

IP QUALITY RECOVERY PROGRAM

7/9/82

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PDR FOIA
PRENDER82-366 PDR

SCOPE:

- DEFINE THE ACTION BEING TAKEN BY ILLINOIS POWER TO IDENTIFY AND CORRECT SPECIFIC QUALITY PROBLEMS.

PURPOSE:

- DEMONSTRATE THAT ASSEMBLED STRUCTURES, SYSTEMS, AND COMPONENTS MEET REGULATORY REQUIREMENTS.
- DESCRIBE HOW NEW WORK WILL MEET REGULATORY REQUIREMENTS.
- DEVELOP PLANS FOR RESOLVING IDENTIFIED QUALITY PROBLEMS.
- OUTLINE PERSONNEL RESOURCES REQUIRED TO SUPPORT THESE EFFORTS.

IDENTIFIED PROBLEMS FALL INTO
TWO (2) CATEGORIES

CATEGORY I - WORK CONTROLS & INSPECTION

CATEGORY II - QUALITY RELATED ISSUES

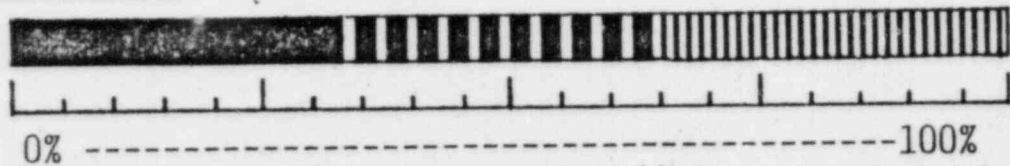
Category I – WORK CONTROLS & INSPECTION

DEFINITION OF TERMS:

complete

in process

new



(EXAMPLE)

ACCEPTED WORK:

FULLY ASSEMBLED

INSPECTION ACCEPTED

TRAVELERS FINAL REVIEWED & IN VAULT

IN-PROCESS WORK:

ASSEMBLED - PARTIALLY OR FULLY

INSPECTION PARTIAL

TRAVELERS NOT FINAL REVIEWED & NOT IN VAULT

NEW WORK:

NOT ASSEMBLED

NO INSPECTION PERFORMED

TRAVELERS NOT RELEASED FOR WORK TO FIELD

LEGEND:

SAFETY RELATED/AUG. D.

WORK STATUS - SUMMARY

LARGE BORE PIPE



LARGE BORE PIPE HANGERS



SMALL BORE PIPE



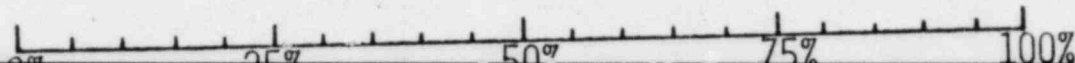
SMALL BORE PIPE HANGERS



INSTRUMENTATION



H.V.A.C.



SAFETY RELATED/AUG. D.

WORK STATUS - SUMMARY

ELECTRICAL HANGERS
TRAY AND CONDUIT



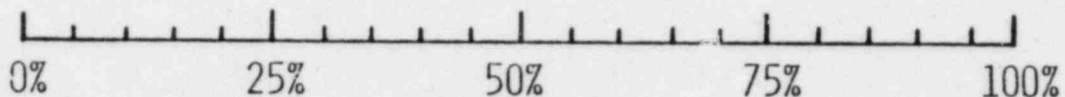
ELECTRICAL CONDUIT



EQUIPMENT



STRUCTURAL STEEL



ACCEPTED



IN-PROGRESS



NEW

LARGE BORE PIPING



0% 25% 50% 75% 100%

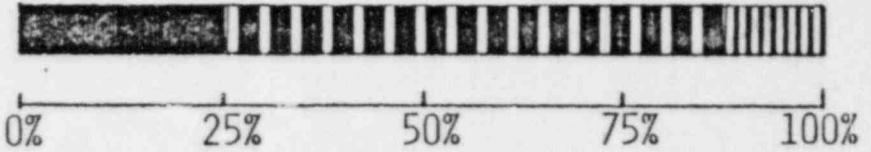
PROBLEM

- IN-PROCESS QC INSPECTION LAGGING CONSTRUCTION
(IN-PROCESS WELD INSPECTION IS KEEPING PACE WITH CONSTRUCTION)
- TRAVELERS IN THE FIELD NOT BEING COMPLETED IN A TIMELY FASHION
SO QC CAN DO THE FINAL WALKDOWN

