TERA

March 15, 1984

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U.S. Nuclear Regulatory Commission
799 Roosevelt Road
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Mr. D. G. Eisenhut
Director, Division of Licensing
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Re: Docket Nos. 50-329 OM, OL and 50-330 OM, OL
Midland Nuclear Plant - Units 1 and 2
Independent Design and Construction Verification (IDCV) Program
Meeting Summary

Gentlemen:

A meeting was held on March 13, 1984, at NRC's Bethesda, Maryland, offices to discuss TERA's plans for completing the Midland Independent Design and Construction Verification Program. A summary is provided as an enclosure.

Sincerely,

Howard A. Levin

Howard A. Levin
Project Manager
Midland IDCV Program

cc: See Attached Sheet

Enclosure

HAL/sl

D021
1/1

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D. Quemmy, CPC (site)
R. Whitaker, CPC (site)
J. Taylor, NRC, I&E
R. Burg, Bechtel
J. Agar, B&W
J. Karr, S&W (site)
IDCV Program Service List

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SUMMARY
MEETING TO DISCUSS PLANS FOR COMPLETION OF THE MIDLAND IDCVP

A meeting was held on March 13, 1984, at NRC's Bethesda, Maryland, offices to discuss TERA's plans for completing the Midland IDCVP. Attachment 1 identifies the attendees of the meeting which included representatives of TERA, CPC, NRC, and the public. Attachment 2 presents viewgraphs utilized by TERA in a presentation given during the meeting. Within this attachment is the agenda which was used to conduct the meeting.

Jim Milhoan, NRC, I&E Headquarters and John Beck, TERA, opened the meeting with a discussion of the purpose and an introduction of participants. Mr. Beck indicated that TERA would describe in detail, the IDCVP completion plans which were summarized in a letter from TERA to the NRC and CPC on February 10, 1984. It was pointed out that the meeting was being held as a postponement from the originally scheduled date of February 29, 1984, where this topic was to be discussed as part of that routinely scheduled public meeting on OCR status review. The NRC requested the rescheduling as a result of another request by the Government Accountability Project (GAP) to hold the meeting in Bethesda rather than Ann Arbor, Michigan.

Howard Levin, TERA, presented a status summary of IDCVP progress and an overview of current activities. Elements of TERA's February 10, 1984, letter were reviewed with the attendees along with a summary of factors which have influenced the future direction of the IDCVP. Mr. Levin indicated that the fundamental objectives and philosophy of the program have and will continue to remain intact; however, details of execution and timing have been refined to better deal with the status and recent programmatic evolutions of the Midland project. In several cases, the IDCVP has been supplemented with additional verification activities as part of the completion plan.

Frank Dougherty, TERA, reviewed the Independent Design Verification Program (IDVP) methodology, reiterating the continued emphasis on a verification of the "quality of the end product." He identified the fact that several "end products"

are unavailable at this time because certain design-related activities (e.g., fire protection, systems interaction reviews) are in progress. A differentiation was made between these activities which are considered "confirmatory/licensing" in nature verses activities which are part of the primary design completion cycle and the field change/design change reconciliation process which is typical of plants at the Midland stage in the project completion cycle. Approximately 10 to 15 percent of TERA's original sample was identified as being impacted by ongoing design-related activities. These include topical reviews in the areas of tech specs, seismic and environmental equipment qualification, high energy line break accidents/pipe whip and jet impingement, fire protection and systems interaction. Mr. Dougherty described the IDVP approach for assuring that sample selection criteria are met for these topical reviews including the supplementation of the IDVP verification process with a review of project engineering programs for completing ongoing design-related activities.

Donald Tulodieski, TERA, reviewed the status of the Independent Construction Verification Program (ICVP) and the influence of the project evolution upon the ICVP and plans for execution of the ICVP. He emphasized the principal objective of the ICVP as being a verification of the quality of the end product which includes an evaluation of quality documentation as well as physical verification of installed components and commodities. Mr. Tulodieski indicated that in view of programmatic changes to CPC's approach to completing the Midland Project and associated delays in their execution, that the ICVP would have to be delayed to accommodate the fact that "end products" are not available to the extent necessary to support the required focus on verification of the final installation. The precise restart of the ICVP is predicated upon CPC's Construction Completion Program (CCP) Phase I release of items within the IDCVP sample selection boundaries. At that time, estimated to be no earlier than July 1984, it is anticipated that remaining construction work will be fully statused and that supporting quality documentation will be current and consistent with the statused completion. Mr. Tulodieski indicated that in the interim the ICVP focus will be on verifying disposition of identified items and on

a new verification activity associated with the CPC's ongoing Quality Verification Program (QVP). The QVP review will supplement the original ICVP scope to provide additional insight into the process by which CPC will assemble and in many situations, regenerate quality documentation (through re-inspection) which will support the qualification of installed components and commodities.

Howard Levin summarized TERA's formal presentation with an identification of IDCVP enhancements. The meeting was then opened for discussion between the three parties, TERA, CPC, and NRC.

