Attachment
CEC-99-075

PIPING CONFIGURATION VERIFICATION PROGRAM
STATUS REPORT

Commonwealth Edison Company
Dresden Units 2 and 3
Quad Cities Units 1 and 2

Prepared by

NUTECH Engineers

August 14, 1987

1.0 INTRODUCTION

This report describes the status of activities being performed to resolve the issues regarding apparent discrepancies found between the as-built and as-analyzed condition of certain Mark I torus attached piping at Dresden Units 2 & 3 and Quad Cities Units 1 & 2. A previous report, "Program Description and Status Report," NUTECH Document CEC-99-024, dated June 22, 1987, describes the background, the details of the program for resolution, and the status of the effort at that time.

The purpose of this report is to advise the NRC of the current status of work being performed. Additional biweekly reports will be issued to update the status of these activities and highlight any new developments. The previous status report, CEC-99-061, was dated July 28, 1987.

2.0 STATUS

The status of the program is summarized on the Figures 2.0-1 and 2.0-2, and Tables 2.0-1 and 2.0-2, for Dresden and Quad Cities, respectively. The figures show the DDR status superposed on the program logic diagram. The tables present essentially the same information in tabular format, with "% complete" added. These figures and tables will be updated on each biweekly report to indicate progress. Status of the ongoing FSAR/ operability analyses will be reported as significant milestones are reached.

2.1 Second Level Screening

As of July 10, 1987, all DDRs were processed through second level screening, with the exception of 13 DDRs which are included in models being addressed as part of the formal assessments discussed in 2.2 below.

2.2 Formal Assessments for FSAR/Operability Compliance

As identified in the last status report, five piping models are in the process of being formally assessed for FSAR/operability compliance. These five models are:

D2.02	D2 - ECCS Suction Header
D3.02	D3 - ECCS Suction Header
Q2.04	QC2 - HPCI Pump Suction
Q2.09.01	QC2 - RHR Pump Discharge A/B
D3.10	D3 - Pressure Suppression

The status of each of these is addressed below.

D2.02

This model has been updated and analyzed for the relevant static, thermal, seismic and hydrodynamic loads. The pipe stress and pipe support calculations to demonstrate operability were completed.

With the exception of two connections to 4 inch diameter branch lines, and the local stresses at an integral stanchion attachment at pipe support M-3202-33, all large bore piping also satisfied FSAR criteria.

Thirty-eight (38) of a total of forty (40) pipe supports on this model were shown to satisfy FSAR criteria. Supports M-3202-35 and M-3209-13 are the two that did not, based on that analysis.

More detailed calculations to demonstrate FSAR compliance for all piping and pipe support components are in progress (See Section 3.0).

D3.02

This model has been updated and analyzed for the relevant static, thermal, seismic and hydrodynamic loads. The pipe stress and pipe support calculations to demonstrate operability were completed.

With the exception of two branch connections to 4 inch diameter lines, and the local stresses at an integral stanchion attachment at pipe support M-3404-14, all large bore piping in this model was also shown to satisfy FSAR criteria.

Thirty-seven (37) of a total of forty (40) pipe supports on this model were shown to satisfy FSAR criteria.

Supports M-3402-34, M-3403-06, and M-3405-05 are the three supports that did not, based on that analysis.

More detailed calculations to demonstrate FSAR compliance for all piping and pipe support components are in progress. (See Section 3.0).

Q2.04

In model Q2.04, an error in the current analysis was discovered during the review process (an input load had been improperly defined). The piping and pipe support calculations are being corrected. The current projection is for completion of that operability evaluation by 9/8/87.

Q2.09.1

This model has been updated and analyzed for the relevant static, thermal, seismic and hydrodynamic loads. The pipe stress and pipe support calculations to demonstrate operability were completed. All large bore piping in the model was also shown to satisfy FSAR criteria. With the exception of pipe support M-1809-05, the other three pipe supports on this model satisfied FSAR criteria.

More detailed calculations to demonstrate FSAR compliance for support M-1809-05 are in progress (See Section 3.0).

D3.10

Work on this model is in progress. Completion of the formal operability assessment of this model is now

rescheduled for 8/24/87. This slippage is due to slower general progress than anticipated.

2.3 FSAR Compliance of DDRs Which Passed 2nd Level Screening

The DDRs which "passed" the second level screening criteria are being evaluated for FSAR compliance. Work on these is in progress. Completion of these FSAR evaluations is scheduled for 11/9/87.

2.4 Planned Activities

The following activities are scheduled during the next two week period.

