



**Consumers
Power
Company**

Dear L Quamme
Site Manager
Midland Project

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PRINCIPAL STAFF		
✓ RA	DRP	
D/RA	DRS	
RC	DRSS	
PAO	ML	
SGA	OL	
EIC	OI	
ORMA	FILE	

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June 21, 1984

Mr John J Harrison, Chief
Midland Project Section
U S Nuclear Regulatory Commission
Region III
799 Roosevelt Road
Glen Ellyn, IL 60137

MIDLAND ENERGY CENTER
MIDLAND DOCKET NOS 50-329, 50-330
PIPE HANGERS AND WHIP RESTRAINTS
FILE 0655.3 SERIAL CSC-7929

On May 10, 1984, and subsequently on May 29, 1984, Consumers Power Company discussed an initiative with the NRC relating to pipe hangers and whip restraints for the Midland Nuclear Plant. This letter is a formal request to consider this initiative, which we believe will be of substantial benefit to the efficient completion of the Midland Plant, consistent with the basic principles of the Construction Completion Program (CCP).

Specifically, Consumers Power Company requests:

1. NRC concurrence to initiate pipe hanger and whip restraint installation and rework. These proposed activities will be performed subsequent to reinspection status assessment of the hangers, but will proceed independent of the module sequence for other commodities and their Phase 1 status. These activities are consistent with the specific provisions of Section 4.5.4 of the CCP.
2. NRC concurrence to release, in conjunction with the hanger/restraint work, the associated piping system(s) (pipe and hangers), up to the first systems anchor, for adjustment, alignment and modification if necessary. Installation of new piping will be limited to that necessary for hanger work outlined in No. 1 above.
3. NRC concurrence to destatus hangers requiring rework due to design changes, and remove them from QVP, Inspection Status Assessment, and the Hanger Reinspection Program (HRP). Full inspection of the hanger/restraint will be performed during and subsequent to performing the required modifications.

The definitions, scope, quantities involved, and prerequisites to construction of commodities associated with this initiative were defined in the May 29,

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1984 presentation to NRC. A copy of the presentation is attached to this letter.

We appreciated the opportunity to discuss the status of pipe hanger and whip restraint work with the NRC, and to present this initiative. We believe this initiative is reasonable and appropriate. It will provide the advantage of balancing inspection and craft labor during the remainder of 1984, and will minimize the inspection of hangers that are currently scheduled for modification. Should you require any further information, please do not hesitate to contact Consumers Power Company.



DLQ/BHP/klw

Attachment

CC Regional Administrator, Region III
DSHood, NRR Project Manager, Washington
Midland Project Manager, Region III
Midland Resident Inspector, Midland

INITIATIVES

PIPE HANGERS AND WHIP RESTRAINTS RELEASE

AGENDA

- SYNOPSIS
- PURPOSE OF REVIEW
- SCOPE AND STATUS
- TO-GO QUANTITIES AND MANUAL MANHOURS
- HANGER REINSPECTION PROGRAM (HRP)
- PROCESS
- DEFINITIONS AND DESTATUING
- PREREQUISITES TO CONSTRUCTION
- METHODS OF CONTROL
- PREREQUISITES TO IMPLEMENTATION
- SUMMARY

SYNOPSIS

HANGER COMPLETION AND REWORK

- INITIATION OF PIPE HANGER AND WHIP RESTRAINT AND ASSOCIATED PIPING INSTALLATION/REWORK FOLLOWING HANGER REINSPECTION INDEPENDENT OF COMPLETION OF PHASE I OF OTHER COMMODITIES IN THE SAME AREA.