ACTION TAKEN

- RESTRAIN RELEASE OF NEW WORK TO THE FIELD
- CONCENTRATE ON COMPLETING IN-PROCESS WORK
- CONCENTRATE ON REMEDIAL WORK

LARGE BORE PIPE HANGERS



PROBLEM

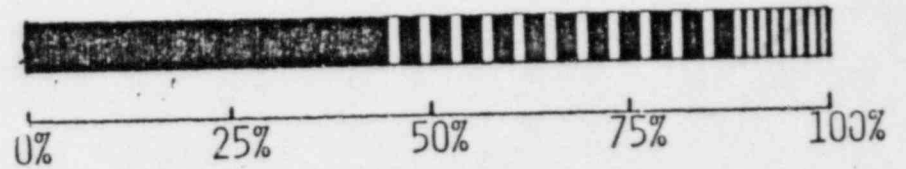
- IN-PROCESS INSPECTION LAGGING CONSTRUCTION
- TRAVELERS IN THE FIELD NOT BEING COMPLETED IN A TIMELY FASHION

ACTION TAKEN

- RESTRAIN RELEASE OF NEW WORK TO THE FIELD
- CONCENTRATE ON COMPLETING IN-PROCESS WORK

SMALL BORE PIPING

PROBLEM

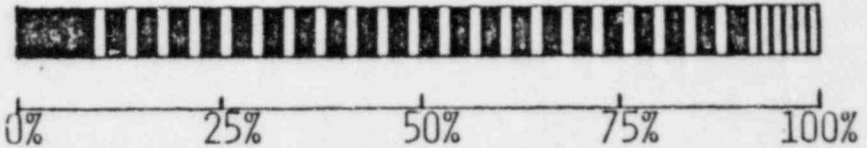


- IN-PROCESS INSPECTION LAGGING CONSTRUCTION (IN-PROCESS WELD INSPECTION IS KEEPING PACE WITH CONSTRUCTION)
- TRAVELERS IN THE FIELD NOT BEING COMPLETED IN A TIMELY FASHION SO QC CAN DO THE FINAL WALKDOWN

ACTION TAKEN

- RESTRAIN RELEASE OF NEW WORK TO THE FIELD
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- CONCENTRATE ON REMEDIAL WORK

SMALL BORE PIPE HANGERS



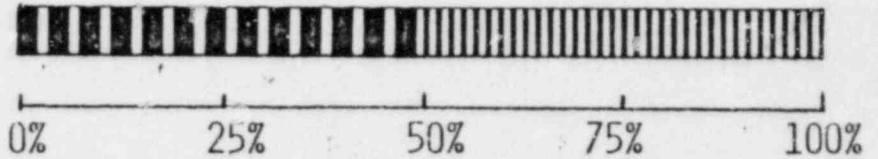
PROBLEM

- IN-PROCESS INSPECTION LAGGING CONSTRUCTION (IN-PROCESS WELD INSPECTION IS KEEPING PACE WITH CONSTRUCTION)
- TRAVELERS IN THE FIELD NOT BEING COMPLETED IN A TIMELY FASHION

ACTION TAKEN

- RESTRAIN RELEASE OF NEW WORK TO THE FIELD
- CONCENTRATE ON COMPLETING IN-PROCESS WORK

INSTRUMENTATION



PROBLEM

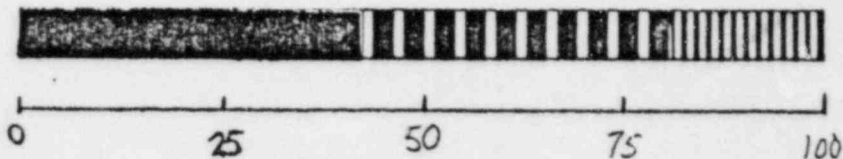
- IN-PROCESS INSPECTION LAGGING CONSTRUCTION
- ELECTRICAL INSTRUMENTATION INSTALLATION - TRAVELER REQUIREMENTS NOT UNDERSTOOD OR BEING FOLLOWED

ACTION TAKEN

- ISSUED STOP WORK ORDER #018 ON ELECTRICAL INSTRUMENTATION INSTALLATION
- RESTRAIN ISSUANCE OF ANY NEW PIPING TRAVELERS
- CONCENTRATE ON COMPLETING IN-PROCESS WORK
- CONCENTRATE ON REMEDIAL WORK

