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SUBJECT: Forwards Procedures I-59, "Instruction for Evaluation of Licensing Condition 7 Concerns," & P-36, "Walkdown of Piping During Hot Functional," in response to 840925 request for info re piping & pipe support matters.
SEE REPTS.

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JAMES D. SHIFFER
VICE PRESIDENT
NUCLEAR POWER GENERATION

October 5, 1984

PGandE Letter No.: DCL-84-323

Mr. George W. Knighton, Chief
Licensing Branch No. 3
Division of Licensing
Office of Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission
Washington, D.C. 20555

Re: Docket No. 50-323
Diablo Canyon Unit 2
Piping and Pipe Supports Review Program and Status Report

Dear Mr. Knighton:

The enclosed material is provided in response to your September 25, 1984 request for information regarding Unit 2 piping and pipe support matters. The request specifically included Unit 2 efforts undertaken to address the seven piping and pipe support-related items defined in the Unit 1 License Condition 2.C.(11).

Kindly acknowledge receipt of this material on the enclosed copy of this letter and return it in the enclosed addressed envelope.

Sincerely,

Enclosure

cc: H. E. Schierling
Service List

B001

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ENCLOSURE
DIABLO CANYON UNIT 2
PIPING AND PIPE SUPPORTS

I. SUMMARY OF UNIT 2 PIPING DESIGN PROGRAM

At the time of the initiation of the Design Verification Program in late 1981, the status of both engineering and construction for Unit 2 was different from Unit 1. The Hosgri reevaluation and upgrading had been completed for Unit 1. The Hosgri reevaluation and upgrading for Unit 2 had been completed only in certain specific areas requiring early completion, such as civil/structural upgrades to the turbine building (buttresses). The Hosgri upgrading and engineering completion of the safety-related piping and pipe supports, including certain piping related programs for high energy line break and NRC IE Bulletins 79-02 and 79-14, had not been completed for Unit 2. In most cases, the Hosgri work for piping and pipe supports had not yet been started for Unit 2. Also, certain engineering and construction work on Unit 2, such as small bore pipe supports, had not been completed even for the previous seismic design conditions.

In completing the engineering, design, and construction of Unit 2, the basic design philosophy for the Diablo Canyon Nuclear Power Plant has been that Units 1 and 2: (a) remain as identical as practical; (b) conform to essentially the same licensing criteria; (c) are designed to the same criteria by, generally, the same organization; and (d) are built by essentially the same contractors. The principal structures and systems of the two units are essentially the same with only minor, local differences. Consequently, the piping arrangement is essentially the same for the two units.

Minor differences do exist in piping arrangement and pipe support design which result primarily from the "opposite hand" arrangement of Unit 2 with respect to Unit 1. These minor differences in piping design are necessary to accommodate equipment which is identical to that furnished for Unit 1 (same hand) for use in the opposite hand arrangement for Unit 2. Also, some piping layout differences resulted from construction time differences and experience from the first unit, combined with minor layout changes to facilitate construction and improve access. Due to the rigorous analytical nature of piping design, these minor differences are sufficient to require a complete set of unique analyses, calculations, and pipe support designs for Unit 2. However, the same criteria, methodology, design process, and basic procedures which were employed for the Unit 1 review, verification, and modification effort were used for the analyses, calculations, and designs for Unit 2 piping.

Both units were designed in accordance with the same Quality Assurance Program, the same Engineering Manual, and the same Project Procedures Manual, under the direction of a Project Management Team that manages and oversees both units.

Additionally, the Project Engineers Instructions (PEIs), Design Criteria Memoranda (DCM), and piping-related procedures are essentially the same for

both units. Differences in these documents are not associated with basic criteria, methodology, or design process, but are primarily administrative and result from the fact that Unit 2 is a plant under construction, whereas Unit 1 has an operating license and, thus, requires different processing of design work through the plant operating staff.

Since, on Unit 2, Hosgri upgrading was required for the piping systems (which included reanalysis of all Class I large and small bore piping), it was decided that the most efficient and effective approach would be to use computer analyses for all Class I piping rather than a combination of computer analyses and span tables as was used for Unit 1.