ASSOCIATED PIPING

- REVIEW AND REWORK OF PIPING INCLUDES, PIPE LOCATION, SLOPE AND ALIGNMENT AND RELATED ACTIVITIES TO CORRECT ANY NON-CONFORMANCES

DESTATUSING

- DESTATUS HANGERS WITH ANTICIPATED DESIGN CHANGES IN THE HANGER REINSPECTION PROGRAM SCOPE
- DESTATUS HANGERS WITH PARTIAL INSPECTIONS OR NO INSPECTIONS

PURPOSE OF REVIEW

- THE CCP SECTION ON SPECIAL PROCEDURES ALLOWS "Q" PIPE HANGERS TO BE INSTALLED BY A SPECIALIZED TEAM OUTSIDE THE DEFINED MODULE SEQUENCE.
- REQUIREMENTS OF CHECKING , REVIEW , APPROVAL AND VERIFICATION THAT INACCESSIBLE ITEMS WILL NOT BE COVERED-UP ; WILL BE IMPLEMENTED.
- HANGERS ARE BEING REINSPECTED/ VERIFIED UNDER THE HANGER REINSPECTION PROGRAM (HRP)
- HANGERS WITH CLOSED QCIR's WILL FOLLOW HRP PROCEDURES AND CONTROLS.
- CCP PROCEDURES AND CONTROLS ARE BEING FOLLOWED FOR PIPE HANGERS WITH OPEN INSPECTION RECORDS , OTHER CLOSED INSPECTION RECORDS.
- CONCURRENCE IS REQUESTED FOR INITIATION OF INSTALLATION OF ALL "Q" PIPE HANGERS & WHIP RESTRAINTS SUBSEQUENT TO REINSPECTION.
- CONCURRENCE FOR RELEASE OF ASSOCIATED PIPING SYSTEM FOR REWORK/ INSTALLATION.
- CONCURRENCE IS ALSO REQUESTED TO TREAT WHIP RESTRAINTS THE SAME AS PIPE HANGERS
- CONCURRENCE TO DESTATUS HANGERS

SCOPE AND STATUS

HANGERS

TOTAL HANGERS(Q) = 14,900
 L.P. = 4,800
 S.P. = 10,100

SCOPE	P-2.10 HANGER IR's			<u>NEW INST. TO GO</u>
	<u>COMPLETED INSPECTIONS</u>	<u>PARTIAL INSPECTIONS</u>	<u>NO INSPECTIONS</u>	
	5700 EA.	1100	4393 EA.	3707
VERIFICATION COMPLETE(4/20/84)	1500		275(INST. S/A)	-
NCR'S - TOTAL	1409		90	-
CONFIGURATION	352		69	-
MATERIAL	74		6	-
DAMAGE	211		7	-
WELDING	582		8	-
OTHER	210		-	-
 ESTIMATED MANHOURS	 53,000 (MPQAD/QC)			

SCOPE AND STATUS (Continued)

WHIP RESTRAINTS

TOTAL NO. OF RESTRAINTS = 286 (UNIT II & COMMON)
ON DESIGN HOLD = 129

	<u>INST. S/A</u>	<u>INSP. S/A</u>	<u>QVP</u>
SCOPE	81	81	76
COMPLETE	81	* 27	
NCR'S	85	NA	NA
CONFIGURATION	60		
MATERIAL	0		
DAMAGE	0		
WELDING	25		
ESTIMATED MANHOURS	5800	4000	4000

* PARTIALS FOR TURBINE ROLL

TO-GO QUANTITIES AND MANUAL MANHOURS

	<u>QTY.</u>	<u>TO-GO</u> <u>MHRS-(EST)</u>
LARGE PIPE HANGERS (Q)		
TOTAL TO GO	4,378	323,000
NEW	1,007	213,000
MODIFICATIONS	3,371	110,000
SMALL PIPE HANGERS (Q)		
TOTAL TO GO	6,917	302,000
NEW	2,398	202,000
MODIFICATIONS	4,219	100,000
WHIP RESTRAINTS		
TOTAL TO GO	286	109,400
NEW	76	60,800
MODIFICATIONS	81	48,600
DESIGN HOLD	129	

ESTIMATED QC MANHOURS FOR IN-PROCESS INSPECTION ARE 110,000

6TV

HANGER REINSPECTION PROGRAM (HRP)

ALL SAFETY RELATED PIPE HANGERS FABRICATED AND INSTALLED
BY BECHTEL CONSTRUCTION AND INSPECTED AND ACCEPTED BY
BECHTEL QC IN ACCORDANCE WITH PQC I P-2.10 ON OR BEFORE
DECEMBER 2, 1982.