Ted Ankrum, NRC, I&E, Headquarters, described NRC's experience in executing similar programs and the difficulty in assuring that the review sample remained unbiased by additional attention that could potentially (unintentional or otherwise) be applied to items within the sample selection boundaries. He emphasized the importance of the independent reviewers' attention to this potential problem. TERA described details of IDCVP execution which attempt to deal with the potential problem. John Beck reiterated TERA's sensitivity to the issue and the firm's commitment in assuring that the objectives of the IDCVP would be met and remain uncompromised.

Robert Warnick, NRC, Region III, indicated his satisfaction with the IDVP plans and questioned how TERA would approach ICVP execution around the time of CCP Phase I completion considering the fact that CPC's punch lists of "to do" items may be large for specific items within the ICVP sample. He emphasized the importance of maintaining a focus on a verification of the final installed and constructed products. TERA indicated a continued commitment to verification of the quality of the end product and stated that a decision to proceed or not to proceed at that time would be dependent on whether or not the sample selection criteria could be met given the completion status. An attempt will be made to maintain original sampling plans where possible and the sample will not be compromised under any circumstances.

The meeting was opened for comments from interested members of the public. Billie Garde, GAP, presented comments on the February 10, 1984, letter which included GAP comments as well as that of Ms. Barbara Stamiris and Ms. Mary Sinclair, both intervenors in the Midland ASLB proceedings. Her principal expressed concerns centered around the potential for the IDCVP to complete execution prior to the final products being complete and the potential for any compromise in the integrity of the sample through substitutions. TERA responded directly by reiterating a commitment to focus review on "end products" and that the sample would not be compromised due to timing considerations. Furthermore, it was pointed out that the bases for sample selection would be addressed in TERA engineering evaluations and that an auditable trail exists documenting all decisions in this regard. TERA committed to identify the percentage of substitutions, should any be required. TERA emphasized that the IDCVP reviewers will remain active until the originally stated IDCVP objectives have been met. A related comment was that the IDCVP may be evolving into a "process audit." TERA indicated that certain process-oriented verification activities were to be added to the program to supplement the end product reviews; however, end product reviews were not being dropped as a consequence. Accordingly, the IDCVP scope was being somewhat enhanced as part of the completion plans.

Several other issues which were related to the agenda were voiced. These included comments on TERA's recently completed evaluation of the effect of cracking on the performance of the diesel generator building, delays in issuance of an AFW system topical report, and proposals associated with a management appraisal of CPC management plans for completion of the Midland project.

The meeting closed with an indication by Jim Milhoan, NRC, that he expected to transmit a letter within two weeks addressing NRC's views on the IDCVP completion plans.

ATTACHMENT 1

MEETING TO DISCUSS PLANS FOR COMPLETION

OF THE MIDLAND IDCVP

MARCH 13, 1984

1:00 P.M.

