CYGNA
ENERGY SERVICES
101 California Street, Suite 1000, San Francisco, CA 94111-5894 415 397-5600

September 5, 1985
84042.41

Mrs. Juanita Ellis
President, CASE
1426 S. Polk
Dallas, Texas 75224

Subject: Communications Report Transmittal #17
Comanche Peak Steam Electric Station
Independent Assessment Program - Phase 3
Texas Utilities Generating Company
Job. No. 84042

Dear Mrs. Ellis:

Enclosed please find communications reports associated with the Phase 3 Independent Assessment Program.

If you have any questions or desire to discuss any of these documents, please do not hesitate to call.

Very truly yours,

N.H. Williams

N.H. Williams
Project Manager

Attachments

cc: Mr. J. Redding (TUGCO) w/attachments
Mr. S. Treby (USNRC) w/attachments
Ms. J. van Amerongen (TUGCO/EBASCO) w/attachments
Mr. S. Burwell (USNRC) w/attachments
Mr. W. Horin (Bishop, Liberman, et al.) w/attachments
Mr. D. Pigott (Orrick, Herrington & Sutcliffe) w/o attachments
Mr. V. Noonan (USNRC) w/o attachments
Mr. J. Beck (TUGCO) w/o attachments

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See Attached

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Communications Report

Company:	Texas Utilities	[X] Telecon	[ ] Conference Report
Project:	Comanche Peak Steam Electric Station Independent Assessment Program - Phase 3	Job No.	84042
		Date:	3/13/84
Subject:	Main Steam System Design Pressure	Time:	11:00 a.m.
		Place:	Site/NY
Participants:	Dick Kim	of	Gibbs & Hill/NY
	J. Minichiello		Cygna

Item	Comments	Required Action By
	In regards to the correct design pressure for the Main Steam Lines, Mr. Kim referred Cygna to Westinghouse document 56-689, "Steam Systems Design Manual." Cygna reviewed Revision 3 of this document at the Westinghouse offices on-site and found in Table 1-1, P_D = 1200 psia for a model 412 (3425 MWT) plant Mr. Kim stated the line list would be revised to reflect the lower pressure. Thus, the data used in the MS analyses is correct.	

Signed: N H Williams /eam Page 1 of 1

Distribution: D. Wade, N. Williams, L Weingart, J. Oszewski, R. Hess, Project File 22-C-313G/PRJ S. Burwell

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Communications Report

Company:	Texas Utilities	[x] Telecon	[ ] Conference Report
Project:	Comanche Peak Steam Electric Station Independent Assessment Program - Phase 3	Job No.	84042
		Date:	June 18, 1984
Subject:	Pipe Stress Questions	Time:	
		Place:	SF
Participants:	H. Mentel	of	G&H
	L.J. Weingart		CES

Item	Comments	Required Action By

Cygna requested clarification on the following G&H responses (item numbers refer to those indicated in the Communications Report dated May 24, 1984).

Item 18

Was the interpolation performed using the refined or unrefined spectra curves?

Item 10

Calculation DRB-1C, Set 3, makes use of mass points at elevations 893.25', 834.75' and 895.33'. Those do not correspond to the elevations shown on any of the response spectra curves (refined or unrefined). Please explain the difference.

Signed: N.H. Williams /MS

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Communications Report

Company: Texas Utilities	☐ Telecon	☒ Conference Report	
Project: Comanche Peak Steam Electric Station Independent Assessment Program - Phase 3		Job No.	84042
		Date	4/3/84
Subject: TUGCO Nuclear Engineering		Time	
		Place	

Participants	of
Borys Czarnogorski	G&H
Shaid Ali	TNE
S. Bibo, D. Smedley, J. P. Toner, M. Maire, H. McGrane & J. Laurie	Cygna

Item	Comments	Required Action By
	I called a meeting with the above participants to get an overview of the TUGCO Nuclear Engineering (TNE) organization and corrective action systems. Specific questions were asked relative TNE C/A systems. It was agreed that Cygna personnel would be given access to all required TNE documents.	