1. Revise analysis of Q2.04 model as described above.

2. Complete formal assessment of D3.10 model.

3. Perform additional analysis as required to demonstrate FSAR compliance of large bore piping and pipe support components of D2.02 model which, based on analysis performed to date, have demonstrated operability but not FSAR compliance.

4. Perform additional analysis as required to demonstrate FSAR compliance of all large bore piping and pipe support components of D3.02 model which, based on analysis performed to date, have demonstrated operability but not FSAR compliance.

5. Perform analysis as required to demonstrate FSAR compliance of pipe support M-1809-05 of D2.09.1 model.

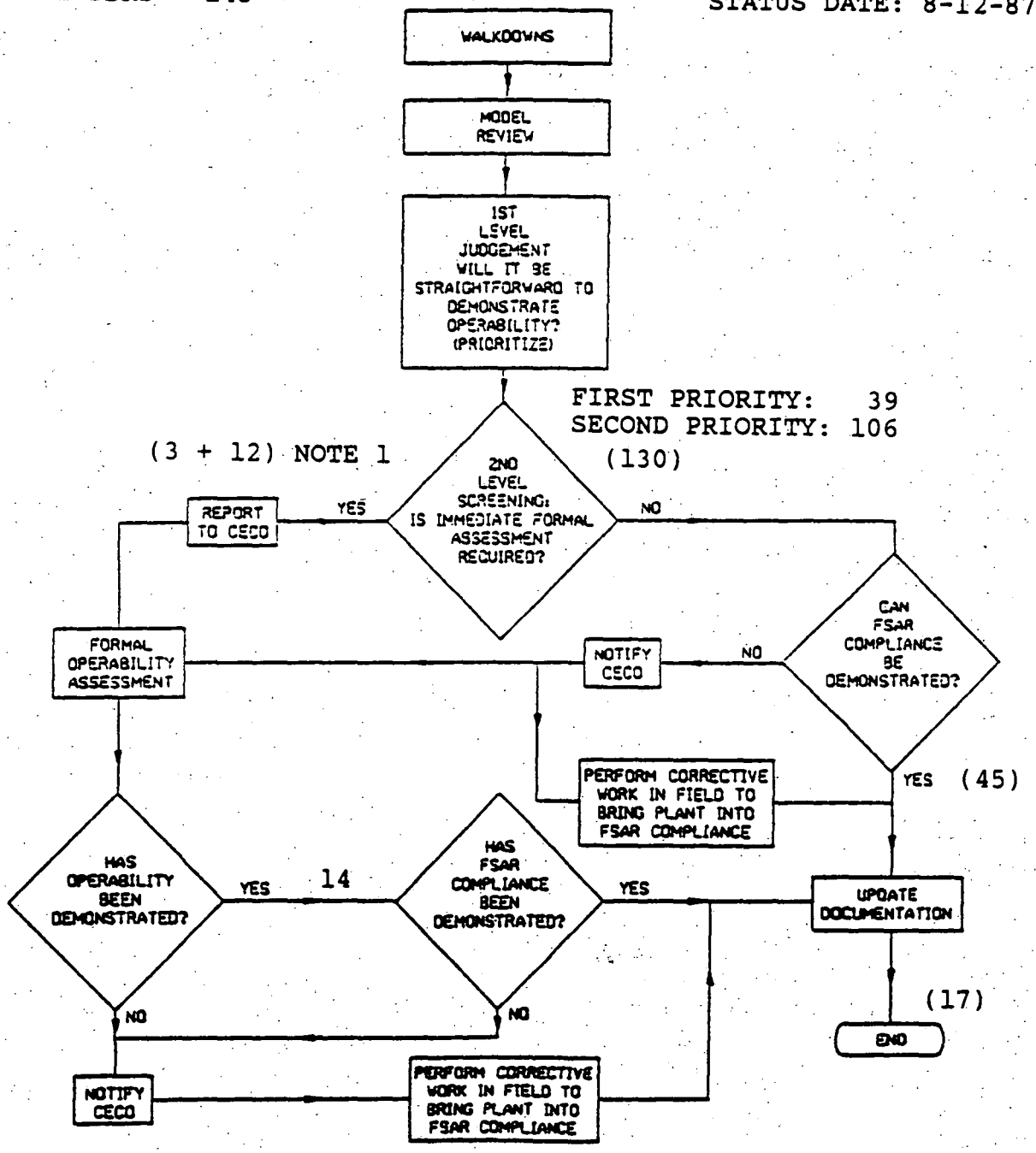
Figure 2.0-1

STATUS SUMMARY

DRESDEN 2 & 3

TOTAL DDRs = 145

STATUS DATE: 8-12-87

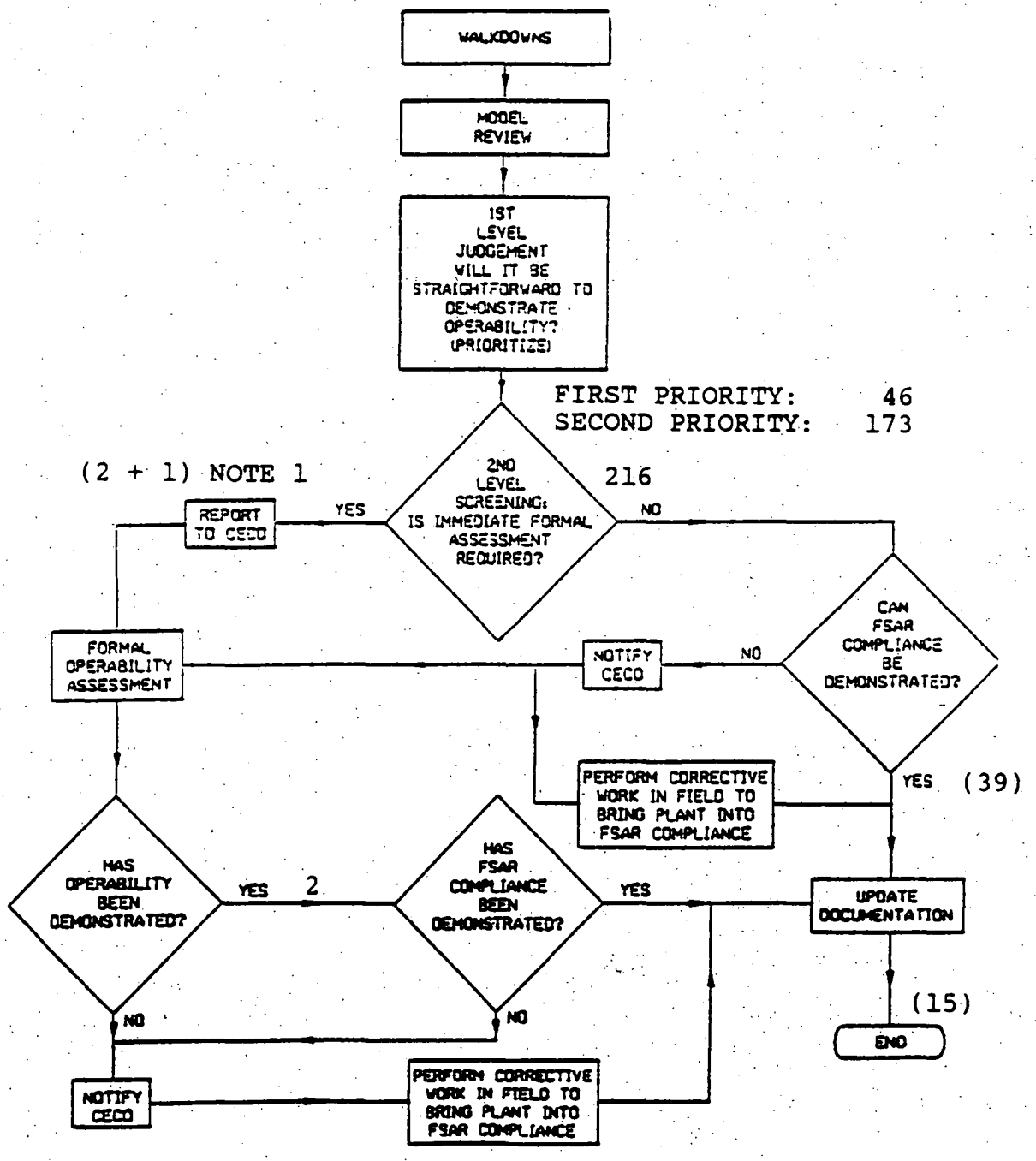


NOTE 1: 3 DDRS require formal assessment. 12 additional DDRs are being evaluated with those piping models being formally assessed.

Figure 2.0-2

STATUS SUMMARY

TOTAL DDRs = 219 QUAD CITIES 1 & 2 STATUS DATE: 8-12-87



NOTE 1: 2 DDRs require formal assessment. 1 additional DDR is being evaluated with a model being formally assessed.

