CYGNA
ENERGY
SERVICES

101 California Street, Suite 1000, San Francisco, CA 94111-5894 415/397-5600

January 18, 1985
84042.022

Mr. Vince Noonan
U.S. Nuclear Regulatory Commission
7920 Norfolk Avenue
Bethesda, Maryland 20814

Subject: Open Items Associated with
Walsh/Doyle Allegations
Texas Utilities Generating Company
Comanche Peak Steam Electric Station
Independent Assessment Program, Phase 3
Job No. 84042

Dear Mr. Noonan:

As discussed during our meeting with the NRC staff on January 10, 1985, Cygna has assembled the attached list of open items associated with the Walsh/Doyle allegations and Cygna's Phase 1, 2 and 3 reviews. In addition, item 26 of the attached list has been added even though it was identified as a result of the Phase 4 mechanical systems review. Since it is concerned with piping classification, we thought it may relate in some way to the scope of your SSER.

Also attached is a schedule which graphically depicts the estimated response dates. Please note that the dates reflect milestones known to Cygna at this time and not necessarily item closeout. For example, one item entitled: "sizing of pipe support hardware for rotational restraints," has a January 21, 1985 scheduled commitment from TUGCO to supply Cygna with an evaluation of the problem. Cygna must then review the response which typically takes several weeks. Certain activity completion dates could be revised if the NRC staff indicates a preference to have specific items closed out prior to the scheduled dates shown.

We are currently in the process of reviewing the basis for closure of Phase 1, 2 and 3 items as well as the overall conclusions. In doing this, Cygna will be evaluating all discrepancies and observations together rather than solely within a given phase. We believe this is a necessary and important effort since review results from later phases are clearly impacting the basis for resolution of problems encountered in previous phases. A summary of conclusions which are under review and which will possibly be revised as a result of this effort will be sent to you by January 25, 1985.

50-445
50-446

Boo!
1/1

CYGNA
ENERGY
SERVICES

If you have any questions or wish to discuss any of this information, please do not hesitate to call.

Very truly yours,

N.H. Williams

N.H. Williams
Project Manager

NHW/ajb

Enclosures

cc: Mrs. J. Ellis
Mr. S. Treby
Mr. S. Burwell
Mr. J.B. George
Mr. D. Wade
Mr. D. Pigott
Mr. N. Reynolds

PHASES 1,2 AND 3 OPEN ITEMS LIST

DESCRIPTION	CYGNA CROSS-REFERENCE	STATUS	ESTIMATED RESPONSE DATE
1. Cinching of U-bolts.	IAP, Phases 1 and 2 Final Report, TR-83090-01, Rev. 0. Pipe Support Checklist General Note 1.	Cygna is currently reviewing TUGCO response to Cygna questions (TUGCO letter dated 11/1/84). Based on a preliminary assessment of TUGCO's responses, it appears additional information may be required. In particular, no information has been supplied explaining how TUGCO will extrapolate the analysis/test results to other pipe sizes and schedules. In addition, Cygna is evaluating the acceptability of centroidal stress information for the finite element mesh utilized by Westinghouse.	Cygna letter to TUGCO scheduled for 2/8/85.
2. Pipe support stability.	IAP, Phases 1 and 2 Final Report TR-83090-01, Rev. 0. Pipe Support Checklist General Note 1. IAP, Phase 3 Final Report TR-84042-01, Rev. 1. Pipe Support Checklist General Notes 10, 12 and 16.	Cygna is currently evaluating the pipe supports from all phases to complete our assessment of pipe support stability. This issue is tied to Cygna's completion of the U-bolt cinching reviews.	Cygna letter to TUGCO summarizing the results of the review is scheduled for 2/4/85.
3. Sizing of pipe support hardware for rotational restraints.	IAP, Phase 3 Final Report, TR-84042-01, Rev. 1.	TUGCO performing analyses in response to Cygna Phase 3 Observation PS-03.	TUGCO scheduled response by 1/21/85. Cygna's review will be scheduled subsequent to receipt of TUGCO analyses.