This was done for the following reasons:

- Fewer additional supports or modifications would be required since a computer analysis need not be as conservative as a span table method
- Computer programs allowed for combining thermal and seismic loading into one analysis
- Greater familiarity of current computer analysis methods (versus span tables) by engineers performing the upgrading
- Ease of incorporating current as-built walkdown dimensional information into the design calculations and analyses of record

Additions and modifications to piping and pipe supports resulted primarily from the Hosgri upgrading as part of normal plant completion for Unit 2. Any changes to procedures, requirements, or criteria made for Unit 1 in conjunction with IDVP, ITP, or NRC concerns were directly applied to Unit 2 since the criteria, methodology, design process, and basic procedures are the same for both units. Therefore, the IDVP, ITP, and NRC concerns on Unit 1 are being addressed in Unit 2 as part of the normal completion process, and the Unit 2 results are entirely consistent with Unit 1.

II. APPLICATION OF THE UNIT 1 PIPING LICENSE CONDITION TO UNIT 2

License Condition 2.C.(11) of Facility Operating License DPR-76 for Diablo Canyon Unit 1 was issued by USNRC "Order Modifying License" dated April 18, 1984. It established seven license condition items concerning piping and pipe supports that were required to be met prior to issuance of a full power license for Unit 1. These seven items are being addressed for Unit 2 as discussed in the following sections.

A. SMALL BORE SUPPORT REVIEW (License Condition Item 1)

"PGandE shall complete the review of all small bore piping supports which were reanalyzed and requalified by computer analysis. The review shall include consideration of the additional technical topics, as appropriate, contained in License Condition No. 7 below."

1. Unit 1 Program

All calculations (357 total) involving Unit 1 small bore, seismic Category 1 pipe support frame structures analyzed by computer were reviewed for the proper use of the STRUDL program as well as for the appropriate attributes of Item 7 of the License Condition.

All supports were found to be acceptable and no physical modifications were required. Three supports were modified to reduce angle member spans even though test data verified the acceptablility of the original design.

2. Unit 2 Program

All small bore, seismic Category 1 pipe supports are being reviewed for the appropriate attributes of Item 7 of the License Condition. As established for Unit 1, these have been determined to be issues (a), (c), (d), and (e) of Item 7. In addition, the calculations are being reviewed for general quality and acceptability, and to ensure that as-built conditions are appropriately reflected in the analysis. This review is being accomplished as part of the final as-built acceptance process for all small bore pipe supports.

Procedures and Criteria

Attachment 1 is Instruction I-59, "Instruction for the Evaluation of Licensing Condition No. 7 Concerns - Diablo Canyon Units 1 and 2," which describes the procedures and criteria employed for this review.

Results

The review of small bore, seismic Category 1 pipe supports for the appropriate attributes of Item 7 of the License Condition is currently in progress and will be completed prior to fuel load. To date, this review has been completed for approximately 50% of the small bore supports. The

total scope of this review involves approximately 4,000 small bore supports.

B. PROXIMATE RIGID SUPPORTS (License Condition Item 2)

"PGandE shall identify all cases in which rigid supports are placed in close proximity to other rigid supports or anchors. For these cases PGandE shall conduct a program that assures loads shared between these adjacent supports and anchors result in acceptable piping and support stresses. Upon completion of this effort, PGandE shall submit a report to the NRC Staff documenting the results of the program."

1. Unit 1 Program

Design Class 1 large bore and small bore piping isometrics were reviewed to identify proximate rigid supports. A total of 150 supports were shimmed where necessary to satisfy the new proximity criteria agreed upon by PGandE and the NRC Staff.

2. Unit 2 Program

Design Class 1 large and small bore piping isometrics are being reviewed to identify rigid supports located in close proximity to other rigid supports or anchors. The criteria for the applicable proximity distance and the procedures for identifying, inspecting, and shimming as necessary are identical to those used for the Unit 1 review. As a result of detailed discussions with the NRC's technical audit team assigned to review this issue on Unit 1, final conservative criteria were established and agreed upon for the Unit 1 review of this issue. These same criteria are being used for the Unit 2 review of rigid supports and snubbers in close proximity to other rigid supports and to anchors (equipment nozzles, penetrations, and pipe anchors/decoupled branch connections). Criteria for both supports (License Condition Item 3 covered in paragraph C of this report) are summarized as follows:

a. Snubbers and Rigids Next to Rigids

All snubbers and rigid supports on large bore piping located within five pipe diameters (5D) of a rigid support are reviewed to assure that: (1) the snubber would actuate when required or pipe and support qualification is demonstrated with the snubber removed from the analysis, and (2) the as-built gaps in the hot condition were 1/16-inch or less, or shimming is performed as required. Piping of 2-inch diameter and smaller is excluded from this review.