Table 2.0-1

STATUS SUMMARY

DRESDEN 2 & 3

Status Date: 8-12-87

Activity Description	Total Scope	Completed		% Complete
Configuration Walkdown				
D2	13	13		100%
D3	15	15		100%
Total (Models)	28	28		100%
Model Review				
D2	13	13		100%
D3	15	15		100%
Total (Models)	28	28		100%
1st Level Judgement of DDRs				
D2	66	66		100%
D3	79	79		100%
Total (DDRs)	145	145		100%
2nd Level Screening of First Priority DDRs				
D2	17	17		100%
D3	22	22		100%
Total (DDRs)	39	39		100%
2nd Level Screening of Second Priority DDRs				
D2	49	44	Note 1	89%
D3	57	50	Note 1	88%
Total (DDRs)	106	94		89%
DDRs Requiring Formal Operability				
D2	1	1		100%
D3	2	1		50%
Total (DDRs)	3	2		67%
DDRs Resolved for FSAR				
D2	66	30		45%
D3	79	15		19%
Total (DDRs)	145	45		31%

Note 1: Five D2 and seven D3 Second Priority DDRs are being addressed with models having other DDRs which required formal assessment of those models.

Table 2.0-2

STATUS SUMMARY

QUAD CITIES 1 & 2

Status Date: 8-12-87

Activity Description	Total Scope	Completed		% Complete
Configuration Walkdown				
QC1	18	18		100%
QC2	19	19		100%
Total (Models)	37	37		100%
Model Review				
QC1	18	18		100%
QC2	19	18		95%
Total (Models)	37	36		97%
1st Level Judgement of DDRs				
QC1	100	100		100%
QC2	119	119		100%
Total (DDRs)	219	219		100%
2nd Level Screening of First Priority DDRs				
QC1	24	24		100%
QC2	22	22		100%
Total (DDRs)	46	46		100%
2nd Level Screening of Second Priority DDRs				
QC1	76	76		100%
QC2	97	96	Note 1	99%
Total (DDRs)	173	172		99%
2nd Priority DDRs Requiring Formal Operability				
QC1	0	0		100%
QC2	2	1		50%
Total (DDRs)	2	1		50%
DDRs Resolved for FSAR				
QC1	100	20		20%
QC2	119	19		16%
Total (DDRs)	219	39		18%

Note 1: One Q2 second priority DDR is being addressed with a model having another DDR which required formal assessment of that model.

3.0 SCHEDULE

The schedule for performing additional calculations as necessary to demonstrate FSAR compliance for those components of the D2.02, D3.02, and Q2.09.1 models which based on the assessments to date have only been shown to satisfy operability is provided in Table 3.0-1.

A schedule of 11/9/87 has been set for completing the FSAR compliance evaluations of all DDRs not included in the formal operability assessments. The schedule for remaining activities (e.g. modifications, documentation updating) will be established as the need for those activities becomes known.

The schedules for other major activities are shown on Figures 3.0-1 and 3.0-2 for Dresden and Quad Cities, respectively.