Signed: N H Williams /dhb Page 1 of 1

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Communications Report

Company: Texas Utilities	[ ] Telecon	[X] Conference Report	
Project: Comanche Peak Steam Electric Station Independent Assessment Program - Phase 3		Job No.	84042
		Date	4/2/84
Subject: Mechanical Review Document Request		Time	2:45 pm
		Place	CPSES Site
Participants: B. Wood		of	TUGCO
J. Russ			Cygna

Item	Comments	Required Action By
	Cygna requested the following documents:	
1.	Latest Revision of Load Summary Sheet for CC-2-009-003-A33R	
2.	TF/RB 1384 (MS-1-004-009-C62K)	

Signed: N. H. Williams /pm Page 1 of 1

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Communications Report

Company: Texas Utilities	[X] Telecon	[ ] Conference Report	
Project: Comanche Peak Steam Electric Station Independent Assessment Program - Phase 3		Job No: 84042	Date: 9/28/84
Subject: Mass Participation Study		Time: 4:30 p.m.	Place: G & H/New York

Participants	of
H. Harrison	TUGCO
R. Ballard/H. Mentel/H. Y. Chang	G & H
C. Mortgat	Tera
J. Minichiello	Cygna

Item	Comments	Required Action By

Mr. Harrison stated that TUGCO's direction to G & H was as follows:

1) Rerun a sample of problems using the refined response spectra, ADLPIPE version D, and a $50H_z$ cutoff frequency.

2) Develop a screening criteria from this sample to determine which additional problems need renaming.

3) Provide the site with the load summaries from the rerun problems. The site will evaluate each support with load increases to determine if it is acceptable.

Cygna stated that they reviewed the results of G & H's sample of 35 problems. G & H had plotted percent increase in total (DW + Thermal + Seismic + SAM) support load against the directional mass fraction in the problem containing the support. G & H had also plotted data that TUGCO had developed for Dr. Iotti. This data represented support margin vs. the actual/average support load for various pipe sizes. G & H proposed to screen each problem by:

1) determining the % increase in support load from the plot of % increase vs. mass fraction.

Signed: N H Williams /ajb

Distribution: N. Williams, G. Bjorkman, J. Minichiello, L. Weingart, D. Wade, J. VanAmerongen, J. Ellis, S. Burwell, S. Treby, Project File 23-C-928b/PRJ

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Item	Comments	Required Action By
	2) entering the second set of curves for each support in the problem and determining what the average margin would be. 3) for supports which did not have sufficient average margin, requesting the site to evaluate this increase in load. TUGCO also suggested a second possible approach as follows: 1) Rerun all problems which have mass fractions lower than a certain value. 2) Review onsite all supports in those problems. 3) If no supports require redesign, draw a conclusion concerning the design adequacy of the remaining support based on this sample. Cygna stated that, based on a preliminary review of the results, the sample used to develop the "margin vs actual/average" plots (114 supports) did not represent a sufficient percentage of the plant. Cygna stated that they would formalize their comments on Monday, October 1, in a letter to TUGCO. It should be noted that this approach to the mass participation re-evaluation is different than that stated in the Gibbs & Hill revised plan.	

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Communications Report

Company: Texas Utilities	[X] Telecon	[ ] Conference Report	
Project: Comanche Peak Steam Electric Station Independent Assessment Program - Phase 3		Job No.	84042
		Date	7/31/84
Subject: Phase 3 Open items - Mass participation		Time:	
		Place	CES-SFRO
Participants: M. Vivarito, H. Mentel, S. Lim		of	Gibbs & Hill
N. Williams			Cygna

Item	Comments	Required Action By
	M. Vivarito called to briefly discuss the mass participation program prior to issuing a revised plan. The analysis performed to date (5 study problems) on the new version of ADLPIPE showed that there were load increases, although this did not necessarily translate into a problem with pipe support design adequacy. M. Vivarito had heard through discussions with TUGCO personnel that perhaps Cygna agreed that the pipe supports must see at least the piping tributary mass accelerated at the ZPA. Further, M. Vivarito stated that G&H had review procedures from TVA which employed this technique of ensuring that the pipe support loads were equal to or greater than the mass accelerated at the ZPA. N. Williams responded by acknowledging that when Cygna is doing a review, a common way of checking the piping output for reasonableness is to compare the support loads against the mass accelerated at the ZPA. This is however a reasonableness check only. N. Williams also noted that the TVA approach sounded similar to approaches used by other design organizations in the early to mid seventies. In order to better understand the specifics of the approach, Cygna would like to review a copy of the TVA procedure. G&H was not sure if they could release the document but would check.	