HRP HANGERS

CHARACTERIZATION OF FINDINGS

- NCRs TO DATE HAVE NOT REVEALED ANY SAFETY CONCERNS THAT ARE REPORTABLE
- NCRs AND FINDINGS TO DATE INDICATE MAJORITY OF REJECTIONS RELATED TO WORKMANSHIP ATTRIBUTES, SPECIFICALLY ON WELDS E.G. UNDERSIZE, POROSITY, ARC STRIKES, UNDERCUT ETC.
- TRENDING AND FEEDBACK FROM THE REINSPECTION PROGRAM HAS ENABLED CHANGES TO TECHNICAL SPECIFICATIONS TO MAKE THE CRITERIA CLEAR AND CONCISE.

QUALITY FEEDBACK TRAINING
(APPROXIMATELY 20% TO 25% RELATED TO HANGER
REINSPECTION/STATUS MANAGEMENT PROGRAM)

- **TRAINING BULLETINS**

 - 37 ISSUED TO DATE
 - 190 TRAINING SUBJECTS

- **QIP BULLETINS**

 - 9 ISSUED TO DATE
 - 36 SUBJECTS COVERED

- **NCR MANAGEMENT REVIEWS**

 - 74 REVIEWS COMPLETED
 - 125 NCR'S REPORTED ROOT CAUSE
 - 62 REVIEWS RESULTED IN PERSONNEL ACTION/PROCEDURE CHANGE/TRAINING

- **WEEKLY QUALITY ENHANCEMENT MEETINGS**

 - 44 MEETINGS HELD
 - 42 ISSUES TAKEN ACTION ON
 - 36 ACTION ITEMS CLOSED BY PROCEDURE CHANGES/TRAINING

- **WEEKLY CONSTRUCTION NCR'S TREND REPORTS**

 - IDENTIFIED SIGNIFICANT COMMODITY DISCREPANCIES
 - PREPARING TO PRESENT MAJOR CATEGORIES IN TEAM MEETINGS AS LESSONS LEARNED TO PREVENT RECCURANCE

- **BECHTEL SELF-APPRAISAL TEAM**

 - MONITOR STATUS ASSESSMENT TEAMS PROGRESS
 - PROVIDE FEEDBACK TO MANAGEMENT ON PERFORMANCE

DEFINITIONS

DESTATUS

- TRANSFER OF HANGERS FROM QVP AND INSPECTION STATUS ASSESSMENT OF PARTIALLY INSTALLED HANGERS.
- REMOVAL OF HANGERS FROM HANGER REINSPECTION PROGRAM DUE TO DESIGN CHANGES
- INSTALLATION STATUS ASSESSMENT BY FIELD ENGINEERING ON DESTATED HANGERS.
- 100% INSPECTION OF COMPLETED HANGERS BY MPQAD/QC
THIS INCLUDES:
 - IMPLEMENTATION OF ALL IN-PROCESS INSPECTION ACTIVITIES DURING HANGER COMPLETION
 - COMPLETE FINAL INSPECTION OF ENTIRE HANGER