b. Snubbers and Rigids Next to Anchors

All snubbers and rigid supports on large bore piping within ten pipe diameters (10D) of an anchor are reviewed to assure that:

(1) the snubber would actuate when required, or pipe and support qualification is demonstrated with the snubber removed from the analysis, and (2) the as-built gaps in the hot condition were 1/16-inch or less, or shimming is performed as required. For small bore piping (piping $\leq$ 2 inches in diameter), support effectiveness is considered for all snubbers and rigid restraints located within 10D of an anchor. The criteria are summarized in Figure 1.

All Design Class 1 large and small bore piping isometric drawings are being reviewed to identify all support pairs located within the "close proximity" criteria. The review is being performed and checked by piping stress analysis engineers.

The identified support pairs are then inspected in the field and all gaps in the restrained direction are recorded. These inspections are performed with the plant in the hot stand-by or equivalent condition.

The support gap measurements are reviewed to determine support shimming requirements to limit differential movement at proximity restraints to 1/16-inch.

The drawings of those supports which are identified as requiring shimming are revised to specify a clearance which will provide compliance with maximum gap differential requirements. The supports are modified to comply with the drawings, and as-built drawings are prepared and issued to Engineering. Engineering then reviews the as-built drawings to verify construction to engineering requirements.

Results

The review of proximate rigid supports is currently in progress and will be complete prior to fuel load. Based on the results of the review of approximately 80% of the pertinent piping isometrics, 115 pairs of proximate rigid supports have been identified for further review and possible shimming as necessary. It is expected that Unit 2 will have fewer proximity restraints requiring shimming than were required for Unit 1. This is primarily due to the later schedule for Unit 2 and the resulting fewer iterations and modifications throughout the design process.

FIGURE 1

PROXIMITY CRITERIA FOR SUPPORT REVIEW

Support Pair	LARGE BORE (D>2")	SMALL BORE (D≤2")
Rigid-Rigid	5D	N/A
Rigid-Anchor	10D	10D
Snubber-Rigid	5D	N/A
Snubber-Anchor	10D	10D

C. PROXIMATE SNUBBERS (License Condition Item 3)

"PGandE shall identify all cases in which snubbers are placed in close proximity to rigid supports and anchors. For these cases, utilizing snubber lock-up motion criteria acceptable to the Staff, PGandE shall demonstrate that acceptable piping and piping support stresses are met. Upon completion of this effort, PGandE shall submit a report to the NRC Staff documenting the results."

1. Unit 1 Program

Design Class 1 large bore and small bore piping isometrics were reviewed to identify proximate snubbers. A total of 81 large bore snubbers (no small bore snubbers) were so identified. All proximate snubbers were shown to either function properly or to be unnecessary for piping and support qualification.

2. Unit 2 Program

Design Class 1 large and small bore piping isometrics are being reviewed to identify snubbers located in close proximity to other rigid supports or anchors and to demonstrate compliance with piping and support allowable stresses. The criteria for the applicable proximity distance are described in paragraph B above and are identical to those used for the Unit 1 review.

Procedures

A review of all Design Class 1 large and small bore seismic analyses is being performed to identify all cases where snubbers are within the definition of close proximity described previously. The stress analysis calculations which include these snubbers are being reanalyzed assuming the snubbers do not exist. If the displacement at any snubber location is found to exceed 0.06 inch, the snubber would actuate and the previous analysis is validated.

Where snubbers are found not to act (displacement equal to or less than 0.06 inch), the calculations are evaluated for stress and support acceptance. Based on this review, compliance with piping and support allowable stresses is demonstrated in one of the following ways:

- Demonstration that the snubber can be eliminated and maintain piping and support qualification for all levels of earthquake
- Demonstration that the snubber locks-up during one or more levels of earthquake and is not required to maintain piping and support qualification to the remaining earthquake levels
- Where either of the above can not be demonstrated assuming a 0.06 inch snubber dead band, actual manufacturer test reports describing the lost motion or dead band performance characteristics of the unique snubber are used to demonstrate

qualification. The actual lost motion or dead band is compared to the calculated motion and lock-up is either demonstrated or not required.