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PROBLEM

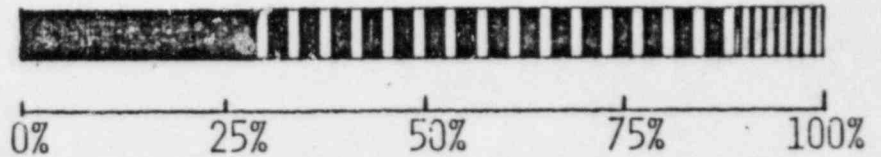


- DOCUMENTATION DOES NOT REFLECT INSTALLED HARDWARE CONFIGURATION

ACTION TAKEN

- ISSUED STOP WORK ORDERS FOR ALL SAFETY RELATED (SWO #014) AND NON-SAFETY SEISMIC (1ST ATTACHMENT WELDS) INSTALLATION (SWO #015)
- DEVELOPING A PLAN OF ACTION FOR LIFTING THE STOP WORK IN CONJUNCTION WITH THE SUBCONTRACTOR (ZACK)

ELECTRICAL HANGERS



PROBLEM

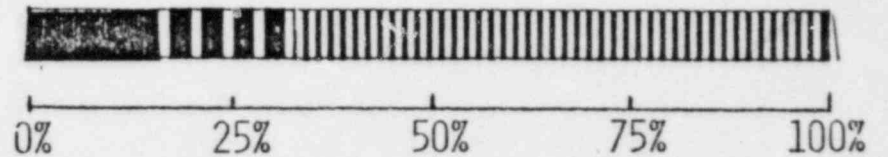
- IN-PROCESS INSPECTION LAGGING CONSTRUCTION
- TRAVELER CONTROL IN-EFFECTIVE

ACTION TAKEN

- ISSUED CAR-100 TO CORRECT TRAVELER CONTROL SYSTEM
- ESTABLISHED CONTROL OF TRAVELERS IN THE FIELD
- IMPOUNDED PROBLEM TRAVELERS
- CONCENTRATE ON COMPLETING IN-PROCESS WORK
- RESTRAIN ISSUANCE OF ANY NEW WORK TO THE FIELD

ELECTRICAL - CONDUIT

PROBLEM



- IN-PROCESS INSPECTION LAGGING CONSTRUCTION ON CONDUIT (EXCEPT CONTAINMENT)

ACTION TAKEN

- STOP WORK ORDER #016 ISSUED ON CONDUIT EXCEPT FOR CONTAINMENT
- CONCENTRATE ON COMPLETING IN-PROCESS WORK
- CONCENTRATE ON REMEDIAL WORK

EQUIPMENT (MECH - ELECT)



PROBLEM

- NO TRAVELER LOG BEING MAINTAINED BY ENGINEERING (ELECTRICAL)
- PROCEDURE NOT BEING FOLLOWED (ELECTRICAL)

ACTION TAKEN

- STOP WORK ORDER #017 ISSUED ON ELECTRICAL EQUIPMENT
- ESTABLISHED A LOG FOR CONTROL OF TRAVELERS
- VERIFICATION THAT ALL EQUIPMENT INSTALLED HAS A TRAVELER IS PRESENTLY IN-PROGRESS

STRUCTURAL STEEL

PROBLEM



- INSPECTION LAGGING CONSTRUCTION
- INSPECTION RECORDS MISPLACED OR LOST ON ELEV. 737
- ENGINEERING MODIFICATIONS ISSUED

ACTION TAKEN

- ISSUED STOP WORK ORDER #019
- DEVELOPED A RE-INSPECTION SEQUENCE AND FORTHCOMING MODIFICATION SCHEDULE

Category II - QUALITY RELATED ISSUES

TRAINING:

- INCREASED TRAINING IS NECESSARY FOR PROJECT PERSONNEL.
- INCREASED TRAINING IS NECESSARY AT THE CRAFT AND FOREMAN LEVEL.

CORRECTIVE ACTION :

- PROJECT EFFORTS NEED TO BE MORE TIMELY IN ADDRESSING FINDINGS OF AUDITS, SURVEILLANCES, AND CORRECTIVE ACTION REQUESTS.
- RESPONSIVENESS TO NRC NONCOMPLIANCES, UNRESOLVED ITEMS, AND OPEN ITEMS NEEDS IMPROVEMENT.

NONCONFORMANCES:

THE NUMBER OF NCR'S WHICH HAVE NOT BEEN CLOSED IS CONSIDERED EXCESSIVE.

THE NUMBER OF OPEN DR'S IS INCREASING.

NCR/DR PROCEDURES ARE BEING REFINED IN ORDER TO ENHANCE THEIR EFFECTIVENESS.