BETHESDA, MD

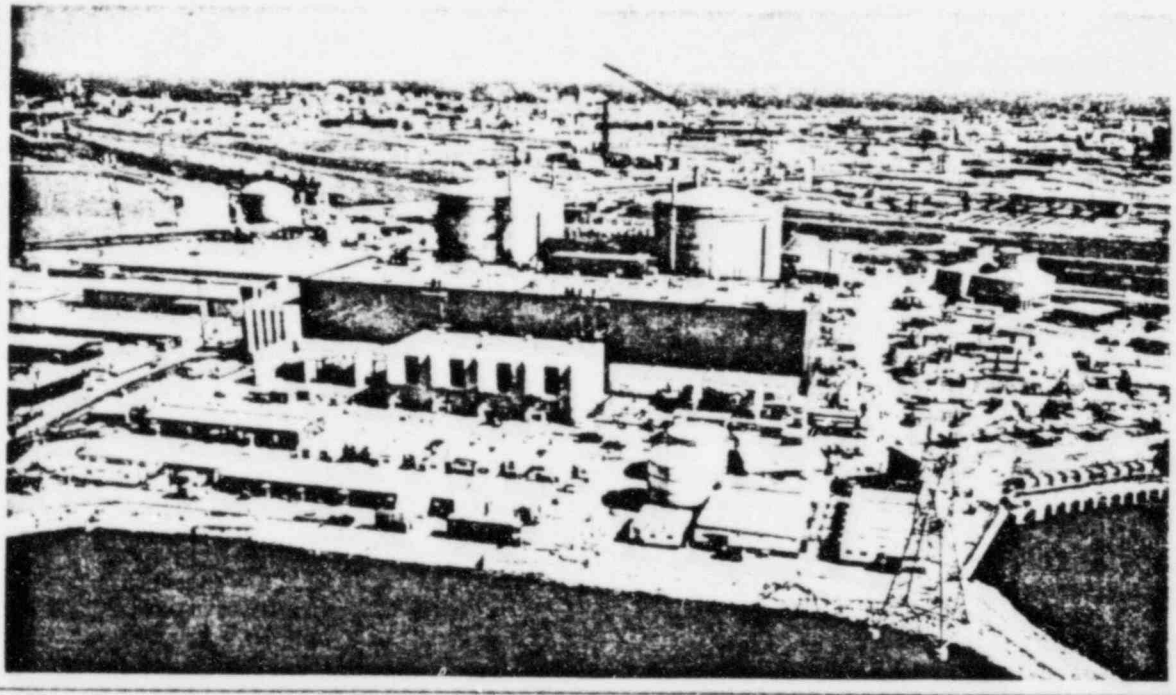
ATTENDEES LIST

Jim Milhoan	NRC, IE
Ted Ankrum	NRC, IE
Jim Partlow	NRC, IE
John Gilray	NRC, IE
Darl Hood	NRC, NRR
John Hayes	NRC, NRR
H. Wang	NRC, IE
Frank Dougherty	TERA
Don Tulodieski	TERA
John Beck	TERA
Howard Levin	TERA
Bob Warnick	NRC, Region III
Lou Gibson	CPC
Dennis Budzik	CPC
J. Nelson Grace	NRC, IE
L. Cusco	NRC, ELD
George Gower	NRC, IE
J. Lee	NRC, NRR
Billie Garde	GAP

(ATTACHMENT 2)

United States Nuclear Regulatory Commission
Docket Numbers 50-329 & 50-330

Midland Independent Design and Construction Verification Program



TERA CORPORATION

AGENDA
MEETING TO DISCUSS PLANS FOR
COMPLETION OF THE
MIDLAND IDCVP
MARCH 13, 1984
BETHESDA, MD

- PURPOSE - BECK (TERA)

- INTRODUCTION AND BACKGROUND - LEVIN (TERA)

  - STATUS OF THE IDCVP
  - RELATIONSHIP OF THE IDCVP AND ONGOING ACTIVITIES
  - REVIEW OF IDCVP OBJECTIVES/PHILOSOPHY
  - SUMMARY OF IDCVP COMPLETION PLANS

- COMPLETION OF THE DESIGN VERIFICATION - DOUGHERTY (TERA)

  - REVIEW OF IDVP METHODOLOGY
  - EFFECT OF ONGOING DESIGN-RELATED ACTIVITIES
  - SCOPE OF REVIEW/APPROACH TO SAMPLE SELECTION
  - REVIEW AREA STATUS/FUTURE ACTIONS

- COMPLETION OF THE CONSTRUCTION VERIFICATION - TULODIESKI (TERA)

  - CURRENT STATUS AND ACTIVITIES
  - QVP REVIEW
  - FUTURE ACTIVITIES

- SUMMARY OF IDCVP ENHANCEMENTS - LEVIN (TERA)

- DISCUSSION - LEVIN (TERA), ANKRUM (NRC), GIBSON (CPC)

- PUBLIC COMMENTS - AS REQUESTED BY OBSERVERS

- SUMMARY - BECK (TERA)

PURPOSE

- TO DESCRIBE PLANS FOR COMPLETION OF THE MIDLAND INDEPENDENT DESIGN AND CONSTRUCTION VERIFICATION PROGRAM AS SUMMARIZED IN TERA'S FEBRUARY 10, 1984, LETTER TO NRC AND CPC.

STATUS

MIDLAND IDCVP
MSR 9 (2/15/84)