Signed: N.H. Williams /ajb Page 1 of 1

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Communications Report

Company:	Texas Utilities	[X] Telecon	[ ] Conference Report
Project:	Comanche Peak Steam Electric Station Independent Assessment Program - Phase 3	Job No.	84042
		Date	12/5/84
Subject:	Discussion of Design Control Section of the Phase 3 Final Report	Time	12:00 p.m.
		Place	SFRO
Participants	N. Downard	of	EG&G
	D. Terao		US NRC
	N. Williams, D. Smedley, L. Weingart		Cygna

Item	Comments	Required Action By
	EG&G is using ANSI N45.2.11 dated 1974, as opposed to the May 1973 used by Cygna.	

1. Checklist DC-01-01B, page 2. What is the significance of the statement, "Based on documents reviewed?"

   Cygna explained that it was a somewhat redundant comment by the reviewer which means his conclusions are based on the sample document reviewed.

2. Checklist DC-01-02A. What is a DRR?

   Cygna explained that a DRR is a vehicle for the engineering department to use in order to evaluate whether a deficiency is reportable. Once the DRR is determined to be possibly reportable a SDAR is written.

3. Checklist DC-01-02A, item 13. What is a hanger hold?

   Cygna explained that it was a means of halting construction work on a pipe support.

4. Checklist DC-01-02D, item 10. Are inspection reports used only if a discrepancy is observed?

   Cygna responded that the inspection reports are written on everything. It is QC's means of checking installation acceptability.

Signed: N H Williams /ajb

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Communications Report

Item	Comments	Required Action By

5. Checklist DC-01-02D, Attachment 1, page 3 of 4. IR-20061 is shown as missing. This is the only one.

   Cygna responded that the reason for the IR being noted as missing is because it was somewhere in the process before being entered into the vault and being closed out.

6. Checklist DC-01-02D, Attachment 3, page 4 of 5. Referring to the "Comments" column, some of these refer to Unit 2.

   Cygna responded that the review centered around the Unit 1 work, however, there were a couple of documents which are associated with Unit 2 in some of the samples. EG&G asked if it was indicative of TUGCO misfiling. Cygna responded that the review was composed of a random sample of documents from the permanent plant records vault which contains records from both Unit 1 and 2.

7. Checklist DC-03-01, item 5C. EG&G assumed that the exhibits referenced are part of the referenced procedures.

   Cygna concurred and stated that the basis for checking the item satisfactory is provided in Attachment 2 to the checklist.

8. Checklist DC-03-02B, item 1. What is the meaning of the comment on the NCR system?

   Cygna explained that NPSI used an audit system at one time and later instigated an NCR system. Mr. Terao asked if this comment referred to NCR's relative to the design or construction. Cygna responded that there are two types of design deficiencies: (1) Those that are against procedures, and (2) those that are conflicts in the design. Mr. Terao asked for a description of the NCRs since this is a major item in the ASLB hearings. Cygna referred them to Attachment 1, page 2 of 4 for a description.

9. Checklist DC-03-02B, item 11, refers to "Category 4". What is this?

   Cygna referred them to Attachment 1, page 3 of 4 of NCR 1-1020 as an example of a "Category 4". Category 4 is the most severe level of an NCR. Mr. Terao asked if Category 4 of item 7 "correct previous transmittals", is correct. Cygna will check the reference procedure and respond to Mr. Terao.

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Communications Report

Item	Comments	Required Action By
	10. Checklist DC-03-02B, item 27. What is the significance of 7/5/78 through 9/28/80 time frame? Cygna will check the reference procedure. Cygna later explained that the reference procedure was superceded by another procedure as later evidenced by the review matrix. 11. Checklist DC-03-02B, Attachment 1, page 4 of 4. On the fourth line from the bottom there is a mention of Westinghouse. EG&G understood that Westinghouse was not part of the review scope. Cygna responded that this was correct except that due to the interfaces between the various design organizations this caused some Westinghouse documents to be discovered during the design control reviews. 12. Checklist DC-03-02B, Attachment 4, page 1 of 1. What is the meaning of "Various?" Cygna responded that some corrective actions apply to more than one project. 13. Checklist DC-04-02, page 2 of 4, item 5, mentions posting of Part 21 procedures. What does this mean? Cygna responded that this simply meant that they complied with the requirement to make the Part 21 requirements visible to all employees.	