VERIFICATION TEAM REPORT:

SPECIFIC HARDWARE PROBLEMS AND PROCEDURAL CONCERNS WERE IDENTIFIED AND ARE BEING ADDRESSED.

RECOMMENDATIONS OF THE VERIFICATION TEAM WILL BE ADDRESSED FOR PROGRAM IMPROVEMENTS.

METHODS OF RECOVERY

PROJECT APPROACH:

- REALIGNMENT OF PROJECT PRIORITIES AND PERSONNEL ASSETS TO ADDRESS IDENTIFIED PROBLEMS.

ASSIGNMENT OF IP SUPERVISORY PERSONNEL TO MANAGE THE RECOVERY PLAN, THEIR RESPONSIBILITIES INCLUDE:

- A. DEVELOPMENT OF RECOVERY PLAN(S).
- B. OBTAINING MANAGEMENT APPROVAL OF RECOVERY PLAN(S) FROM BA & IP PROJECT MANAGEMENT (CONCURRENCE OF BA/IP-QA REQUIRED).
- C. COORDINATING COMMITMENTS OF RECOVERY PLAN(S).
- D. MONITORING PERFORMANCE AND STATUS OF RECOVERY PLAN(S).

VERIFICATION THAT ACCEPTED WORK IS IN ACCORDANCE WITH
DRAWINGS, SPECIFICATIONS, AND DOCUMENTATION REPRESENTING
THE AS BUILT CONFIGURATION.

- A. PERFORM BA QA AUDIT ACTIVITIES.
- B. PERFORM IP QA SURVEILLANCE ACTIVITIES.
- C. REINSPECTION OF SPECIFIC AREAS IN ACCORDANCE WITH
RECOVERY PLANS.

VERIFICATION THAT IN-PROCESS WORK IS IN ACCORDANCE
WITH DRAWINGS AND SPECIFICATIONS.

- A. INCREASED SCOPE AND FREQUENCY OF BA QA AUDIT
ACTIVITIES.
- B. INCREASED SCOPE AND FREQUENCY OF IP QA SURVEILLANCE
ACTIVITIES.
- C. INCREASED BA QC/TS CONTROLS.

VERIFICATION THAT NEW WORK IS IN ACCORDANCE WITH
DRAWINGS AND SPECIFICATIONS.

- A. INCREASED SCOPE AND FREQUENCY OF BA QA AUDIT
ACTIVITIES.
- B. INCREASED SCOPE AND FREQUENCY OF IP QA SURVEILLANCE
ACTIVITIES.
- C. INCREASED BA QC/TS CONTROLS.
- D. ADDITIONAL REVIEW BY BA QA/QC OF TRAVELERS
ASSOCIATED WITH STRUCTURES, SYSTEMS, AND COMPONENTS.

REALLOCATION OF PROJECT PERSONNEL RESOURCES TO
RESOLVE AND DISPOSITION PROBLEMS.

- A. REASSIGNMENT OF OPERATIONS, ENGINEERING AND
CONSTRUCTION PERSONNEL TO ACTIVELY PURSUE
IDENTIFIED PROBLEMS.

- B. ADDITIONAL STAFFING OF QUALITY PERSONNEL TO
INDEPENDENTLY REVIEW STATUS OF RECOVERY PLANS,
EVALUATE CORRECTIVE ACTION, AND VERIFY COMPLETED
ACTIONS.

- C. RESTRAIN CONSTRUCTION CRAFT EFFORTS ON NEW
WORK IN DESIGNATED DISCIPLINES; EMPHASIZE
UTILIZATION OF CRAFT IN COMPLETING WORK FOR
ACCEPTANCE.

MANAGEMENT CONTROLS

EXECUTIVE VICE PRESIDENT

BA MANAGER
QUALITY & TECHNICAL
SERVICE

PROJECT MANAGER

IP DIRECTOR
QUALITY ASSURANCE

RECOVERY PLAN (L. BRODSKY)
DIRECTOR

MECHANICAL
COORDINATOR (D. KORNEMAN)

- SMALL/LARGE BORE PIPING
- PIPING HANGERS & SUPPORTS
- MECHANICAL EQUIPMENT
- HVAC (STOP WORK 14 & 15)
- MECH. INSTRUMENTATION

ELECTRICAL
COORDINATOR (W. CALHOUN)

- ELECTRICAL EQUIPMENT
(STOP WORK 17)
- ELECTRICAL INSTRUMENTS
(STOP WORK 18)
- CONDUIT (STOP WORK 16)
- HANGERS

(F. SCHWARZ)
CIVIL/STRUCTURAL
COORDINATOR

- STRUCTURAL STEEL
(STOP WORK 19)