DESIGN CHANGES

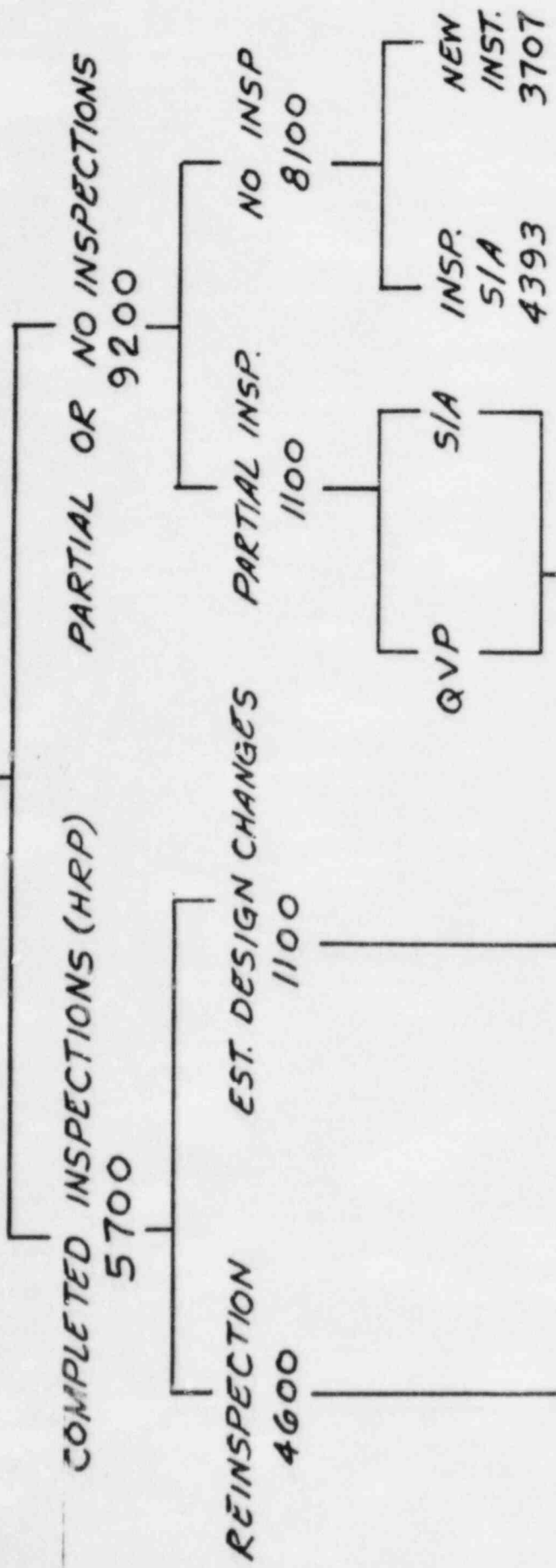
- ANY DESIGN CHANGE (DRAWINGS OR SPECIFICATIONS) WHICH RESULT IN HARDWARE MODIFICATIONS

HANGER DESTATUSING

		<u>EXISTING PROGRAM WITHOUT DESTATUSING</u>	<u>PROPOSED PROGRAM WITH DESTATUSING</u>
PHASE I	MPQAD/QC	50% OF SCOPE (APP.)	NONE
	INST. S/A	50% OF SCOPE (APP.)	100% OF SCOPE
PHASE II	MPQAD/QC	50% OF SCOPE (APP.)	100% (INCL. IN PROCESS)
	F.E. INSP.	50% OF SCOPE (APP.)	100% (INST. VERIFICATION)

HANGER DESTATUISING SCOPE

TOTAL Q HANGERS = 14,900



PROPOSAL
MPGAD/QC
HRP
REINSPECTION

FIELD ENG.
INST. S/A

FIELD ENG.
INST. S/A

FIELD ENG.
INST. S/A

HRP (P-2.30)