- PERCENTAGE COMPLETE

  - IDVP = 64%
  - ICVP = 26%
  - IDCVP = 51%

- OCRs/FINDINGS

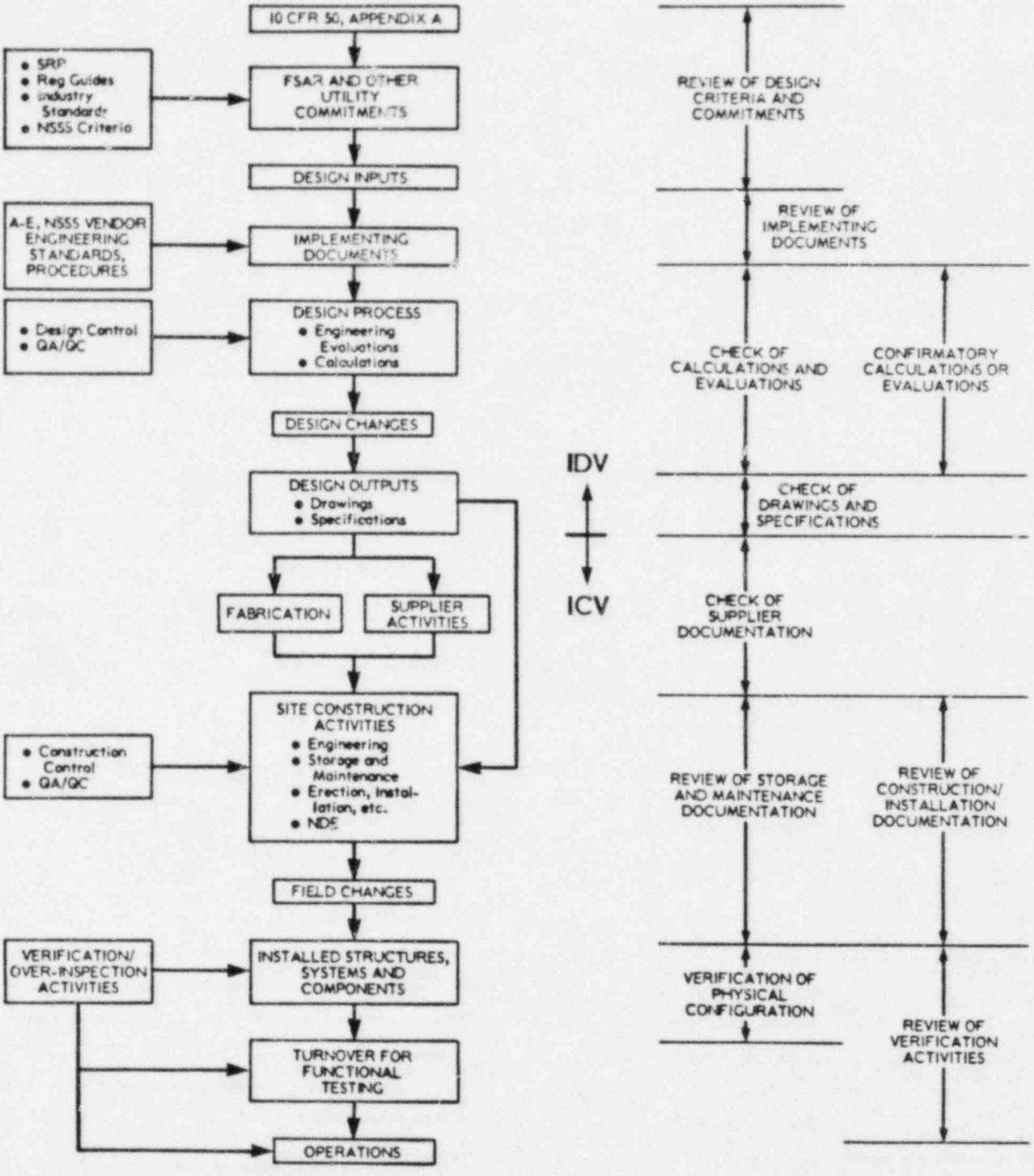
	IDENTIFIED	ACTIVE
- POTENTIAL OPEN ITEMS (P)	154	0
- OPEN ITEMS (O)	136	16
- CONFIRMED ITEMS (C)	97	58
- FINDINGS (F)	20	12
- RESOLVED ITEMS (R)	37	-
- FINDING RESOLUTION (Z)	8	-
- OBSERVATIONS(B)	23	-