TRAINING
COORDINATOR (E. CONNON)

- QUALITY
- PROJECT
MANAGEMENT
- ENGINEERING
- CONSTRUCTION

NONCONFORMANCES
COORDINATOR (G. MOTSEGOOD)

- NCR
- DR
- PROCEDURES

CORRECTIVE ACTION
COORDINATOR (E. CONNON)

- CAR
- AUDIT/SURVEILLANCE
FINDINGS
- NONCOMPLIANCES

(G. STINNETT)
VERIFICATION TEAM
REPORT COORDINATOR

- HARDWARE CONCERNS
- PROCEDURE CONCERNS
- RECOMMENDATIONS

RESOURCE DISTRIBUTION

BA-MANUAL

CRAFT	FORCE AS OF 6/23/82	FORCE AS OF 7/6/82	DELTA	DISTRIBUTION				
				SUPPORT	SAFETY(OLD)	SAFETY(NEW)	NON-SAFETY	TOTAL
LABORERS	262	237	25	165			73	238
CARPENTERS	121	108	13	75		5	27	107
OPERATORS	58	55	3	56				56
TEAMSTERS	50	47	4	46				46
IRON WORKERS	66	56	10	10		5	41	56
ELECTRICIANS	650	497	153	91	207	72	127	497
PIPEFITTERS	620	444	176	95	227		122	444
BOILERMAKERS	65	52	13	12	23	2	15	52
CEMENT MASON	8	6	2	1			5	6
TILERS								
MILLWRIGHTS	42	35	7	7	8		20	35
SHEETMETAL	7	6	1	1	5			6
BRICKLAYERS	5	5		0			5	5
SURVEYORS	15	13	2	13				13
TOTALS	1969	1561	408	572	470	84	435	1561

ZACK

CRAFT	FORCE AS OF 6/23/82	FORCE AS OF 6/29/82
SUPERINTENDENTS/GF		12
DRAFTING/DETAILING		33
FAB SHOP		10
LAYDOWN CREW		10
N/S, NON SEISMIC HANGERS		55
N/S, DUCTWORK		50
N/S, SEISMIC HANGERS		38
CONSTRUCTION INSPECTORS		10
TOOL CRIB/MAINT.		4
WELD SHOP		2
INJURED		2
TOTAL	246	226