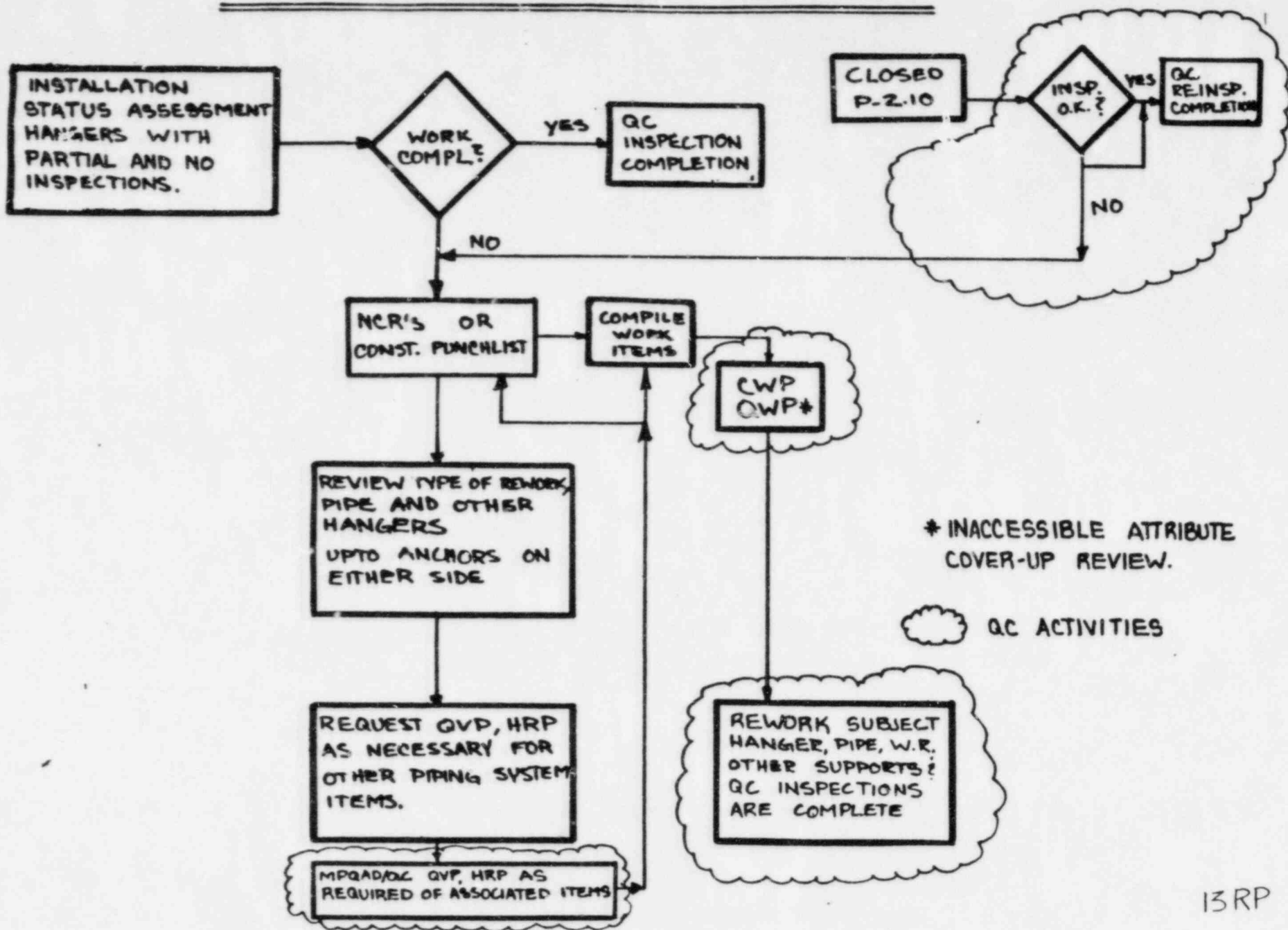
- P-2.10 W-1.00
- P-2.20
- C-1.50
- C-1.52

INSP. S/A (P-2.10)