PHASES 1,2 AND 3 OPEN ITEMS LIST (CONTINUED)

	DESCRIPTION	CYGNA CROSS-REFERENCE	STATUS	ESTIMATED RESPONSE DATE
4.	Punching effects in tube steel around bolt holes. (See Figure 1.)	IAP Phase 4 review open item.	Cygna reviewing TUGCO response to Cygna questions on the local effect in the tubesteel wall (TUGCO letter dated 11/8/84).	Letter to TUGCO summarizing Cygna concerns scheduled for 1/25/85.
5.	Cumulative effects of individually insignificant discrepancies.	IAP, Phases 1 and 2 Final Report, TR-83090-01, Rev. 0, "Methodology." IAP, Phase 3 Final Report, TR-84042-01, Rev. 1, "Methodology." Transcript of January 10, 1985 Cygna/NRC meeting.	Cygna believes it is necessary to assess cumulative effects across all phases rather than only within a given phase. Cygna is voiding selected, previously documented conclusions (Phase 1, 2 and 3) since information obtained in later phases affects the basis for resolution of previously closed items.	Summary conclusions for all phases will be provided in the Phase 4 report. Cygna letter to the NRC stating which conclusions are now open and which are now closed is scheduled for 1/25/85.
6.	Corrective action program.	IAP, Phases 3 Final Report, TR-84042-01, Rev. 1, Section 5.3.	The Phase 3 Quality Assurance reviews established that adequate corrective action systems were in place. Cygna is reassessing these conclusions based on findings from all phases of the technical reviews.	Phase 4 report completion date tied to closure of all open items.
7.	Design verification.	IAP Phase 4 review scope.	Part of the Phase 4 review scope.	Phase 4 report completion date tied to closure of all open items.

PHASES 1,2 AND 3 OPEN ITEMS LIST (CONTINUED)

	DESCRIPTION	CYGNA CROSS-REFERENCE	STATUS	ESTIMATED RESPONSE DATE
8.	Dynamic amplification factor for cable tray and conduit support design.	IAP, Phase 2 Final Report, TR-83090-01, Rev. 0, "Conclusions." IAP Phase 4 review scope.	Part of the Phase 4 review scope.	Phase 4 report completion tied to closure of open items.
9.	Governing load case and its effect on allowable stresses for cable tray support design.	IAP Phase 4 review scope.	Part of the Phase 4 review scope.	Phase 4 report completion date tied to closure of all open items.
10.	Accuracy of as-built drawings.	IAP Phase 4 review scope.	Part of the Phase 4 walkdown.	Phase 4 report completion date tied to closure of all open items.
11.	Box frames with 0" gap.	Prefiled Testimony of Nancy H. Williams dated April 12, 1984. Doyle question 15. IAP, Phases 1 and 2 Final Report, TR-83090-01, Rev. 0. Pipe Support Checklist General Note 4. IAP, Phase 3 Final Report, TR-84042-01, Rev. 1.	Cygna has additional questions concerning TUGCO's choice of formulae for calculating pipe stiffness.	Cygna letter to TUGCO summarizing Cygna concerns scheduled for 1/25/85.
12.	Richmond insert allowables and bending stresses.	IAP, Phase 3 Final Report, TR-84042-01, Rev. 1. Pipe Support Checklist General Note 6.	Cygna has reviewed the TUGCO affidavit on Richmond inserts again and has further questions.	Cygna letter to TUGCO summarizing Cygna concerns scheduled for 1/28/85.

PHASES 1,2 AND 3 OPEN ITEMS LIST (CONTINUED)

	DESCRIPTION	CYGNA CROSS-REFERENCE	STATUS	ESTIMATED RESPONSE DATE
13.	Inclusion of pipe support mass in stress analysis.	IAP, Phases 1 and 2 Final Report, TR-83090-01, Rev. 0. Pipe Stress Checklist General Note 1.	A conclusive study of this effect would be lengthy and is not authorized.	N/A
14.	Pipe support self-weight excitation.	IAP, Phase 1 and 2 Final Report, TR-83090-01, Rev. 0. General notes attached to individual pipe support checklists. IAP, Phase 3 Final Report, TR-84042-01, Rev. 1. Pipe Support Checklists General Note 7. Meeting transcript between NRC and Cygna, July 3, 1984.	This issue is under review by the NRC staff. No further Cygna review is planned or authorized at this time.	N/A
15.	Pipe support stiffness used in stress analyses.	IAP, Phases 1 and 2 Final Report TR-83090-01, Rev. 0. General notes attached to individual pipe support checklists. IAP, Phase 3 Final Report, TR-84042-01, Rev. 1. Pipe Support Checklist General Note 8. Meeting transcript between NRC and Cygna, July 3, 1984.	This issue is under review by the NRC staff. No further Cygna review is planned or authorized at this time.	N/A