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Communications Report

Company: Texas Utilities

☐ Telecon ☒ Conference Report

Project: Comanche Peak Steam Electric Station Independent Assessment Program - Phase 3

Job No. 84042

Date: 3/2/84

Subject: Jet Impingement Damage Study

Time:

Place:

Participants	of
Rick Babb, D. West	TUSI
J. Minichiello, L. Weingart	Cygna

Item	Comments	Required Action By
	Protection matrices were transmitted to Mike Strange in G&H letter GTN-68175, 12/15/83. Cygna reviewed the matrices listed in that letter; there were no interactions on the Main Steam or Component Cooling water problems in the Cygna scope. Cygna will contact Mr. Strange to verify that the drawings reviewed were the latest revision.	

Signed: NH Williams /pm

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1020.01a

Communications Report

Company: Texas Utilities	☒ Telecon	☐ Conference Report	
Project: Comanche Peak Steam Electric Station Independent Assessment Program - Phase 3		Job No.	84042
		Date:	3/27/84
Subject: Response Time for the Pipe Stress Questions		Time:	11:15 am
		Place:	SF
Participants: S. Lim		of	Gibbs & Hill
L. Weingart			Cygna

Item	Comments	Required Action By
	I contacted Steve to discuss his expected response time for the pipe stress questions. Steve is handling the main steam inside containment and feels that he will have his answers ready for discussion in about a week. He is going to discuss the other problems (MSOC and CCW) with Henry Mentel and call me back later today. I told Steve to consider the possibility of my going to the Gibbs & Hill offices in New York in order to expedite the process.	

Signed: /pm Page 1 of 1

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Communications Report

Company: Texas Utilities	☐ Telecon	☒ Conference Report	
Project: Comanche Peak Steam Electric Station Independent Assessment Program, Phase 3		Job No. 84042	Date: March 15, 1984
Subject: Fire Protection and Hardware Weights for Cable Trays		Time: 1:30 pm	Place: CPSES (site)

Participants	of
Doug Hunt	Gibbs & Hill
D. Nandi	Gibbs & Hill
John Russ	Cygna

Item	Comments	Required Action By
	I spoke to Doug and Mr. Nandi (both of Gibbs & Hill's Site Civil Group) about Mr. Walsh's request for weights of fire protection insulation and cover plates, splice plates and tray-support attachment hardware. Doug told me that the Site Hazards Group is responsible for determining which cable trays will require fire protection. This information is prepared by Mr. Jeff Spiegleman of TUGCO and sent by CPPA to the Civil Group for evaluation of effects due to any additional weight. This evaluation is performed by adding the additional weight into the existing cable tray weight and comparing the total value to the design weight of 35 psf.	
	I gave Doug a copy of the RHR tray segments. To expedite our response to Mr. Walsh's question, I asked Doug to provide the following information:	
	1. Tray segment unit weight for the size of each tray segement.	Gibbs & Hill
	2. Cable fill weight per tray segment.	Gibbs & Hill
	3. Weight of insulation per tray segment.	Gibbs & Hill
	4. If any tray cover, and if so, its unit weight.	Gibbs & Hill
	5. The combined weight of Items 1 through 4.	Gibbs & Hill
	6. Weight of splice ("doubler") plates for the size of each tray segment.	Gibbs & Hill
	7. Weight of the tray attachment clips and bolts for each attachment.	Gibbs & Hill

Signed: John Peter Russ /pm Page 1 of 1

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Communications Report

Company: Texas Utilities	☐ Telecon	☒ Conference Report	
Project: Comanche Peak Steam Electric Station Independent Assessment Program, Phase 3		Job No.	84042
		Date:	March 15, 1984
Subject: Fire Protection for Cable Trays		Time:	2:30 pm
		Place:	CPSES (site)
Participants: Ed Bezkor		of	Gibbs & Hill
John Russ			Cygna

Item	Comments	Required Action By
	I spoke to Ed about the cable trays of the RHR system which may have fire protection applied to them. Ed told me that that information was available only on site. He suggested that I speak to the Site Civil Group regarding fire protection.	