- P-2.20
- C-1.50
- C-1.52
- W-1.00

INTERFACING
QCIRS

HANGER INSTALLATION AND REINSPECTION PROCESS



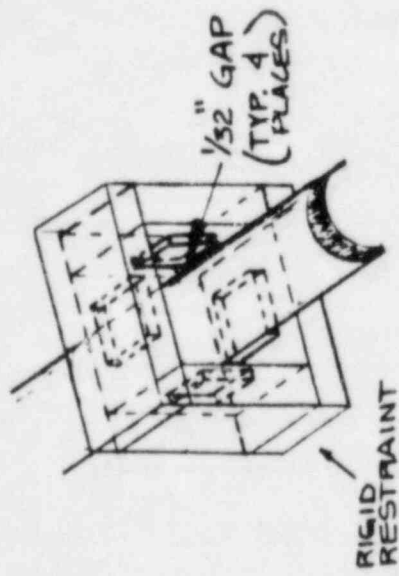


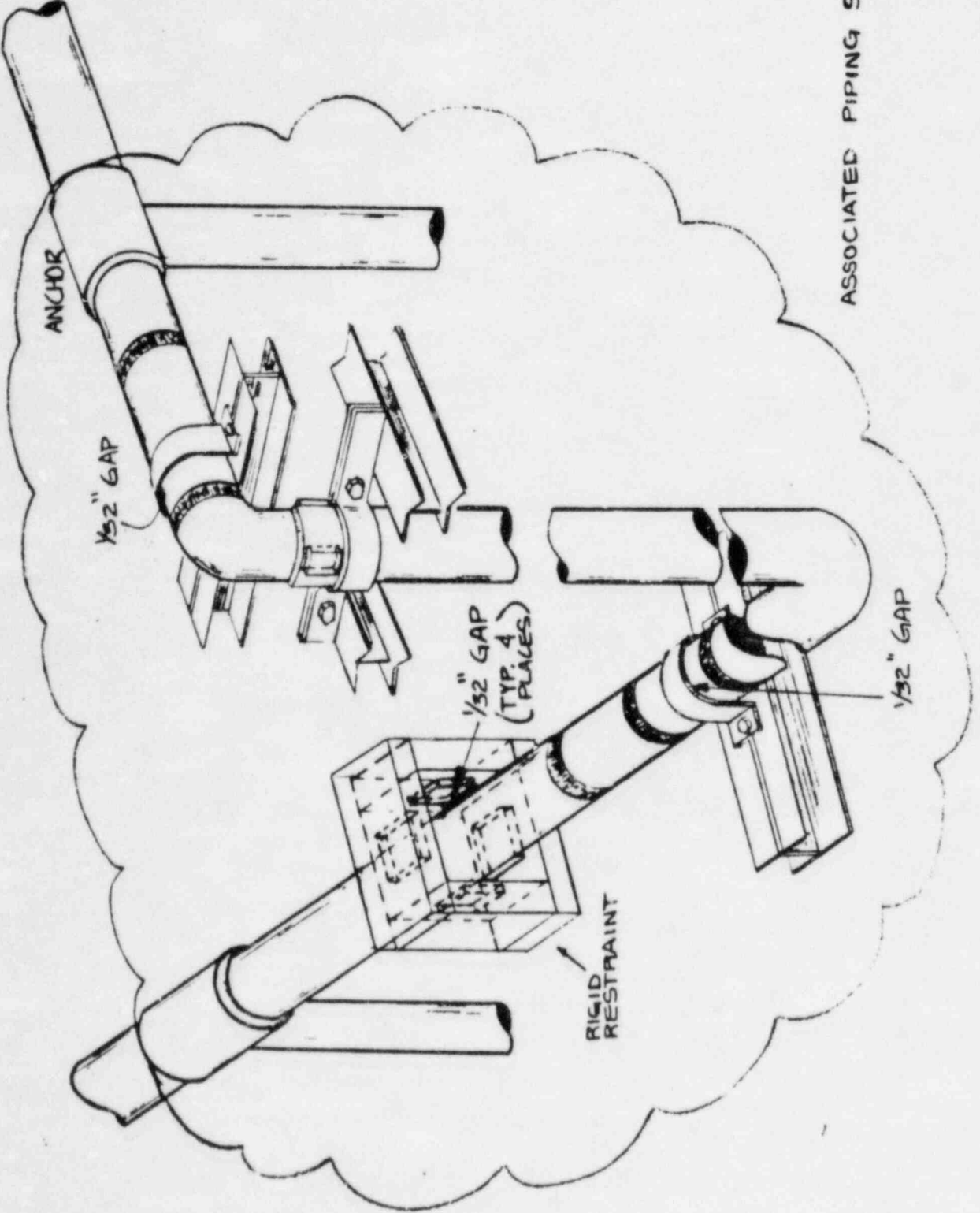
**ACTIVITIES RELATED TO PIPING SYSTEM REVIEW
ASSOCIATED WITH HANGER AND WHIP RESTRAINT
REWORK /INSTALLATION**