Figure 3.0-1

PIPING CONFIGURATION VERIFICATION PROGRAM SCHEDULE

DRESDEN 2 & 3

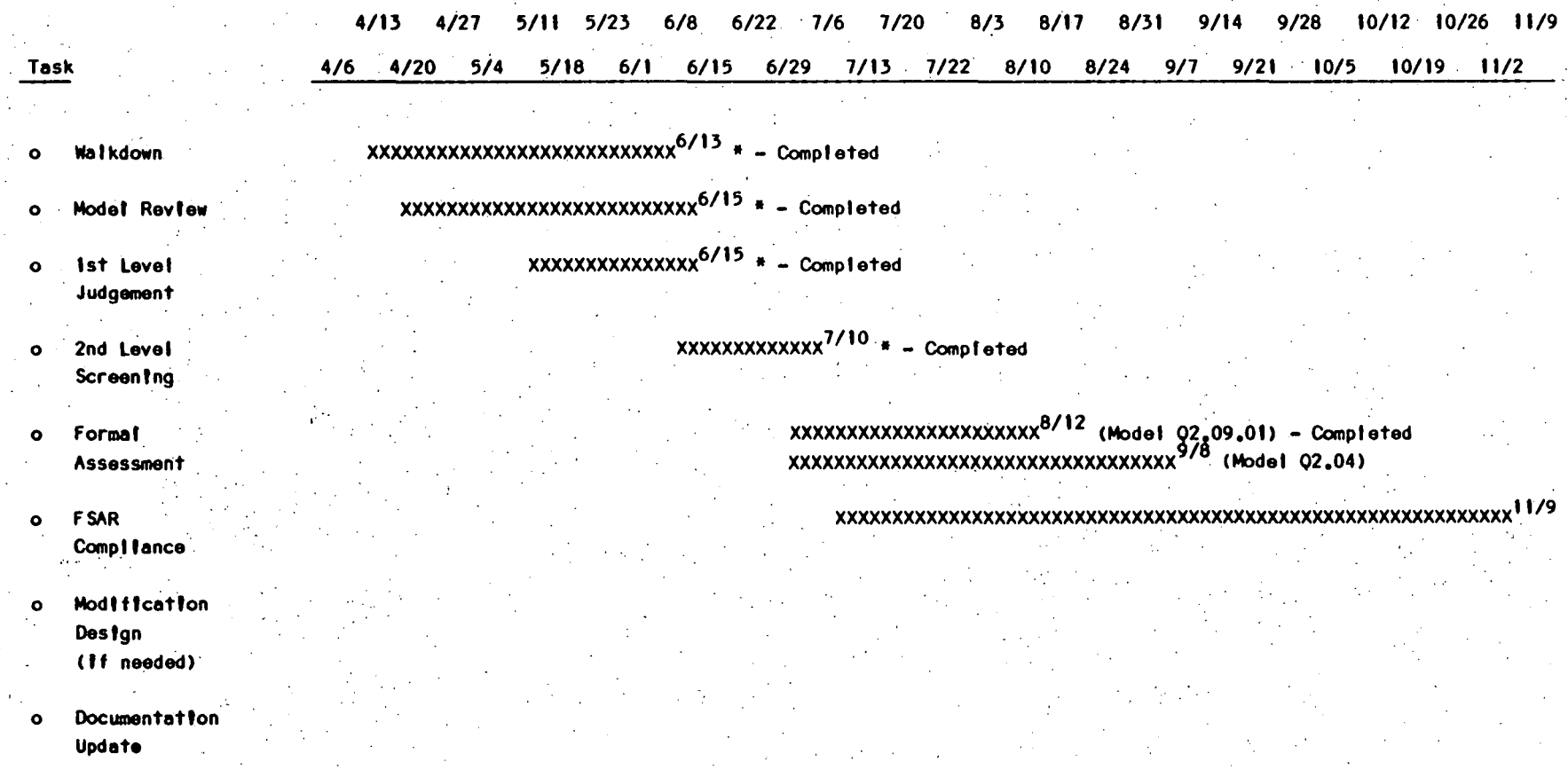
4/13 4/27 5/11 5/23 6/8 6/22 7/6 7/20 8/3 8/17 8/31 9/14 9/28 10/12 10/26 11/9

Task	4/6 4/20 5/4 5/18 6/1 6/15 6/29 7/13 7/22 8/10 8/24 9/7 9/21 10/5 10/19 11/2
o Walkdown	XXXXXXXXXXXXXXXXXX 5/19 - Completed
o Model Review	XXXXXXXXXXXXXXXXXXXXXXX 6/1 - Completed
o 1st Level Judgement	XXXXXXX 6/1 - Completed
o 2nd Level Screening	XXXXXXXXXXXXXXXX 7/10 - Completed
o Formal Assessment	XXXXXXXXXXXXXXXXXXXXXXX 8/3 - Completed (Models D2.02 & D3.02) XXXXXXXXXXXXXXXXXX 8/24 (Model D3.10)
o FSAR Compliance	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX 11/9
o Modification Design (if needed)	
o Documentation Update	

Figure 3.0-2

PIPING CONFIGURATION VERIFICATION PROGRAM SCHEDULE

QUAD CITIES 1 & 2



*Except QC2.11.2

Table 3.0-1

ACTIVITY/DELIVERABLE	SCHEDULED DATE	ACTUAL DATE
1. Complete Formal Assessment of Dresden Models D2.02 and D3.02	08/03/87(R1)	08/03/87
2. Complete Formal Assessment of Quad Cities Model Q2.09.01.	08/07/87(R1)	08/12/87
3. Complete Formal Assessment of Quad Cities Model Q2.04.	09/08/87(R2)	
4. Complete Formal Assessment of Dresen Model D3.10	08/24/87(R1)	
5. Complete FSAR compliance calculation for pipe supports: M-1809-05 (Q2.09.1) M-3202-35 (D2.02) M-3204-13 (D2.02) M-3402-34 (D3.02) M-3403-06 (D3.02) M-3405-05 (D3.02)	08/28/87	
6. Complete FSAR compliance calculation for 4 inch branch connections (models D2.02 and D3.02): Line No. 2-1418A-4"-LX (D2.02) Line No. 2-1418B-4"-LX (D2.02) Line No. 3-1418A-4"-LX (D3.02) Line No. 3-1418B-4"-LX (D3.02)	08/31/87	

7.	Complete FSAR compliance calculation for integral stanchion attachment at supports: M-3202-33 (D2.02) M-3404-14 (D3.02)	09/10/87
11.	Completion of FSAR Compliance Evaluations of all DDRs	11/09/87