

TR-83090-02 Rev. 0

June 29, 1984

Texas Utilities Generating Company  
Comanche Peak Steam Electric Station  
Independent Assessment Program

DCC Satellite Review

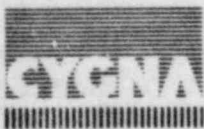
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DCC Satellite Review, TR-83090-02, Rev. 0

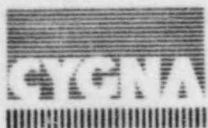
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**DOCUMENT CONTROL CENTER  
SATELLITE REVIEW RESULTS**

**PURPOSE AND SCOPE**

The purpose of the satellite review was to assess how well the Comanche Peak Steam Electric Station document distribution system was working. To do this, Cygna selected a sample of drawings and checked each of six satellites to determine whether or not the associated design changes (DCA's and CMC's) and design change logs were being maintained in accordance with the requirements of TUGCO procedure DCP-3, Revision 18, "CPSES Document Control Program." In addition, we reviewed recipients' files to assess completeness of packages transmitted on controlled distribution by the satellite.

There are now four satellite locations, although, in two instances, two satellites exist at one location.

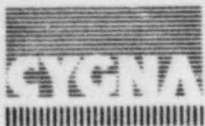
1. Satellites 300 and 301 - Supervisor S. Brown
2. Satellite 304 - Supervisor J. Tate
3. Satellite 306 - Supervisor P. Wells
4. Satellites 307 and 308 - Supervisor S. Bruce (Note: Satellite numbers 302, 303 and 305 are not in use.)

Cygna reviewed all six satellites at four locations and one recipient. The recipient was included in the satellite review since 24 drawings in the drawing sample were issued to Recipient 100 and not to a satellite.

**METHODOLOGY**

A sample of 66 drawings was randomly selected from the Cygna "Vendor/Client Drawing Control Log" which lists drawings associated with the Main Steam and Component Cooling Water Systems. Drawings types were selected to assure an adequate cross-discipline review, including Pipe Supports, Hanger Location, Mechanical, Piping, Electrical and Structural.

The sample size was based on ANSI/ASQC Z1.4 - 1981 (MIL-STD-105D) techniques using a lot size of 267. Referring to Tables I and II-A in this standard, respectively, "Sample Size Code Letters" (General Inspection Level II) and "Single Sampling Plans for Normal Inspection," the required sample size was determined to be 32. The actual sample size used was 66, broken down as follows:

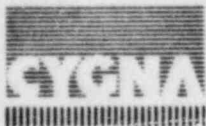


<u>Drawing Type</u>	<u>Sample Size</u>
Pipe Support	19
Hanger Location	8
Mechanical	14
Piping	10
Electrical	10
Structural	<u>5</u>
<b>TOTAL</b>	<b>66</b>

On June 11, 1984, DCC (central) was requested to provide a computerized distribution list and, as applicable, a computerized or manual open design change log for the selected drawings. These drawings are listed below along with the revision number and change in status based on a 6/11/84 Open Design Change Log provided by DCC Central.

#### DRAWING SAMPLE

<u>Drawing No.</u>	<u>Rev</u>	<u>Open Design Changes</u>	
		<u>Yes</u>	<u>No</u>
CC-1-009-001-A33R-1	6		X
CC-1-020-002-A33R-1	5		X
CC-1-028-024-S33R-1	11		X
CC-1-028-005-A33R-1	5		X
CC-1-028-700-A33R-2	7		X
CC-1-028-726-S33K-1	1		X
CC-1-077-011-S43R-1	3		X
CC-1-077-014-S33K-1	7		X
MS-1-001-001-S72R-1	1		X
MS-1-001-005-S72R-1	4		X
MS-1-001-006-C72K-2	6		X
MS-1-002-004-C72K-2	9		X
MS-1-003-001-S72R-2	2		X
MS-1-003-001-C72S-1	3		X
MS-1-004-004-S72R-1	2		X
MS-1-004-006-C72K-1	3		X
MS-1-004-009-C62K-1	6		X
BRHL-MS-1-RB-001	4		X
BRHL-MS-1-RB-004	2		X
BRHL-MS-1-RB-017	2		X