Signed: John Peter Russ /pm Page 1 of 1

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Communications Report

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Company: Texas Utilities	☐ Telecon	☒ Conference Report	
Project: Comanche Peak Steam Electric Station Independent Assessment Program - Phase 3		Job No.	84042
		Date:	3/23/84
Subject: Data Request		Time:	8:30 am
		Place:	Comanche Peak
Participants: D. Rencher		of	Texas Utilities
J. Minichiello			Cygna

Item	Comments	Required Action By
	Cygna requested the following: Add. Load Case 4 in STRUDL run - get output Change sign of X coordinate in Node 24 -- get output We need 2 runs to determine what was used in design (i.e., node 24 with: Run 1. → Y = -.5, x = .374; Run 2. → Y = -.5, x = -.374)	

Signed: J C Minichiello /pm Page 1 of 2

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Communications Report

Company: Texas Utilities	☐ Telecon	☒ Conference Report	
Project: Comanche Peak Steam Electric Station Independent Assessment Program - Phase 3		Job No.	84042
		Date:	3/21/84
Subject: Cygna Questions on Main Steam		Time:	10:00 am
		Place:	Fort Worth
Participants: S. Lim		of	Gibbs & Hill
L. Weingart			Cygna

Item	Comments	Required Action By
	Steve and I discussed all of the questions which have arisen from the review of the stress analyses of the main steam inside and outside containment and the component cooling water system. The main purpose of this discussion was to assure that Gibbs & Hill understood both the nature and intent of the questions such that excessive iterations of response could be avoided.	
	Only one direct action item resulted from this conversation. Steve will send a plot of the time history response of some of the axial restraints on the main steam inside containment. A comparison of these with the plots of the input forcing function along those runs will provide further assurance that the proper forcing functions were indeed applied for each system.	

Signed: L J Weingart /pm Page 1 of 1

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Communications Report

Company: Texas Utilities ☒ Telecon ☐ Conference Report

Project: Comanche Peak Steam Electric Station
Independent Assessment Program - Phase 3

Job No: 84042

Date: 6/14/84

Subject: Oversize Bolt Holes (Pipe Supports)
(Item 25 in 5/24 Telecon)

Time: 9:20

Place: Site

Participants	of
R. Sievers	B&R
J. Minichiello	Cygna

Item	Comments	Required Action By
	Cygna called the CPSES N-STAMP holder to understand their position on the oversize bolt holes. Mr. Sievers, who is responsible for site ASME QC and a member of the Code Committee, stated that both his and the ANI's interpretation of NF-4721 is that no code violation exists. Their basis is that paragraph NF-4721(b) does not prohibit the use of oversize holes in bearing connections. Since the code has no prohibition, no violation exists. If engineering needs a smaller tolerance hole to meet their design criteria, that is up to engineering. For fabrication up to 1/4" oversize would be acceptable.	

Signed: N.H. Williams /ss

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202 W80

95-105 HSI

W80

so as to avoid harmful thermal gradients. This procedure may also be used for postweld heat treatment after repairs.

NF-4624.4 **Heating Components Internally.** The component support or item may be heated internally by any appropriate means and with adequate indicating and recording temperature devices to aid in the control and maintenance of a uniform distribution of temperature in the component support or item. Previous to this operation, the component support or item should be fully enclosed with insulating material.

Bob Sievers B&R
X204

NF-4660 HEAT TREATMENT OF ELECTROSLAG WELDS

Electroslag welds in ferritic material over $1\frac{1}{2}$ in. (38 mm) in thickness at the joints shall be given a grain refining heat treatment.

NF-4700 REQUIREMENTS FOR BOLTED CONSTRUCTION

NF-4710 BOLTING AND THREADING

NF-4711 Thread Engagement

The threads of all bolts or studs shall be engaged for the full length of thread in the nut.

NF-4712 Thread Lubricants

Any lubricant or compound used in threaded joints shall be suitable for the service conditions and shall not react unfavorably with any support element material. Contact surfaces within friction type joints shall be free of oil, paint, lacquer, or galvanizing.

NF-4713 Removal of Thread Lubricants

All threading lubricants or compounds shall be removed from surfaces which are to be welded.

NF-4720 BOLTING

NF-4721 Bolt Holes

For the purpose of this Article, high strength bolts shall be considered those with yield strength greater than 80.0 ksi (552 MPa). Bolt holes shall meet the requirements of (a) through (e) below.