$$P = O_A + C_A + F_A + R + Z + B$$

- CURRENT ACTIVITIES

	IDVP	ICVP
- BASE SCOPE	X	
- OCR DISPOSITION	X	X
- REPORTS	X	

INTER-RELATIONSHIP BETWEEN THE MIDLAND DESIGN AND CONSTRUCTION PROCESS AND THE MIDLAND IDCV PROGRAM



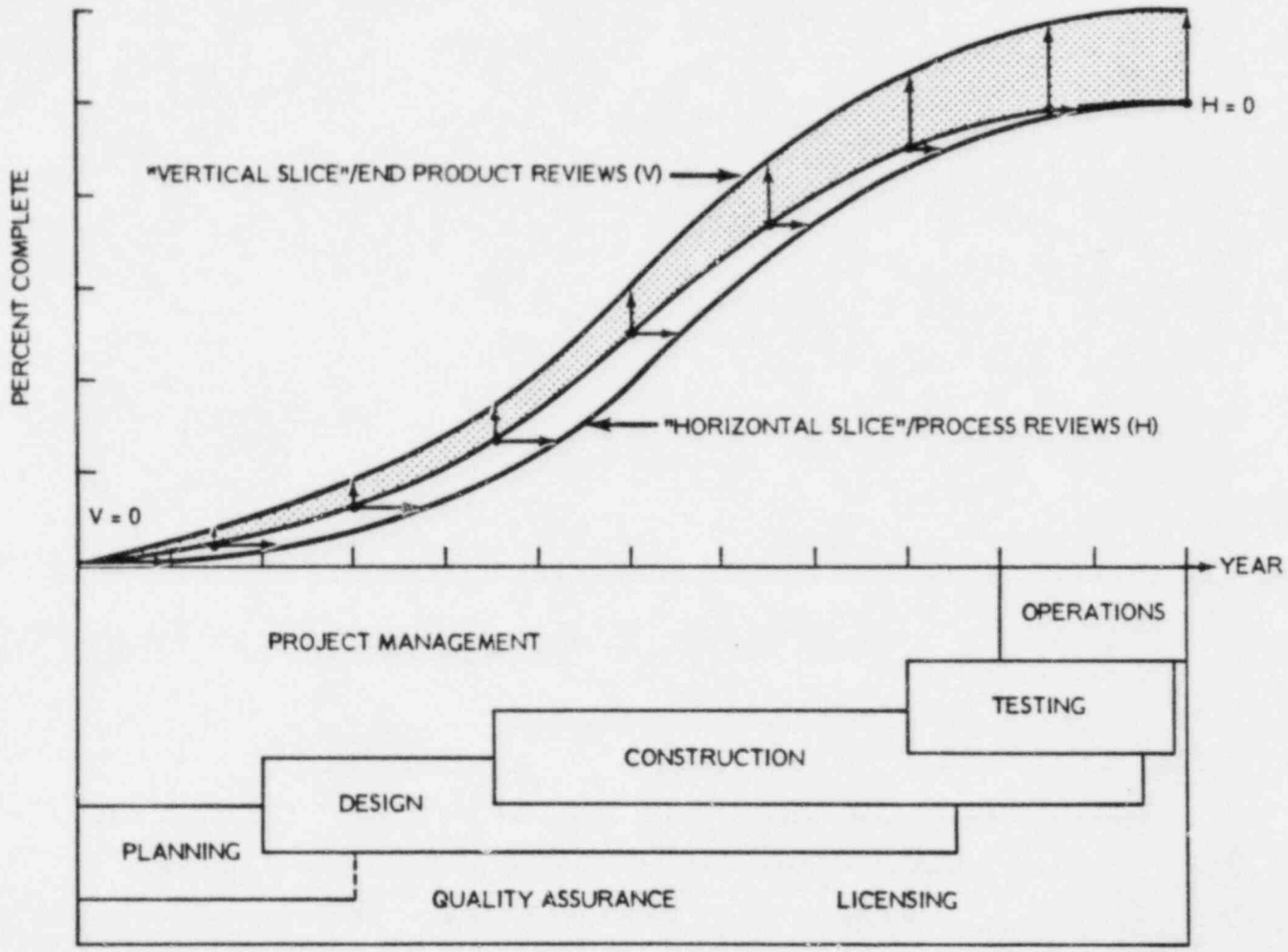
DESIGN AND CONSTRUCTION PROCESS

MIDLAND IDCV PROGRAM

RELATIONSHIP OF THE IDCVP AND ONGOING ACTIVITIES

- MIDLAND PROJECT STATUS
  - CONSTRUCTION COMPLETION PROGRAM
  - DESIGN CHANGES/RECONCILATION
- INDEPENDENT VERIFICATION DURING THE PROJECT COMPLETION CYCLE
  - ROLE OF IDCVP VERTICAL SLICE
  - ROLE OF CIO, ETC.

USE OF INDEPENDENT DESIGN AND CONSTRUCTION VERIFICATION PROGRAMS THROUGH THE NUCLEAR PROJECT COMPLETION CYCLE



KEY:

SPECIFIC DESIGN/CONSTRUCTION VERIFICATION ACTIVITY/ PROGRAM SHOWING RELATIVE EMPHASIS OF VERTICAL AND HORIZONTAL SLICE REVIEWS

RELATIVE IMPORTANCE OF END PRODUCT REVIEWS AND PROCESS REVIEWS TO AN ASSESSMENT OF QUALITY AT A SPECIFIC PERCENTAGE COMPLETION AND INTERVAL OF TIME

PHILOSOPHY OF REVIEW

- SELECT A REPRESENTATIVE SAMPLE OF ENGINEERED SYSTEMS, COMPONENTS, AND STRUCTURES WHICH WILL FACILITATE:
  - AN INTEGRATED ASSESSMENT OF IMPORTANT PARAMETERS AFFECTING THE FUNCTIONAL CAPABILITY OF THE THREE SYSTEMS, AND
  - THE ABILITY TO EXTRAPOLATE FINDINGS TO SIMILARLY DESIGNED FEATURES WITH A HIGH DEGREE OF CONFIDENCE
- CONSIDER POSITIVE AND NEGATIVE FINDINGS WHICH WILL ALLOW A BALANCED VIEW OF OVERALL QUALITY
- ASSESS ROOT CAUSE AND EXTENT OF IDENTIFIED FINDINGS
- REVIEW CORRECTIVE ACTION TAKEN TO ADDRESS FINDINGS

SUMMARY OF IDCVP COMPLETION PLANS

- MAINTAIN EXISTING VERTICAL SLICE APPROACH IN IDVP
  - END PRODUCT EMPHASIS
  - SUPPLEMENTAL REVIEW OF SELECTED ENGINEERING PROCESSES
    -- ONGOING CONFIRMATORY PROGRAMS (E.G., FIRE PROTECTION)
- POSTPONEMENT OF SELECTED ICVP UNTIL PHASE I OF CCP
  - SUPPLEMENTAL REVIEW OF QVP DOCUMENTATION PROCESSES
- FOCUSED REVIEW OF IDENTIFIED PROCESS-RELATED ISSUES RESULTING FROM FINDINGS (E.G., FIELD CHANGE/DESIGN CHANGE CONTROL PROCESS)