Results

The review of proximate snubbers is currently in progress and will be completed prior to fuel load. Based on the results of the review of approximately 80% of the pertinent piping isometrics, 30 proximate snubbers have been identified. Further reviews are being performed to compare calculated piping motion and snubber lost motion in order to determine snubber operability.

D. THERMAL GAP MODELING (License Condition Item 4)

"PGandE shall identify all pipe supports for which thermal gaps have been specifically included in the piping thermal analyses. For these cases the licensee shall develop a program for periodic inservice inspection to assure that these thermal gaps are maintained throughout the operating life of the plant. PGandE shall submit to the NRC Staff a report containing the gap monitoring program."

1. Unit 1 Program

All Design Class 1 large and small bore piping analyses subjected to temperatures above 200 F, or attached to lines subjected to temperatures above 200 F, were reviewed to identify where pipe/pipe support gaps were modeled in the thermal analyses.

Thirteen calculations were identified with 30 support locations which had gaps modeled in the analyses. All of these affected analyses will be revised, and qualification will be demonstrated for pipe stress, pipe supports, equipment nozzle loads, and other analysis criteria prior to the first scheduled refueling outage.

2. Unit 2 Program

All large and small bore analyses of piping subjected to temperatures above 200 F, or attached to lines subjected to temperatures above 200 F, are being reviewed to identify all locations where pipe/pipe support gaps are modeled in the thermal analyses. As with Unit 1, piping subjected to a maximum temperature of 200 F or less is not included in the program since gap repeatability at these temperatures is assured by the extremely small expansion which leads to consistent pipe behavior during thermal cycling.

Procedures and Criteria

The Unit 1 License Condition requires PGandE to perform periodic inservice inspections of all support gaps that were modeled in the thermal analyses to ensure their maintenance throughout the life of the

plant. This may be undesireable due to ALARA concerns. Therefore, PGandE has established the criteria that all of the affected analyses will be revised, and qualification will be demonstrated for pipe stress, pipe supports, equipment nozzle loads, and other analysis criteria.

Results

The review of all large and small bore piping analyses affected by this License Condition item has been completed. The results of this review indicate that there are no cases where pipe/pipe support gaps were modeled in piping thermal analyses.

E. HOT PIPING WALKDOWN (License Condition Item 5)

"PGandE shall provide to the NRC the procedures and schedules for the hot walkdown of the main steam system piping. PGandE shall document the main steam hot walkdown results in a report to the NRC Staff."

1. Unit 1 Program

Walkdowns of the main steam piping as well as other piping in both the cold and hot condition to monitor thermal expansion were conducted by the Project during initial plant heatup and will continue during power ascension. Observed piping performance was shown to be within the Project design criteria.

2. Unit 2 Program

As with Unit 1, walkdowns of the main steam piping as well as other piping, in both the cold and hot condition to monitor thermal expansion, were planned by the Diablo Canyon Project during initial plant heatup and power ascension. The purpose of these programs is to further confirm that the piping and supports are performing properly and generally as predicted. Any anomalies are shown by supplementary analysis to be within the Project design criteria.

Procedures

Attachment 2 is Procedure P-36, "Walkdown of Piping During Initial Heatup," which describes walkdowns to be done for main steam piping, as well as other piping during initial plant heatup. Attachment 3 is Procedure P-38, "Walkdown of Piping During Power Ascension," which describes walkdowns to be done for main steam as well as other piping during power ascension.

These procedures have remained essentially the same as those used for Unit 1, with the exception of the addition of the requirement, where appropriate, to measure and record the thermal plus seismic gap.

Results

The activities governed by Procedure P-36 for walkdowns during initial plant heatup are currently in progress and are scheduled to be completed in November, 1984. Walkdown package documentation will be finalized prior to fuel load and will be available in Project files.

F. PIPE SUPPORT DESIGN TOLERANCE CLARIFICATION (PSDTC) AND DIABLO PROBLEMS (DP) (License Condition Item 6)

"PGandE shall conduct a review of the "Pipe Support Design Tolerance Clarification" program (PSDTC) and "Diablo Problem" system (DP) activities. The review shall include specific identification of the following:

(a) Support changes which deviated from the defined PSDTC program scope;

(b) Any significant deviations between as-built and design configurations stemming from the PSDTC or DP activities; and

(c) Any unresolved matters identified by the DP system.

The purpose of this review is to ensure that all design changes and modifications have been resolved and documented in an appropriate manner. Upon completion, PGandE shall submit a report to the NRC Staff documenting the results of this review."