<u>Drawing No.</u>	<u>Rev</u>	<u>Open Design Changes</u>	
		<u>Yes</u>	<u>No</u>
BRHL-CC-1-AB-007	6		X
BRHL-CC-1-AB-013	10		X
BRHL-CC-1-AB-049	6		X
BRHL-CC-1-SB-001	5		X
BRHL-CC-1-SB-003	5		X
2323-M1-202	CP4		X
2323-M1-228	CP4		X
2323-M1-243	CP5		X
2323-M1-261	CP4		X
2323-M1-301	CP5		X
2323-M1-307	3	X	
2323-M1-430	4	X	
2323-M1-508	11		X
2323-M1-511-01	12	X	
2323-M1-609	11		X
2323-M1-612	14	X	
2323-M1-619	11	X	
2323-M1-623-02	1	X	
2323-M1-700	9	X	
BRP-MS-1-SB-010	5		X
BRP-MS-1-SB-017	10		X
BRP-MS-1-SB-025	7		X
BRP-MS-1-SB-031	6		X
BRP-MS-1-SB-041	8		X
BRP-MS-1-RB-001	8		X
BRP-MS-1-RB-016	8		X
BRP-FW-1-SB-023	4		X
BRP-AF-1-SB-025	16		X
BRP-AF-1-SB-027B	16		X
2323-E1-601-02	15	X	
2323-E1-601-11	4		X
2323-E1-605	10	X	
2323-E1-700-01	9	X	
2323-E1-701-03	9	X	
2323-E1-713-02	19	X	
2323-E1-717-11	5	X	
2323-E1-716-01	20	X	





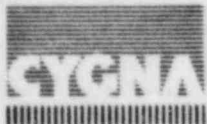
<u>Drawing No.</u>	<u>Rev</u>	<u>Open Design Changes</u>	
		<u>Yes</u>	<u>No</u>
2323-E1-716-11	2		x
2323-E1-716-14	2		x
2323-E1-601-01-S	4	x	
2323-E1-700-01-S	3	x	
2323-E1-701-01-S	5	x	
2323-E1-716-01-S	1	x	
2323-S1-614	4	x	

The review at each of the four satellite locations was performed between 6/11 and 6/13/84 in accordance with Cygna Instruction entitled "TUSI IAP - DCC Satellite Review Instructions" (6/1/84). Using the DCC distribution list for each drawing, Cygna determined which satellite(s) were responsible for each sample drawing. A breakdown of the number of drawings reviewed at each satellite and the number of associated design changes is provided in the table below. As previously stated, Recipient 100 is included in this satellite listing since 24 drawings of the sample were not issued to a satellite. Rather, DCC Central distributed them directly to Recipient 100, site Pipe Support Engineering (PSE), without satellite involvement. Unlike the satellites, recipients cannot reproduce or distribute drawings.

#### SUMMARY OF SATELLITE/RECIPIENT SAMPLING

<u>Satellite or Recipient No.</u>	<u>No. Required To Be On File</u>	<u>No. of Open Design Changes</u>
300	6	21
301	6	21
304	36	656
306	29	843
307	10	108
308	10	0
100	24	123
<b>TOTAL</b>	<b>121</b>	<b>1,772</b>

After reviewing the satellite files, a review of recipients who were issued, or signed out, drawings from specific satellites was performed to assess



distribution control between the satellites and the document holder(s). The number of drawings and associated design changes for the recipient's review are as follows:

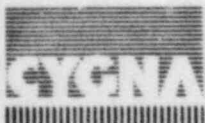
<u>Satellite No.</u>	<u>Number of Signed Out Drawings Reviewed</u>	<u>Number of Associated Design Changes Reviewed</u>
.. 300	4	21
301	4	21
304	22	190
306	14	320
307	12	200
308	<u>2</u>	<u>0</u>
	<b>TOTAL</b>	<b>752</b>

This additional review, when combined with the number of drawings and design changes reviewed at all satellites, including Recipient 100, brings the total number of drawings reviewed to 179 and the total number of open design changes reviewed to 2,524.

#### REVIEW RESULTS

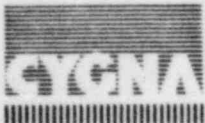
The review results for each satellite are provided below, followed by a summary and a description of generic discrepancies.

1. Satellite 300 - All six drawings were on file at the satellite. Of the 21 open design changes required to be at satellite 300, one was not the latest revision, and one was missing. Of the four "signed-out" drawings reviewed, all were in the possession of the designated recipient. Of the 21 associated design changes, the recipient did not have the latest revision of one design change. The "sign-out" card for one issued drawing was missing.
2. Satellite 301 - All six drawings were on file at the satellite. Of the 21 open design changes required to be at satellite 301, one was not the latest revision, and one was missing. Of the four "signed-out" drawings reviewed, all were in the possession of the recipient as required. Of the 21 associated design changes, the recipients did not have the latest revision of two design changes.