COMPLETION OF THE DESIGN VERIFICATION

- REVIEW OF IDVP METHODOLOGY
- EFFECT OF ONGOING DESIGN-RELATED ACTIVITIES
- SCOPE OF REVIEW/APPROACH TO SAMPLE SELECTION
- REVIEW AREA STATUS/FUTURE ACTIONS

INITIAL SAMPLE REVIEW MATRIX FOR THE AUXILIARY FEEDWATER SYSTEM
MIDLAND INDEPENDENT DESIGN VERIFICATION PROGRAM

DESIGN AREA	SCOPE OF REVIEW: REVIEW OF DESIGN CRITERIA AND COMMITMENTS	REVIEW OF IMPLEMENTING DOCUMENTS	CHECK OF CALCULATIONS AND EVALUATIONS	CONFIRMATORY CALCULATION OR EVALUATION	CHECK OF DRAWINGS AND SPECIFICATIONS
I. AFW SYSTEM PERFORMANCE REQUIREMENTS					
SYSTEM OPERATING LIMITS	X	X	X		
ACCIDENT ANALYSIS CONSIDERATIONS	X				
SINCLE FAILURE	X	X	X	•	
TECHNICAL SPECIFICATIONS	X	X			
SYSTEM ALIGNMENT/SWITCHOVER	X	X			
REMOTE OPERATION AND SHUTDOWN	X				
SYSTEM ISOLATION/INTERLOCKS	X	X			
OVERPRESSURE PROTECTION	X	•	•	•	
COMPONENT FUNCTIONAL REQUIREMENTS	X	X	X		X
SYSTEM HYDRAULIC DESIGN	X	X	X	•	
SYSTEM HEAT REMOVAL CAPABILITY	X	X	X	•	
COOLING REQUIREMENTS	X				
WATER SUPPLIES	X	X			
PRESERVICE TESTING/CAPABILITY FOR OPERATIONAL TESTING	X	•	•		•
POWER SUPPLIES	X	X			•
ELECTRICAL CHARACTERISTICS	X	•	•		
PROTECTIVE DEVICES/SETTINGS	X	X			X
INSTRUMENTATION	X	X	X		X
CONTROL SYSTEMS	X	X	X		•
ACTUATION SYSTEMS	X				•
NDE COMMITMENTS	X	•			•
MATERIALS SELECTION	X	X			
FAILURE MODES AND EFFECTS	•	•		•	

KEY

X - INITIAL SCOPE OF REVIEW

(X) - DELETED SCOPE OF REVIEW

• - ADDED SCOPE OF REVIEW

INITIAL SAMPLE REVIEW MATRIX FOR THE AUXILIARY FEEDWATER SYSTEM MIDLAND INDEPENDENT DESIGN VERIFICATION PROGRAM (CONTINUED)

DESIGN AREA	SCOPE OF REVIEW				
	REVIEW OF DESIGN CRITERIA AND COMMITMENTS	REVIEW OF IMPLEMENTING DOCUMENTS	CHECK OF CALCULATIONS AND EVALUATIONS	CONFIRMATORY CALCULATION OR EVALUATION	CHECK OF DRAWINGS AND SPECIFICATIONS
II. AFW SYSTEM PROTECTION FEATURES					
SEISMIC DESIGN	X				
• PRESSURE BOUNDARY	X	X	X	X	X
• PIPE/EQUIPMENT SUPPORT	X	X	X	X	X
• EQUIPMENT QUALIFICATION	X	X	X		X
HIGH ENERGY LINE BREAK ACCIDENTS	X				
• PIPE WHIP	X	X	X		X
• JET IMPINGEMENT	X				
ENVIRONMENTAL PROTECTION	X				
• ENVIRONMENTAL ENVELOPES	X	X	X		X
• EQUIPMENT QUALIFICATION	X	X	X		X
• HVAC DESIGN	X				
FIRE PROTECTION	X	X	X		
MISSILE PROTECTION	X				
SYSTEMS INTERACTION	X	X	X		
III. STRUCTURES THAT HOUSE THE AFW SYSTEM					
SEISMIC DESIGN/INPUT TO EQUIPMENT	X	X	X		X
WIND & TORNADO DESIGN/MISSILE PROTECTION	X				
FLOOD PROTECTION	X				
HELBA LOADS	X				
CIVIL/STRUCTURAL DESIGN CONSIDERATIONS	X				
• FOUNDATIONS	X	X	X		
• CONCRETE/STEEL DESIGN	X	X	X		X
• TANKS	(X)	(X)	(X)		

