchange and for identification of personnel contacts and level of activity anticipated in the assessment
- 6.4.2.6 Duration of all activities
- 6.4.2.7 Identification of various interfaces

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6.4.2.8 Projected man-hour requirement and, for cases in which additional manpower is required from outside HL&P, identification of such requirements and the schedule of such activities to be performed by outside personnel under the direction of the HL&P Engineering Assurance Department engineers

6.4.2.9 Schedule of post-assessment meeting and preparation and review of formal review report

6.5 Coordination of review/assessment plan with South Texas Project (STP)
Upon completion of the first draft of the detailed review/assessment plan, the responsible Engineering Assurance Department engineer(s) shall discuss the plan with STP Engineering to assure that the plan is consistent with the overall project schedule and that the engineering information required for the review/assessment will be available.

6.6 Review, approval, and distribution of review and assessment plan
For each review/assessment topic, the responsible Engineering Assurance Department engineer shall submit the detailed plan and schedule to the Manager, Engineering Assurance Department, at least thirty (30) days prior to the review/assessment initiation date for his review and approval. The Manager, Engineering Assurance Department, shall review the plan for its adequacy to meet the intended purpose and to assure consistency of the plan to meet the overall schedule of completion. After the plan is approved by the Manager, Engineering Assurance Department, he shall distribute the plan to Project Engineering and other affected organizations as he determines.

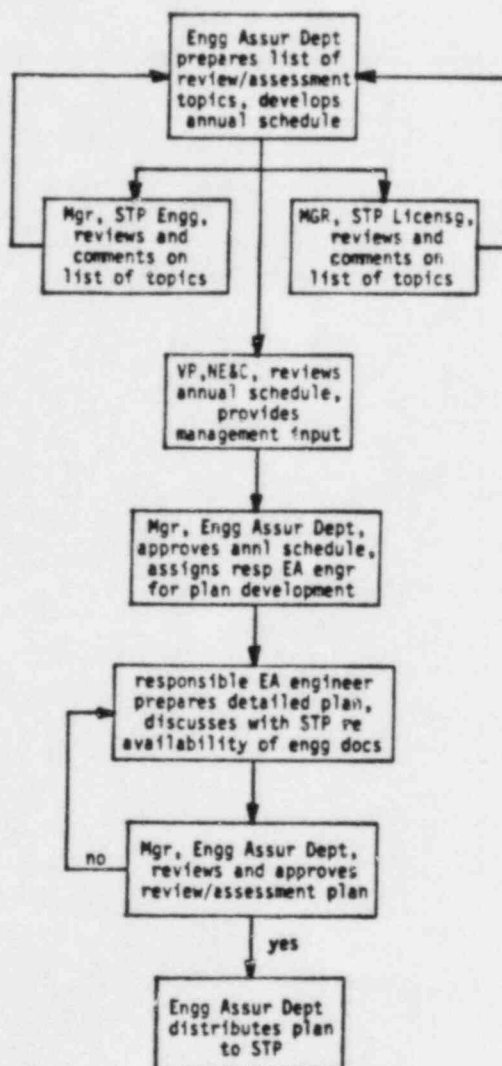
7.0 Attachments

7.1 Procedure flow chart

7.2 Review/assessment scope and schedule cover sheet

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Attachment 7.1
Procedure Flow Chart



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