3. Satellite 304 - Of the 36 drawings required to be on file at satellite 304, four were found to be missing (no hard copy, no aperature card). Of the 656 open design changes required to be at Satellite 304, 72 were missing and five were not the latest revision. Of the 22 "signed out" drawings reviewed, all were in the possession of the recipient as required, and of the 190 associated design changes the recipient did not have 177 design changes.
4. Satellite 306 - All of the 29 drawings were on file at the satellite. Of the 843 open design changes required to be at the satellite, four were missing and two were the wrong revision. Of the 14 "signed out" drawings reviewed, all were in the possession of the recipient as required, and all of the 320 associated design changes were in the possession of the recipients.
5. Satellite 307 - All ten drawings were on file at the satellite. Of the 108 open design changes required to be at satellite 307, two were missing. Of the 12 "signed out" drawings reviewed, all were in the possession of the recipient as required, and of the 200 associated design changes, recipients were found to have two incorrect design change revisions in their possession.
6. Satellite 308: All ten drawings were on file at the satellite. There were no associated design changes required at this satellite. Of the two "signed out" drawings reviewed, both were in the possession of the recipient as required.
7. Recipient 100 (PSE): All 24 drawings were on file with Recipient 100. 22 of these drawings were issued "For Office and Engineering Use Only," which does not require that all design changes be maintained with the drawings. Of the 123 open design changes required to be with Recipient 100, 23 were missing, and five were the wrong revision. It should be noted that Recipient 100 requested controlled distribution for two of the 24 drawings and associated design changes. The 123 design changes required to be controlled by Recipient 100 were associated with the controlled drawings. The missing design changes do not constitute an error by DCC, but appear to be a result of Recipient 100's filing system.

In summary, four drawings of 179 were missing. All four of these were missing from satellite 304. 299 of 2,524 design changes required to be in the satellite and recipient files were either missing or were the incorrect





revision. 89 of the missing/incorrect design changes were associated with the satellite files.

Two generic discrepancies were noted at various satellites as follows:

1. The number of copies identified on the DCC Drawing Distribution was not always consistent with the actual number of copies within a satellite's responsibility. For example, the 6/11/84 DCC Drawing Distribution for Drawing 2323-M1-202, Rev. CP-4 shows one copy issued to satellite #304; however, the actual number of copies needed for distribution by satellite #304 is seven.
2. In some instances the latest revision of a design change was not identified on the Open Design Change Log. However, the change was on file at the satellite or recipient. For example, the 6/11/84 Open Design Change Log for Drawing 2323-E1-701, Sheet 01S, Rev. 5 lists CMC 52462, Rev. 2. However, a review of the Auxiliary Task Force files (recipient) revealed that CMC 52462, Rev. 3 had been issued.

## CONCLUSIONS

Although Cygna noted procedural violations such as missing copies of design changes, the fact that the recipients (those who signed or were issued packages from the satellites) consistently received all the required changes indicates that the documentation issued for design/construction is complete.

During the review, Cygna witnessed two satellites issuing packages (for daily sign out) to individuals. The first step in issuing a package was to access the central data base on the satellite remote CRT. The CRT displayed a listing of all open design changes against a given drawing. Satellite personnel then printed the listing and pulled all the associated design changes. If the satellite personnel didn't have a copy of a design change, they did not issue that package until DCC Central delivered the missing design change(s). A case was observed where drawing 2323-M1-307, Rev. CP-4 was requested late in the morning of 6/11/84. When the Satellite checked the data base for this drawing, one DCA and one CMC (CMC 95628, Rev. 2) were listed as open against this drawing. The satellite did not have a copy of the CMC but requested one from DCC prior to release of the package. It was found that CMC 95628, Rev. 2 had been input into the data base by DCC mid-morning of 6/11/84. The Open Change Log we received earlier that morning showed one DCA against the drawing. This particular instance was a positive example that the latest design changes are being issued for construction.



Based on Cygna's review, drawings with outstanding design changes were all tracked on the computerized system. Drawings being tracked by the manual system did not have any design changes outstanding. Therefore, the instant updating capability of the computerized system is effectively assuring that the latest design changes are issued to construction.

Although design changes were missing in some satellites, the fact that only completed packages "cross the counter" demonstrates system control. Generally, recipients were found to have missing design changes not because of lack of control by the satellites or DCC Central, but because of the recipients' filing systems as evidenced by the problems with Recipient 100 and one of satellite 304's recipients.

The satellites have access to a computerized Satellite Recipient Entry System which gives a listing of all drawings "signed out" to each individual. This enables the satellite to know exactly who has copies of which drawings, so that when a design change is issued, it can be delivered to the recipient. Cygna understands that this system is in the process of being linked directly to the DCC Drawing Distribution which will automatically update the "number of copies" on the DCC Drawing Distribution when the satellite adds an individual to the Satellite Recipient Entry System. This should correct the "number of copies" discrepancies.