KEY

X - INITIAL SCOPE OF REVIEW

(X) - DELETED SCOPE OF REVIEW

• - ADDED SCOPE OF REVIEW

INITIAL SAMPLE REVIEW MATRIX FOR THE AUXILIARY FEEDWATER SYSTEM
MIDLAND INDEPENDENT CONSTRUCTION VERIFICATION PROGRAM

SYSTEM/COMPONENT	SCOPE OF REVIEW				
	REVIEW OF SUPPLIER DOCUMENTATION	REVIEW OF STORAGE AND MAINTENANCE DOCUMENTATION	REVIEW OF CONSTRUCTION/ INSTALLATION DOCUMENTATION	REVIEW OF SELECTED VERIFICATION ACTIVITIES	VERIFICATION OF PHYSICAL CONFIGURATION
I. MECHANICAL					
• EQUIPMENT	X	X	X	X	X
• PIPING	X		X	X	X
• PIPE SUPPORTS	X		X	X	X
II. ELECTRICAL					
• EQUIPMENT	X	X	X	X	X
• TRAYS AND SUPPORTS	X		•	•	X
• CONDUIT AND SUPPORTS	X		•	•	X
• CABLE	X	X	X	X	X
III. INSTRUMENTATION AND CONTROL					
• INSTRUMENTS	X	X	X	X	X
• PIPING/TUBING	X				X
• CABLE	X		•	•	X
IV. HVAC					
• EQUIPMENT	X	X	X	X	X
• DUCTS AND SUPPORTS	X				X
V. STRUCTURAL					
• FOUNDATIONS	X		X		
• CONCRETE	X		X		X
• STRUCTURAL STEEL	X		X		X
VI. NDE/MATERIAL TESTING PROGRAM					X