(a) Holes for nonfitted bolts shall meet the requirements of Table NF-4721(a)-1. For anchor bolts or concrete expansion anchors having a specified minimum tensile strength of 80.0 ksi (552 MPa) or less, the hole sizes indicated in this Subsection may be increased by $\frac{1}{16}$ in. (1.6 mm). When the bolt hole size is $\frac{1}{8}$ in. (3.2 mm) larger than the bolt, and the bolt is $\frac{1}{2}$ in. (13 mm) or smaller, standard washers shall be used.

(b) Oversized or slotted bolt holes may be used with high strength bolts $\frac{1}{2}$ in. (13 mm) in diameter and larger, except as restricted in (1), (2), and (3) below.

(1) Oversized holes shall not exceed the requirements of Table NF-4721(b)-1. They may be used in any or all plies of friction-type connections. Hardened washers shall be installed over exposed oversized holes.

(2) Short-slotted holes shall not be wider than permitted by (a) above and shall not have a length exceeding the oversize diameter allowed in (1) above by more than $\frac{1}{16}$ in. (1.6 mm). They may be used in any or all plies of friction-type or bearing-type connections. The slots may be used without regard to direction of loading in friction-type connections but shall be normal to the direction of the load in bearing-type connections. Hardened washers shall be installed over exposed short-slotted holes.

(3) Long-slotted holes shall not be wider than permitted by (a) above and shall not have a length which exceeds $2\frac{1}{2}$ times the bolt diameter. In friction-type connections, the long-slotted holes may be used without regard to direction of loading, provided the stress on the bolts does not exceed 75% of the allowable working stress given in NF-3000. In bearing-type connections, the long diameter of the slot shall be normal to the direction of loading. Long-slotted holes may be used in only one of the connected parts of either a friction-type or bearing-type connection at an individual faying surface. Structural plate washers or a continuous bar not less than $\frac{5}{16}$ in. (8 mm) in thickness shall be used to cover long slots that are in the outer plies of joints. These washers or bars shall have a size sufficient to cover the slot completely after installation and shall meet the requirements of NF-3000.

(c) Except as specified in (d) below, holes may be

.3/4

W 60

W 80

TABLE NF-4721(a)-1
BOLT HOLE SIZES

Bolt Size	Hole Size
≤ 1 in.	Bolt diameter plus $^1/_{16}$ in.
$1\frac{1}{8}$ in. to 2 in.	Bolt diameter plus $\frac{1}{8}$ in.
> 2 in.	Bolt diameter plus $^3/_{16}$ in.

TABLE NF-4721(b)-1
TOLERANCES ON OVERSIZED HOLES

Bolt Size	Max. Hole Size
≤ $\frac{7}{8}$ in.	Bolt diameter plus $^3/_{16}$ in.
1 in.	Bolt diameter plus $\frac{1}{4}$ in.
> 1 in.	Bolt diameter plus $^5/_{16}$ in.

punched, provided the thickness of the material is not greater than the nominal diameter of the bolt plus $\frac{1}{8}$ in. (3.2 mm). When the thickness of the material is greater than the nominal diameter of the bolt plus $\frac{1}{8}$ in. (3.2 mm), holes shall be drilled, subpunched, and reamed, or thermally cut. Thermal cutting shall not be used unless the load bearing surfaces are machined or ground smooth. For subpunched holes, the die shall be at least $^1/_{16}$ in. (1.6 mm) smaller than the nominal diameter of the bolt.

(d) Bolt holes in material over ½ in. (13 mm) thick having a specified minimum yield strength greater than 80.0 ksi (552 MPa) shall be drilled.

(e) For bolts not subjected to shear, the limits for oversized and slotted holes in (d) above may be increased if structural plate washers or continuous bars which meet the requirements of NF-3000 are provided.

NF-4722 Bolted Connections

(a) Surfaces of bolted parts in contact with the bolt head and nut shall not have a slope of more than 1:20 with respect to a plane normal to the bolt axis. Where the surface of high strength bolted part has a slope of more than 1:20, a beveled washer shall be used to compensate for the lack of parallelism.

(b) Bolts loaded in pure shear shall not have threads located in the load bearing part of the shank unless permitted by the Design Specifications.

NF-4723 Precautions Before Bolting

All parts assembled for bolting shall have contact surfaces free from scale, chips, or other deleterious material. Surfaces and edges to be joined shall be smooth, uniform, and free from fins, tears, cracks, and other defects which would degrade the strength of the joint.