Unit 1 Program

A program was established to demonstrate that the DP and PSDTC programs, and their implementation, did not detract from appropriate resolution and documentation of all design changes and modifications. The program consisted of two components; one addressed DPs and the other PSDTCs.

The DP review program reviewed all piping-related DPs issued since 1973 and found 186 DPs related to piping which transmitted design-related information. Information transmitted by these DPs was found, with one exception, to be incorporated in the appropriate design documents and qualified by the associated calculations. The one exception was satisfactorily resolved.

The PSDTC review program sampled changes authorized by the PSDTC program and found them to be incorporated in the drawing and qualified by the associated calculations.

Unit 2 DP Review Program

All Unit 2 piping-related DPs issued since the start of the ITP are being reviewed to assure that, for those cases where the DP is found to contain design information, the changes were properly documented in the plant design documents and calculations. The review covers DPs issued subsequent to August 1982 since all safety-related piping and pipe supports have been reanalyzed after that date, effectively superceding all prior piping-related DPs.

Procedures

A program has been developed and is being implemented to assure that no significant deviations between as-built and design configurations or unresolved matters resulted from the DP system. The program requires review of all Unit 2 DPs issued since the start of the ITP to identify those which contain piping or pipe support-related information. The DPs identified from this review are further reviewed to identify those considered to contain design-related information. Design-related information is defined as any information which allows, or could be construed to allow, construction to proceed with (1) work contrary to existing design drawings and specifications, or (2) work not shown on existing drawings or specifications. Those designs or installations associated with DPs found to contain design information are reviewed in detail to assure that the changes are properly documented in the plant design documents and calculations. These reviews are directed by procedure and all findings are documented, including the details of closure of each DP considered to contain design information.

Results

The review of all Unit 2 DPs issued since August 1982 has been completed and the results indicate a total of 422 piping or pipe support-related DPs. The detailed review of these DPs is currently in progress and will be complete prior to fuel load. To date, approximately 200 such DPs have been reviewed and none were found to contain design-related information.

Pipe Support Design Tolerance Clarification (PSDTC) Program

No additional PSDTC review is considered necessary for Unit 2 for the following reasons:

The PSDTC program was established to allow pipe support design changes to be made by a qualified pipe support engineer located at the construction site, providing design criteria were not violated. The purpose of the program was to provide expeditious resolutions of construction difficulties in the installation of large and small bore pipe supports in order to minimize construction delays. The program allowed construction of such changes to proceed, at risk, based upon an engineering evaluation by an engineer at the jobsite. Although the details of the engineering evaluation were not documented, and calculations were not updated at that time, the judgment of the acceptability of the design change was approved in writing by the engineer.

The PSDTC program was considered to be an adequate program for controlling the work because of the comprehensive as-built program which documented and formally approved any modification to a pipe support. In all cases, an as-built was made for the pipe support following any construction work authorized by a PSDTC. As the name implies, the as-built reflects the condition of the pipe support as it was actually built, not necessarily as engineering originally designed it. This process assured that all relevant PSDTCs were incorporated in the as-built drawings and calculations.

The process of as-built drawing preparation and verification, and reconciliation of the as-built drawing with the appropriate calculation, has been rigorously controlled and includes many checks and reviews. Upon completion of construction of a support, an as-built is prepared by the piping contractor's engineering organization. This as-built, which includes changes allowed under the PSDTC program, is then provided to the piping contractor's quality control group. Verification of correctness of the as-built is included as a part of the final quality control acceptance and sign-off of the hanger installation. Following quality control acceptance, the hanger construction package is submitted to the piping contractor's quality assurance group for review and acceptance. Thus, the as-built is produced by a group completely separate from the PSDTC group, and is done to completely separate quality control and quality assurance procedures.

The as-built hanger drawing is then forwarded from the piping contractor to the Project construction organization, which forwards it to Engineering for reconciliation with calculations and incorporation in the final plant design drawing. The status of the support relative to this process, including all engineering review and drawing incorporation activities, is established and monitored by a computer-based program developed specifically for pipe supports. Pipe support engineering personnel review each support as-built to verify and document compliance with design criteria. This review includes coordination with other piping disciplines such as stress analysis, when necessary, as well as other engineering disciplines. The civil discipline is involved in these reviews to verify that structures or substructure designs are compatible with the loading caused by the pipe support.