BA MANAGER OF
QUALITY, TECH. SERVICES
AND TRAINING

ZACK-QA/QC
SITE

QUALITY
ASSURANCE

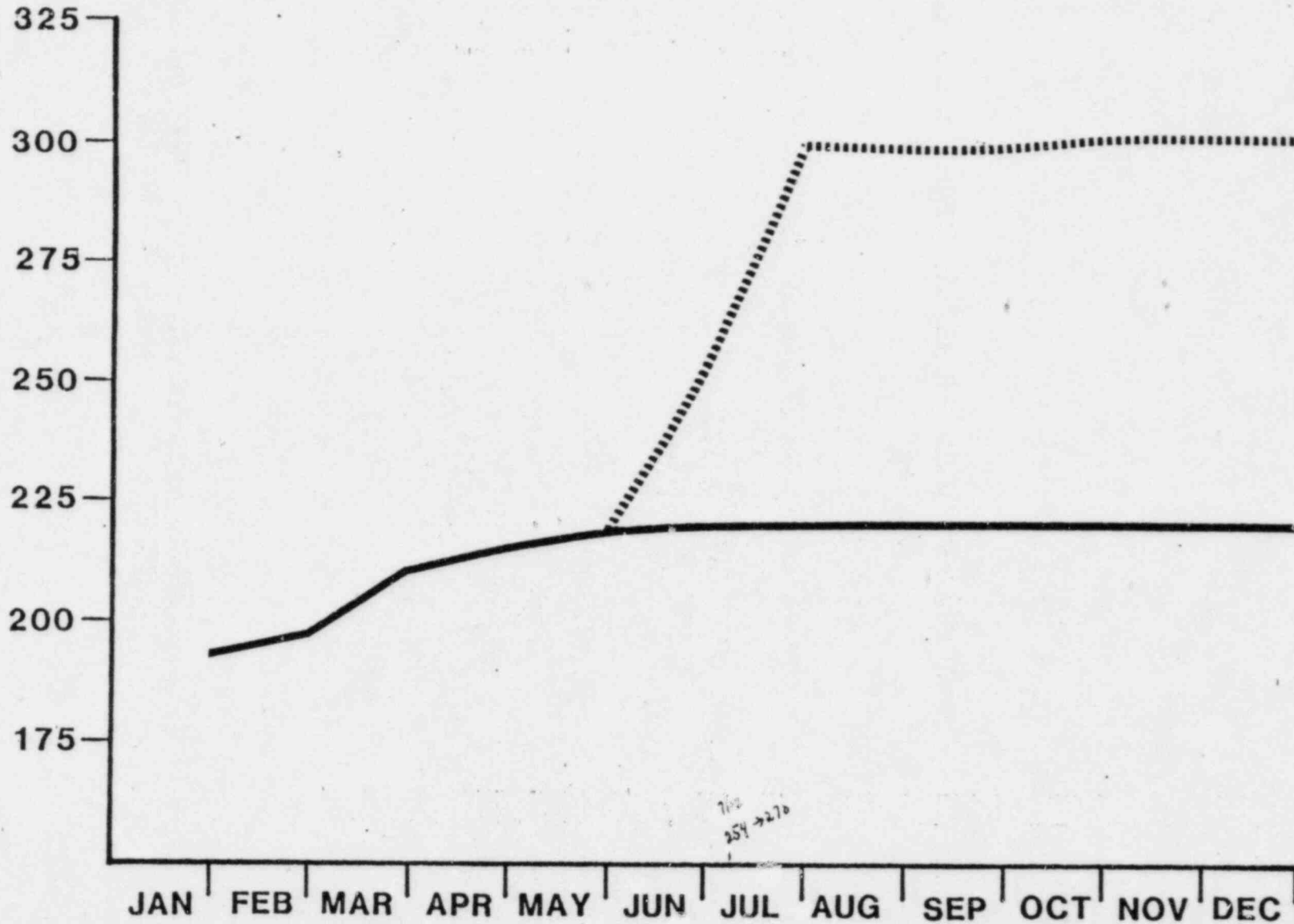
QUALITY
CONTROL

TECHNICAL
SERVICES

TRAINING



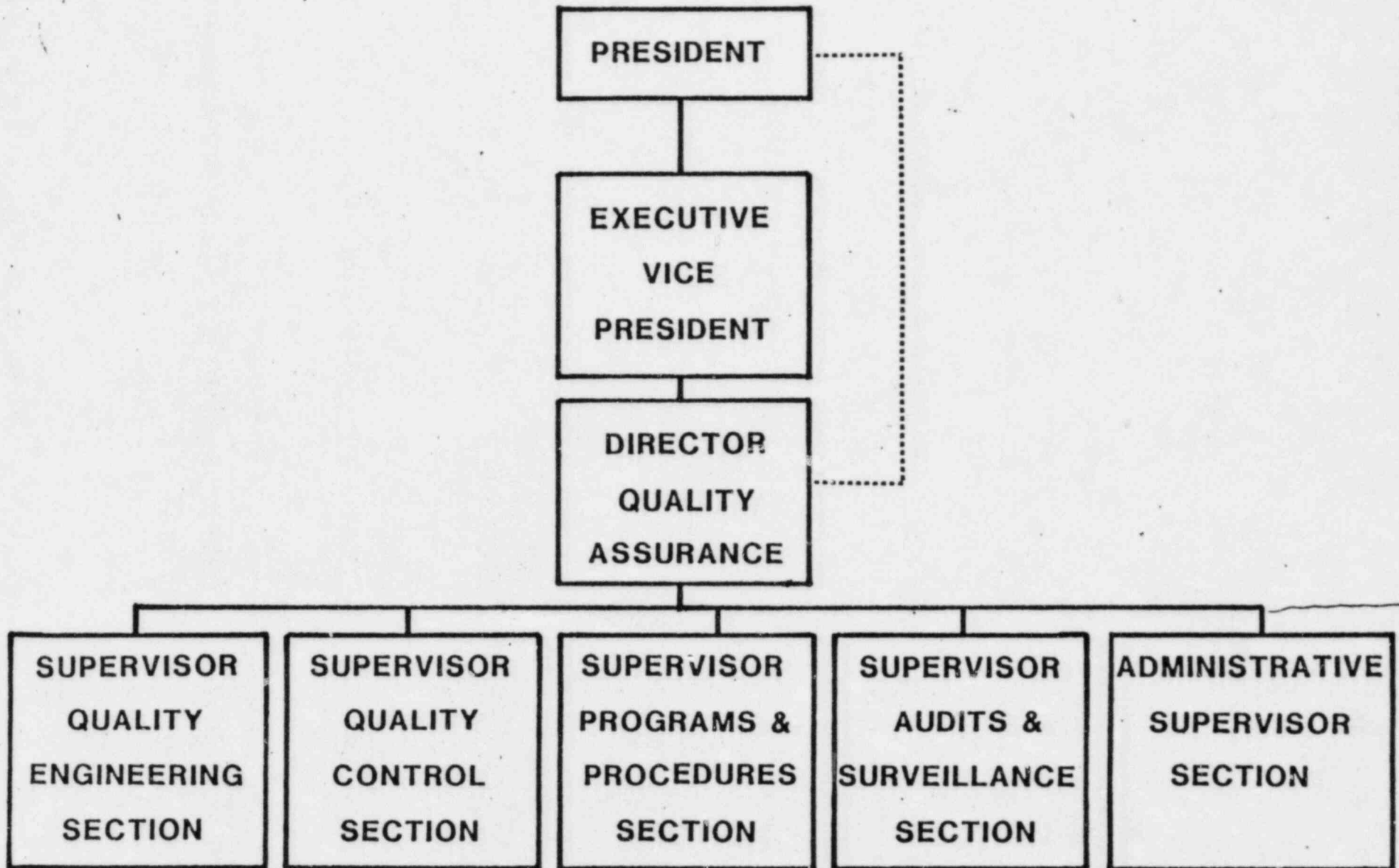
Q&TS MANPOWER PROJECTION



LEGEND

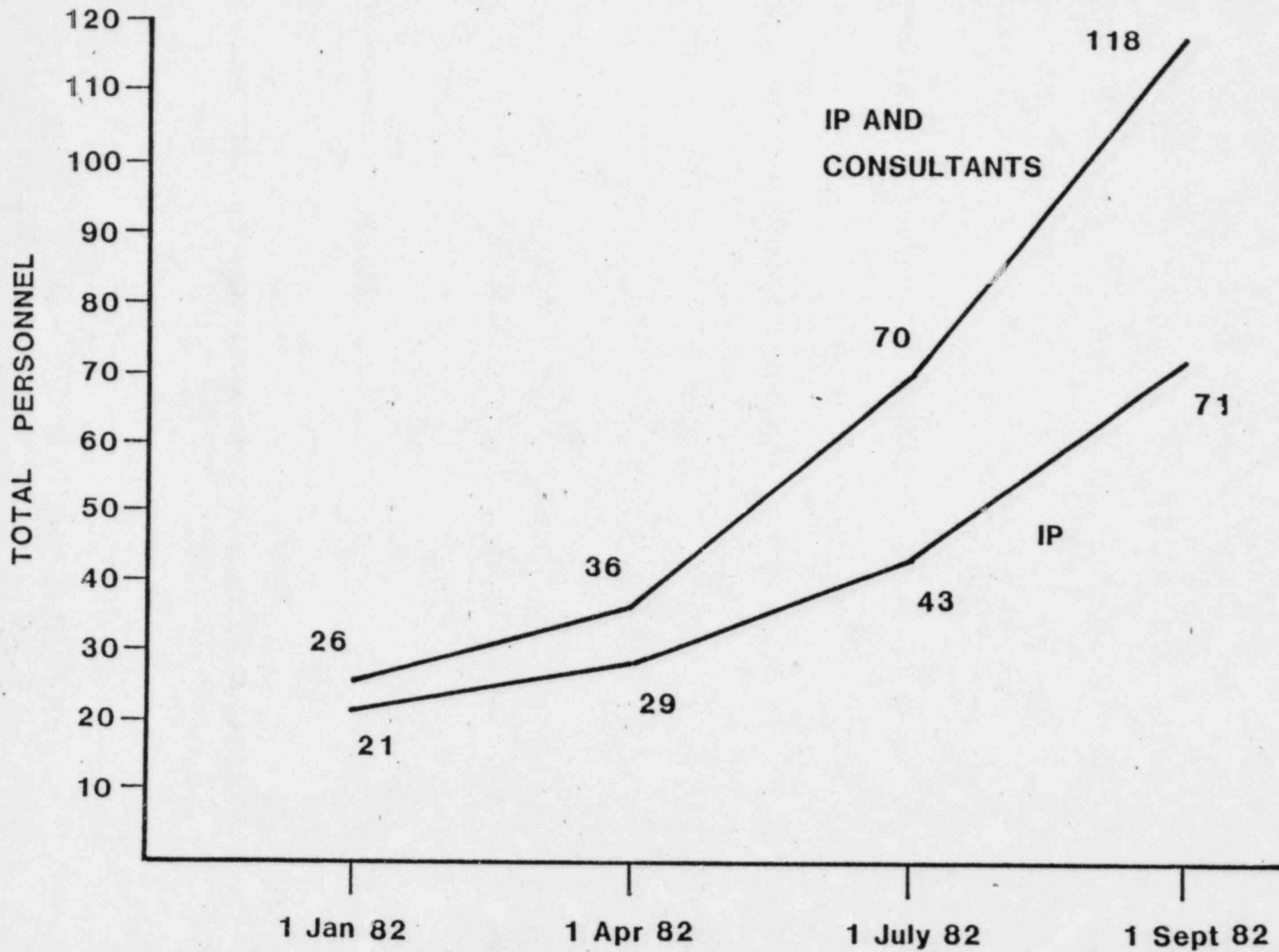
————— CURRENT
..... REVISED

IP/QA ORGANIZATION



US
Testing

ILLINOIS POWER QUALITY ASSURANCE FORECAST



RESOURCES:

- DUE TO THE COMPLEX NATURE OF THE PROBLEMS WE IDENTIFIED THE FOLLOWING DECISIONS WERE MADE:
 - RESTRAIN NEW WORK UNTIL WE HAVE COMPLETED DEVELOPMENT OF OUR RECOVERY PLANS.
 - AS THE RECOVERY PLANS ARE DEVELOPED WE WILL ALLOCATE MANPOWER TO SUPPORT EACH PLAN. PRELIMINARY FORECASTS OF THE REQUIRED MANPOWER RESOURCES HAVE BEEN PREPARED.
- CONTINUE TO ADVERTIZE, INTERVIEW AND HIRE EXPERIENCED QUALITY PERSONNEL.
- SUPPLEMENT EXISTING STAFF WITH CONSULTANTS AS REQUIRED TO SUPPORT THE RECOVERY PLAN.

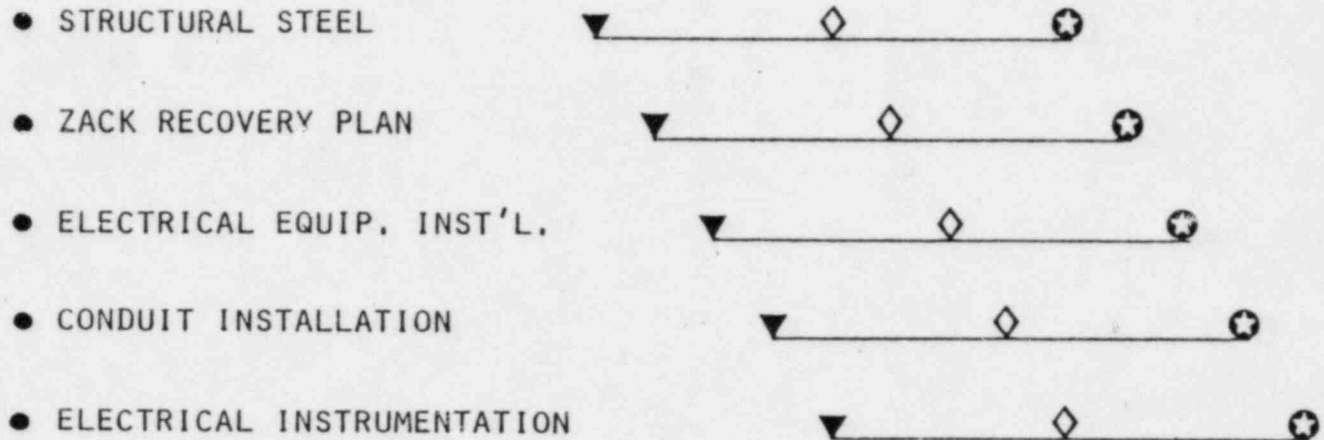
SUMMARY:

- EVEN THOUGH INSPECTION IS LAGGING CONSTRUCTION WE HAVE DEMONSTRATED THAT WE HAVE CONTROL AND A METHOD OF STATUSING THE INSPECTION EFFORT.
- WE HAVE CHANGED THE PROJECT PHILOSOPHY TO FORCE TIMELY COMPLETION AND INSPECTION OF IN-PROCESS AND NEW WORK.
- ASSIGNMENT OF DEDICATED MANAGEMENT STAFF TO AGGRESSIVELY PURSUE RESOLUTION OF QUALITY ISSUES.

LEGEND:	
PREPARE	▼
REVIEW	◇
NRC CONCURRENCE	★
IP APPROVAL	□

SCHEDULE:

● STOP WORKS



● QUALITY ISSUES