NF-4724 Bolt Tension W80

All high strength structural bolts shall be preloaded to a value not less than that given in the Design Specifications. Preloading shall be monitored by the turn of nut method by properly calibrated wrenches, or by direct extension indicators. Bolts preloaded by means of a calibrated wrench shall be installed with a hardened washer under the nut or bolt head, whichever is the element turned in preloading. Hardened washers are not required when bolts are preloaded by the turn of nut method, except that hardened washers are required under the nut and bolt head when the bolts are used to connect material having a specified yield point less than 40.0 ksi (276 MPa).

NF-4725 Locking Devices W80

All threaded fasteners shall be provided with locking devices to prevent loosening during service. Elastic stop nuts (when compatible with service temperature), lock nuts, jam nuts, and drilled and wired nuts are all acceptable locking devices. Upset threads (by peening, tack welding, or other means) may serve as locking devices. Torquing and other preloading methods may be used as locking devices on threaded parts made of material with a yield strength of 80 ksi (552 MPa) and greater, loaded in tension, provided the resulting preload is at least 20% above the maximum load on the fastener for the specified loading conditions, but is limited to 70% of the specified minimum tensile strength of the fastener. The threaded assembly shall be tested for the dynamic loading conditions specified in the Design Specification, and the established preload shall be verified on the assembly by properly calibrated wrenches, direct extension indicators, or the turn of the nut method. The results of the test, required preload, and specified thread lubrication shall be provided in the Design Report. Disk and helical spring lock washers shall not be used as locking devices.

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Communications Report

CYGNA

Company: Texas Utilities	☐ Telecon	☒ Conference Report	
Project: Comanche Peak Steam Electric Station Independent Assessment Program - Phase 3		Job No.	84042
		Date:	3/21/84
Subject: Data Request		Time:	10:30 am
		Place:	Comanche Peak
Participants: D. Rencher		of	TUSI
J. Minichiello			Cygna

Item	Comments	Required Action By
	Cygna requested the following items:	
	Baseplate output re-run dated 10:58:11.12...02/23/84 for calc CC-1-087-004-A33	
	Revision 3 of CC-1-077-013-S435	
	Documents SA-4124 and SA-4125 (Calc. MS-1-004-004-S72)	
	STRUDL frame output for support CC-1-028-023-S33R	
	STRUDL frame output for support MS-1-004-004-C72K	

Signed: J C Minichiello /pm Page 1 of 1

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Communications Report

Company: Texas Utilities	☐ Telecon	☒ Conference Report	
Project: Comanche Peak Steam Electric Station Independent Assessment Program - Phase 3		Job No.	84042
		Date:	3/20/84
Subject: Cygna Comment on MS		Time:	8:00
		Place:	Comanche Peak
Participants: G. Krishnan		of	Gibbs & Hill
J. Minichiello			Cygna

Item	Comments	Required Action By
	Cygna requested response to the following comment:	
1.	For the MS lines, Cygna has not found any hydrotest analysis. Where is the documentation showing hydrotest stresses acceptable?	

Signed: JC Minichiello /pm Page 1 of 1

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Communications Report

Company: Gibbs & Hill	☐ Telecon	☐ Conference Report X	
Project: Texas Utilities - IAP		Job No.	84042
		Date	March 8 , 1984
Subject: CMC and DCA Evaluation Procedure		Time	4:45 p.m.
		Place	CPSES site
Participants:		of	
Bruce Willcoxson			Gibbs & Hill
John Russ			Cygna

Item	Comments	Required Action By
	Ref: Conference Report of March 8, 1984, CMC and DCA Evaluation Procedure, P. Patel and J. Russ participating	

I spoke to Bruce, the Gibbs & Hill Site Design Review Supervisor, about the procedures for review of Component Modification Cards (CMC's) and Design Change Authorization Cards (DCA's). Bruce verified that the revision of PG-24 (see referenced Communications Report) was the most recent.

Bruce also explained that PG-24 was not a complete explanation of the CMC and DCA review process. PG-24 only details the procedure for reviewing CMC's and DCA's sent to Gibbs & Hill's New York office. PG-29, from the same Project Guide, explains the review process performed on site.

The review process for CMC's and DCA's is performed in two ways, with or without prior engineering approval of the proposed changes. Bruce also stated that all CMC's or DCA's will undergo the review procedures set forth in PG-24 and PG-29.