- **PIPE LOCATION
WITHIN INSTALLATION TOLERANCES**
- **PIPE SLOPE
PER DESIGN DOCUMENTS**
- **ALIGNMENT
VERIFICATION AND MAINTENANCE OF
ALIGNMENT AT FLANGED CONNECTIONS
AND EQUIPMENT PER APPLICABLE DESIGN
AND VENDOR DOCUMENTS.**

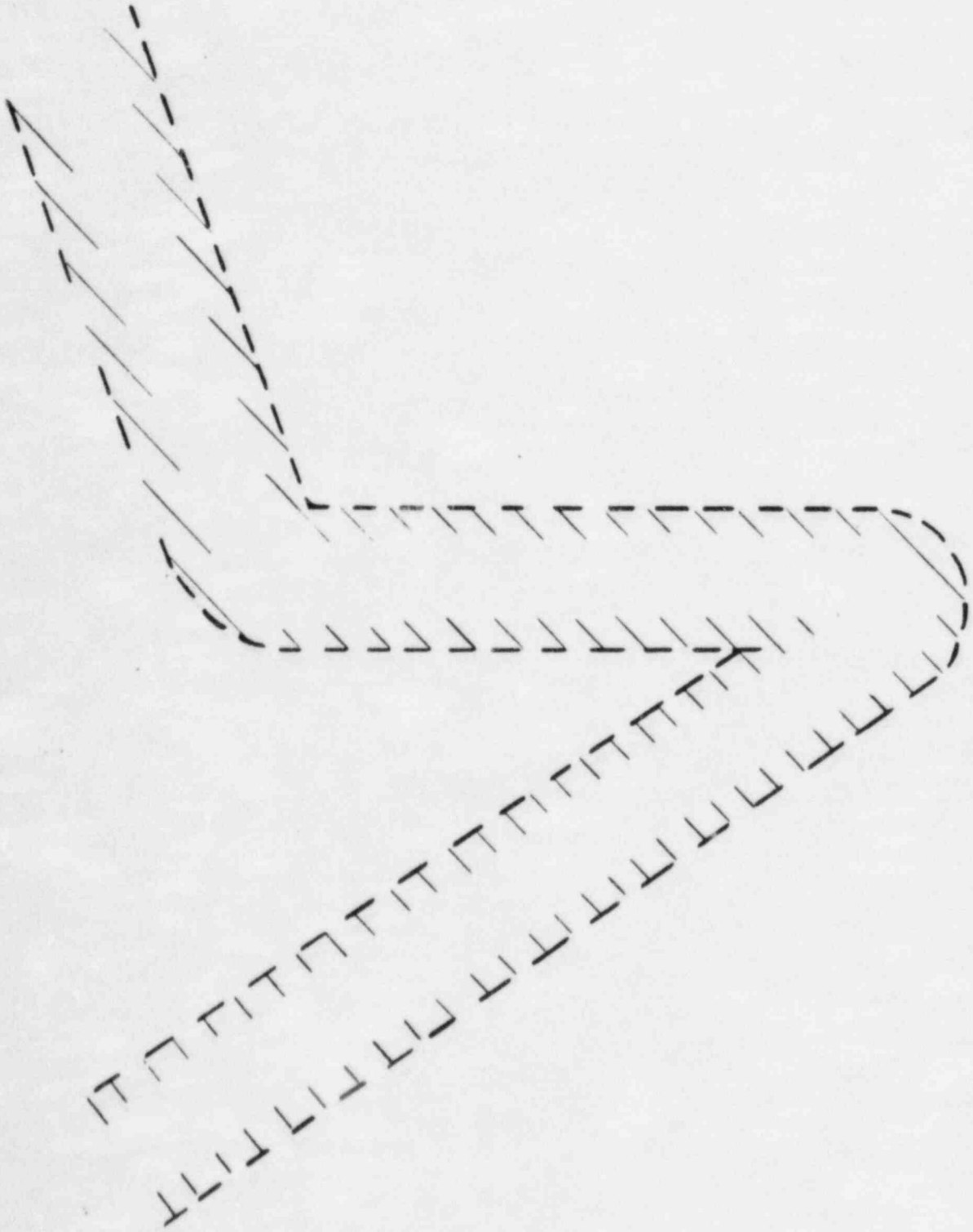
WORK ACTIVITIES INVOLVED

- **ACTIVITIES TO CONFORM TO ITEMS NOTED ABOVE
INCLUDING CUTTING, WELDING, GRINDING, ETC.**





ASSOCIATED PIPING SCOPE



PREREQUISITES FOR PHASE II CONSTRUCTION

PRIOR TO RELEASE OF HANGER OR WHIP RESTRAINTS FOR REWORK/INSTALLATION.

- FIELD ENGINEERING STATUS ASSESSMENT COMPLETION
- FIELD ENGINEERING REVIEW OF PIPING ASSOCIATED WITH HANGER OR WHIP RESTRAINT ON EITHER SIDE UPTO THE FIRST ANCHOR POINT (FLUED HEAD, IN-LINE ANCHOR, PUMP, EQUIP. ETC).
- QVP OR INSPECTION STATUS ASSESSMENT OF ASSOCIATED PIPING
- MPQAD/QC REINSPECTION COMPLETION TO SUPPORT START OF CONSTRUCTION
- PHASE II RELEASE BY SITE MANAGEMENT AS DESCRIBED IN CCP.

METHODS FOR CONTROL

- MPQAD AND FIELD ENGINEERING PROCEDURES
- PQCI AND VIR'S
- NCR'S
- COMMODITY LISTS