The review completed by Unit 1 in response to this item of the License Condition demonstrated the thoroughness and comprehensive nature of the as-built process. The procedures used on Unit 1 and Unit 2 are the same in this regard. Therefore, there is a high confidence level that all changes authorized by a PSDTC were incorporated in the support as-built drawing, which subsequently received final engineering review and acceptance.

Field Change Request Program Description

The PSDTC program was discontinued for Unit 2 on June 8, 1984, and was superceded by a Field Change Request (FCR) procedure. The FCR procedure applies to all field requested deviations from pipe support designs issued by Engineering where the proposed deviations are beyond approved installation tolerances. Construction initiates requests for such deviations on an FCR form and submits these requests to Engineering for review and approval. The Engineering approval of the FCR includes justifications for acceptance and documents any required coordination which has occurred with other discipline groups to determine acceptance. Where a calculation is required to verify the adequacy of the proposed change, the calculation is completed in accordance with Engineering Manual Procedure 3.3 prior to approval of the FCR. The Engineering approval of an FCR will be indicated by the signature of the responsible engineer, the group supervisor, and the Project Engineer.

In the case of deviations proposed by Construction which do not alter the functional design characteristics of the pipe support, or which are minor design drawing clarifications, General Construction Lead Discipline Engineers can authorize in-process work to continue on an "at-risk" basis for up to seven days while Engineering approval of the FCR is being obtained. The authorization is provided in writing and is included in the pipe support work package before the work can proceed. This in-process change authority will expire and work so authorized will cease if formal Engineering approval is not received within seven days.

For all pipe support modifications for Unit 2, the pipe support as-built drawings will continue to include any modifications authorized by a previous PSDTC or an FCR such that no deviations will exist between the as-built drawing and any modifications authorized in the field. Final acceptance of the installed condition will continue to be the final Engineering review, checking, and approval of the as-built pipe support drawing.

G. TECHNICAL TOPICS (License Condition Item 7)

"PGandE shall conduct a program to demonstrate that the following technical topics have been adequately addressed in the design of small and large bore piping supports:

(a) Inclusion of warping normal and shear stresses due to torsion in those open sections where warping effects are significant.

(b) Resolution of differences between the AISC Code and Bechtel criteria with regard to allowable lengths of unbraced angle sections in bending.

(c) Consideration of lateral/torsional buckling under axial loading of angle members.

(d) Inclusion of axial and torsional loads due to load eccentricity where appropriate.

(e) Correct calculation of pipe support fundamental frequency by Rayleigh's method.

(f) Consideration of flare bevel weld effective throat thickness as used on structural steel tubing with an outside radius of less than 2T.

PGandE shall submit a report to the NRC staff documenting the results of the program."

1. <u>Unit 1 Program</u>

Small bore piping was reviewed to address License Condition Item 7 as outlined in License Condition Item 1.

The large bore pipe support review was performed on a sample of 200 support calculations. All supports were considered qualified to the Project criteria with one minor exception not related to the License Condition issues.

2. Unit 2 Program

A discussion of the small bore program to address the issues of this License Condition item is presented in paragraph A above.

All large bore, seismic Category I pipe supports are being reviewed for the appropriate attributes of Item 7 of the License Condition.

Procedures

Attachment 1 is Instruction I-59, "Instruction for the Evaluation of Licensing Condition No. 7 Concerns - Diablo Canyon Units 1 and 2," which describes the procedures and criteria employed for this review.

As discussed in the Unit 1 response to this issue, in order to address any future analysis performed on pipe supports, the design criteria contained in M-9 for pipe supports were revised to require consideration of Item 7, parts (a), (c), (d), and (e) of the License Condition. Part (b), concerning unbraced angles, will be used only to qualify existing steel members. A specific restriction will prohibit its use in the design of new supports.

Results

The review of large bore, seismic Category I pipe supports for the appropriate attributes of Item 7 of the License Condition is currently in progress and will be completed prior to fuel load. The review is being accomplished as part of the final as-built acceptance process for all large bore pipe supports. To date, as-built reviews have been completed for approximately 50% of the large bore supports, many of which were completed prior to issuance of License Condition 2.C.(11). The as-built review process, including License Condition Item 7 concerns, has been completed for approximately 25% of the large bore supports. The total scope of this review involves approximately 3,500 large bore supports.