Signed: N. Williams /eam Page 1 of 1

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Communications Report

Company: Texas Utilities	X Telecon	☐ Conference Report

Project: Comanche Peak Steam Electric Station
Independent Assessment Program - Phase 3

Job No. 84042

Date: 2/21/85

Subject: Pipe Support Stability

Time: 11:00 a.m.

Place: SFRO

Participants:	of
J. Finneran	TUGCO
N. Williams, J. Minichiello	Cygna

Item	Comments	Required Action By
	J. Finneran called to find out how Cygna was defining some of the categories used to define stability within the Cygna review scope. (Reference Cygna letter to TUGCO 84042.035, February 19, 1985.) Cygna responded as follows:	
1.	Single strut with box frame or cinched U-bolt	
2.	Multi strut with box frame - as an example see CC-1-019-006-A43R. These are mostly double double struts but sometimes two struts in one direction and one strut in another direction.	
3.	Single strut with uncinched U-bolt stability bumpers. J. Finneran noted that TUGCO had committed to the NRC to remove the stability bumpers.	
4.	Double strut trapeze with uncinched U-bolt. The following three examples. MS-1-003-006-S72R (PS-102) MS-1-001-002-S72R (PS-068) CC-1-028-700-A33R (PS 035) J. Finneran noted that CC-1-028-A53R is actually clinched.	

Signed: NH Williams /ajb

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Communications Report

Company:	Texas Utilities	☐ Telecon	☒ Conference Report
Project:	Comanche Peak Steam Electric Station Independent Assessment Program - Phase 3	Job No:	84042
		Date:	6/4/85
Subject:	DCA Request	Time:	
		Place:	CPSES Site
Participants:	C. Wong	of	Cygna
	J. Finneran		TUGCO

Item	Comments	Required Action By
	Cygna requested and received DCA 20754. This DCA was needed to follow-up Phase 3 support design review questions.	

Signed: N H Williams /ajb

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Communications Report

Company: Texas Utilities

☒ Telecon ☐ Conference Report

Project: Comanche Peak Steam Electric Station Independent Assessment Program - Phase 3

Job No. 84042

Date: 5/15/85

Subject: Pipe Stress Questions

Time:

Place: SFRO

Participants	of
H. Mentel	Gibbs & Hill
L. Weingart	Cygna

Item	Comments	Required Action By
	Cygna requested the reference for the 713,000 lb/hr flow rate used in the thrust calculation for the 8" main steam relief valve (Gibbs & Hill stress problems AB1-23A, B, C & D). Mr. Mentel informed me that this value was used as a result of a request by TUGCO. A more detailed account will be forwarded to Cygna.	

Signed: N H Williams /ajb

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Communications Report

CYGNA

Company: Texas Utilities

☒ Telecon ☐ Conference Report

Project: Comanche Peak Steam Electric Station
Independent Assessment Program - Phase 3

Job No.: 84042

Date: 5/16/85

Subject: Pipe Stress Questions

Time:

Place: SFRO

Participants	of
G. Krishnan	Gibbs & Hill/Site
L. Weingart	Cygna

Item	Comments	Required Action By
	Cygna requested formal documentation of the "Reconciliation" process referred to in the Attachment to Phase 3 checklist PI-09. According to Mr. Krishnan, this process is actually a final "reverification" as described in the as-built verification procedure CP-EI-4.5-1. The "Reconciliation" process which the Gibbs & Hill SSAG group refers to, will not be included in any revision to the as-built verification procedure. Mr. Krishnan will attempt to find some correspondence or documentation that refers to the "Reconciliation" process.	

Signed: N H Williams /ajb

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Communications Report

Company: Texas Utilities | ☒ Telecon | ☐ Conference Report

Project: Comanche Peak Steam Electric Station
Independent Assessment Program - Phase 3

Job No.: 84042

Date: 5/23/85

Subject: Pipe Stress Questions

Time: 9:45 a.m.

Place: SFRO

Participants	of
G. Krishnan	Gibbs & Hill/Site
L. Weingart	Cygna

Item	Comments	Required Action By
	The package transmitted May 17th, "Copies of correspondence of problem 1-61A" should read "Copies of correspondence of problem 1-094".	

Signed: N H Williams /ajb

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