PHASES 1,2 AND 3 OPEN ITEMS LIST (CONTINUED)

	DESCRIPTION	CYGNA CROSS-REFERENCE	STATUS	ESTIMATED RESPONSE DATE
16.	Mass participation/mass point spacing.	IAP, Phase 3 Final Report, TR-84042-01, Rev. 1. Observations PI-00-05 and PI-09-01.	TUGCO has performed reanalyses on the pipe stress problems and pipe support designs as documented in their 12/7/84 letter to Cygna. Cygna has checked a sample of the reanalyses and has questions on the TUGCO conclusions particularly with regard to pipe support checks for adequacy. Cygna has also requested additional information from Gibbs & Hill per 1/14/85 telecon between L. Weingart and H. Mentel.	Cygna letter to TUGCO is scheduled for one week after receipt of additional information from Gibbs & Hill.
17.	Main steam "stability bumpers".	IAP, Phase 3 Final Report, TR-84042-01, Rev. 1. Observation PS-02.	Closed from a pipe stress standpoint. Open from a support standpoint since the review of these supports was part of item 16 above.	Same as item 16 above.
18.	Rear bracket dimensions.	IAP, Phase 3 Final Report, TR-84042-01, Rev. 1. Pipe Support Checklists General Note 11.	Closed by Phase 4 walkdown.	N/A
19.	Weld length on support CC-1-009-007-A33R.	IAP, Phase 3 Final Report, TR-84042-01, Rev. 1. Pipe Support Checklist PS-004.	Closed by Phase 4 walkdown.	N/A

PHASES 1,2 AND 3 OPEN ITEMS LIST (CONTINUED)

	DESCRIPTION	CYGNA CROSS-REFERENCE	STATUS	ESTIMATED RESPONSE DATE
20.	Pin-to-pin dimension on support CC-1-028-033-S33K.	IAP, Phase 3 Final Report, TR-84042-01, Rev. 1. Pipe Support Checklist PS-026.	Closed by Phase 4 walkdowns.	N/A
21.	Bolting on support MS-1-001-002-S72R.	IAP, Phase 3 Final Report, TR-84042-01, Rev. 1. Pipe Support Checklist PS-068.	Closed by Phase 4 walkdown.	N/A
22.	Qualification of welds in welded/bolted connections.	IAP, Phase 3 Final Report, TR-84042-01, Rev. 1. Pipe Support Observation PS-06.	Cygna has reviewed the Phase 2 supports and found another example of this type of connection.	Cygna letter to TUGCO addressing Cygna concerns is scheduled for 1/28/85.
23.	Verification of cable tray installation against latest drawing.	Telecon attached to Cygna letter 83090.021 to S. Burwell, item 1.	Cygna has addressed this as part of the Phase 4 scope and will issue a letter to the NRC before issuing the Phase 4 report.	Cygna letter to NRC scheduled for 2/11/85.
24.	Verification of cable tray construction drawings against design drawings.	Telecon attached to Cygna letter 83090.021 to S. Burwell, item 5.	Cygna has addressed this as part of the Phase 4 scope and will issue a letter to the NRC before issuing the Phase 4 report.	Cygna letter to NRC scheduled for 2/11/85.
25.	Adequacy of the iterative design process.	Phase 4 design verification reviews, transcript of 1/10/85 Cygna/NRC meeting.	Cygna has addressed this as part of the Phase 4 scope and will issue a letter to the NRC before issuing the Phase 4 report.	Cygna letter to NRC scheduled for 3/11/85.