- CWP/CWR
- QWP
- PUNCHLIST
- DESIGN DOCUMENT REGISTER (DRAWINGS AND SPECIFICATIONS)

THE ABOVE NOTED CONTROLS ARE COVERED IN EXISTING PROCEDURES

PREREQUISITES TO IMPLEMENTATION

- **STAFFING**
PRESENT NON-MANUAL & MANUAL STAFFING REQUIREMENTS ADEQUATE.
- **PROCEDURE CHANGES**
REVISION TO FPM-7.000 AND FPG-9.910 TO ADDRESS ASSOCIATED PIPING SYSTEM REVIEW.
- **TRAINING**
NECESSARY TRAINING FOR THE PROCEDURES NOTED ABOVE
- **CRAFT TRAINING**
NO ADDITIONAL TRAINING NEEDED
- **QC CERTIFICATION**
NO ADDITIONAL TRAINING OR CERTIFICATION NEEDED

SUMMARY

- CONCURRENCE TO RELEASE FOR REWORK/INSTALLATION OF "Q" PIPE HANGERS; WHIP RESTRAINTS SUBSEQUENT TO REINSPECTION/ASSESSMENT.

- CONCURRENCE FOR RELEASE OF ASSOCIATED PIPING SYSTEM (PIPE & HANGERS) UPTO FIRST ANCHOR FOR ADJUSTMENT, ALIGNMENT AND MODIFICATION IF NECESSARY.

- CONCURRENCE TO DESTATUS HANGERS

- APPROACH IDENTIFIED CONFORMS TO THE BASIC PRINCIPLES OF THE CCP AND HRP.

- DESIREABLE TO:
 - MORE MANUAL WORKLOAD IN 1984
 - SUPPORT SYSTEM COMPLETION
 - PRIORITIZE MPQAD WORKLOAD