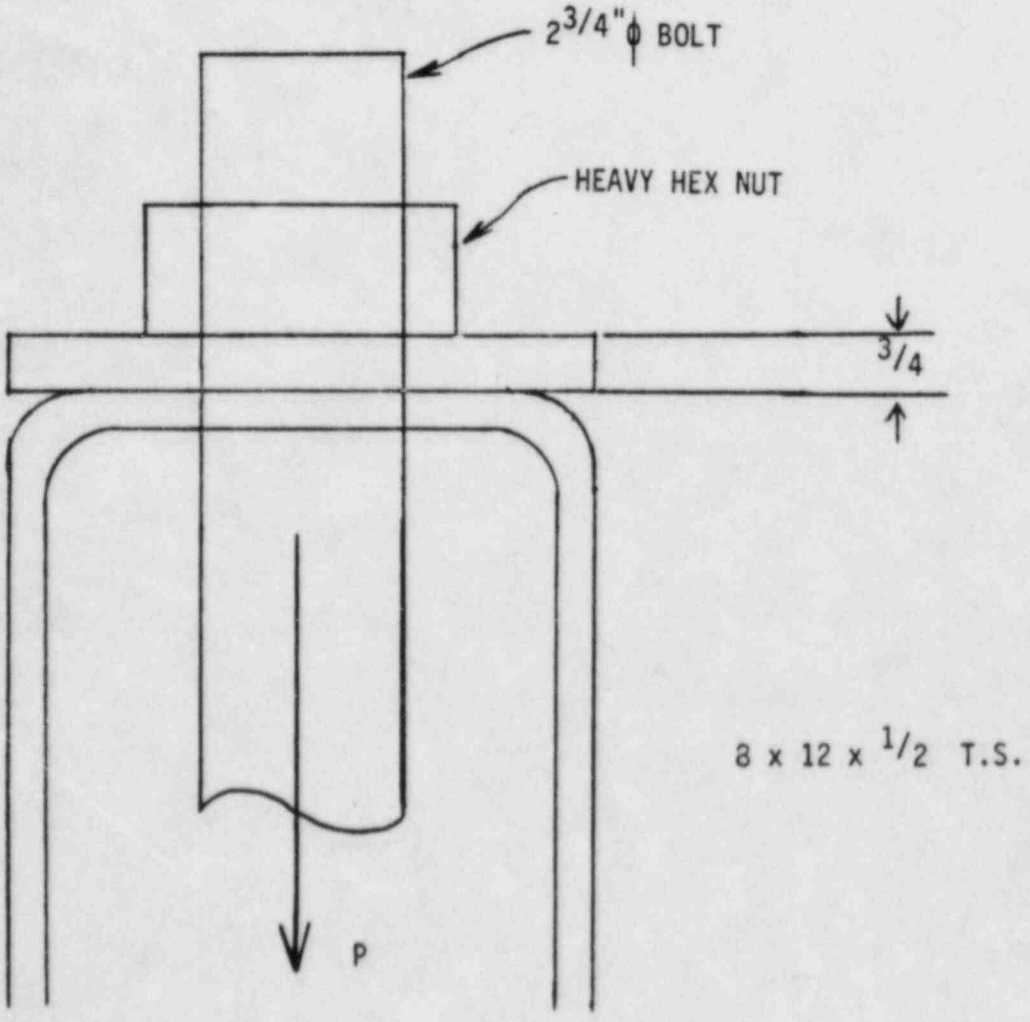
PHASES 1,2 AND 3 OPEN ITEMS LIST (CONTINUED)

	DESCRIPTION	CYGNA CROSS-REFERENCE	STATUS	ESTIMATED RESPONSE DATE
26.	Effect of nonsafety related seismic Category II piping on safety related piping (CPSES FSAR Section 3.2, subparagraph 3 "Other Classifications.")	Cygna letter 84056.10 dated 7/30/84, question 3. Cygna letter 84056.023 dated 8/21/84, question 2. TUGCO letter to Cygna dated 8/11/84. TUGCO letter to Cygna dated 9/11/84. TUGCO letter to Cygna dated 9/25/84. Cygna Phase 4 Observation MS-02-01.	Cygna has addressed and closed this issue for the Component Cooling Water System as part of the Phase 4 review scope. Review of generic implications for other piping systems is not authorized at this time.	N/A

FIGURE 1

PUNCHING EFFECTS IN TUBE STEEL

(example)



OPEN ITEMS SCHEDULE
(RESPONSE DATES)