KEY

X - INITIAL SCOPE OF REVIEW

(X) - DELETED SCOPE OF REVIEW

• - ADDED SCOPE OF REVIEW

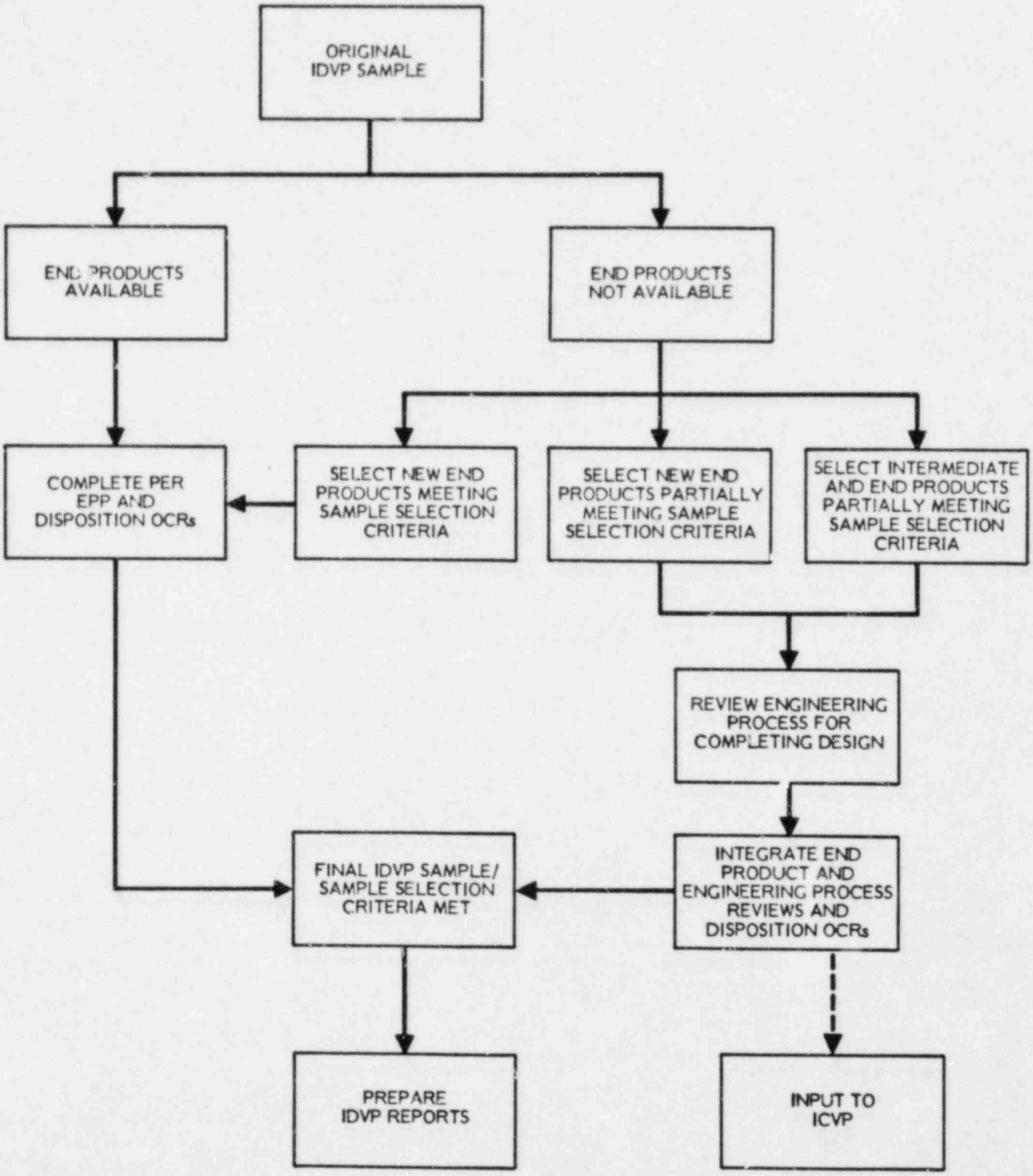
EFFECT ON IDVP OF ONGOING DESIGN-RELATED ACTIVITIES

MEASURE	TOTAL NUMBER	NUMBER AFFECTED	PERCENTAGE AFFECTED
MATRIX XS	352	34	10
LINE ITEMS	127	15	12
ENGINEERING EVALUATIONS	80	12	15

SAMPLE SELECTION CRITERIA

- IMPORTANCE TO SAFETY
- DESIGN/CONSTRUCTION INTERFACES
- ABILITY TO EXTRAPOLATE RESULTS
- DIVERSITY
- PREVIOUS EXPERIENCE
- TESTABILITY

IDVP REVIEW APPROACH TO SAMPLE SELECTION FOR SPECIFIC DESIGN TOPICS



REVIEW AREA STATUS

TECH SPECS

STATUS	PROPOSED ACTION
• IN DRAFT FORM	• VERIFY THAT PROCESS ENSURES COMPATIBILITY OF TECH SPECS AND DESIGN
• REVISED IN FSAR AMENDMENT 49	
• SPECIFIC NUMBERS NEED TO BE DEVELOPED	
• TYPICAL OF PLANT AT THIS STAGE	

REVIEW AREA STATUS

SEISMIC DESIGN/EQUIPMENT QUALIFICATION

STATUS	PROPOSED ACTION
• APPROXIMATELY 70% COMPLETE	• REVIEW AVAILABLE DOCUMENTATION
• OUTSIDE CONTRACTOR HAS SIGNIFICANT SCOPE	• SUBSTITUTE COMPONENTS FOR INCOMPLETE PACKAGES WHEN NECESSARY
• AFFECTS ALL 3 SYSTEMS IN SAMPLE	• REVIEW SQRT PROCEDURE
• 50% OF PREVIOUSLY SELECTED PACKAGES NOT COMPLETE	
• OCRs INDICATE A NEED FOR ADDITIONAL DOCUMENTATION	

REVIEW AREA STATUS

HIGH ENERGY LINE BREAK ACCIDENT
PIPE WHIP/JET IMPINGEMENT

STATUS	PROPOSED ACTION
• BASIC EFFORT IS ESSENTIALLY COMPLETE	• REVIEW PROCEDURES
• WALKDOWN FOR FIELD RUN OR FIELD LOCATED ITEMS MUST BE DONE	• USE ICVP TO VERIFY RESULTS

REVIEW AREA STATUS

ENVIRONMENTAL PROTECTION/EQ

STATUS	PROPOSED ACTION
• REV. 1 OF EQ REPORT ISSUED 12/82	• NO CHANGE TO PROGRAM ASSUMING LAST PACKAGE IS AVAILABLE
• REV. 2 IS PLANNED	• REVIEW QUALIFICATION PROGRAM FOR PACKAGE IF RESULTS NOT AVAILABLE
• 3 PACKAGES WERE NOT COMPLETE, BUT 2 NOW ARE AND THE LAST ONE IS SCHEDULED PRIOR TO 3/31	• REVIEW TESTING PROGRAM
• ONE OTHER ITEM IS IN TESTING AND IS SCHEDULED FOR MID-YEAR COMPLETION	

REVIEW AREA STATUS

FIRE PROTECTION

STATUS	PROPOSED ACTION
• FIRE HAZARDS STUDY BEING REVISED	• REVIEW PROGRAM FOR COMPLETION OF FIRE HAZARDS STUDY
• AFFECTS MULTIPLE AREAS OF PLANT	
• OUTSIDE CONTRACTOR	
• TERA ATTENDED NRC/CPC/ CONTRACTOR MEETING	
• CONTRACTOR REVIEWING AREAS THAT OUR OCRs INDICATED NEEDED REVIEW	

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REVIEW AREA STATUS

SYSTEMS INTERACTION

STATUS	PROPOSED ACTION
• PROGRAM HAS BEEN STARTED	• REVIEW PROGRAM IN DETAIL
• TERA HAS REVIEWED PORTIONS OF PROGRAM	• USE ICVP TO VERIFY OF RESULTS
• PROGRAM BEING PERFORMED BY CONTRACTOR	
• FIELD ACTIVITIES IN PROGRESS	

INDEPENDENT CONSTRUCTION VERIFICATION PROGRAM (ICVP)

- ORIGINAL PLAN FOR ICVP EXECUTION
- INFLUENCE OF MIDLAND PROJECT ENVIRONMENT UPON ICVP COMPLETION
- ALTERATIONS TO ICVP EXECUTION PLAN NECESSARY TO RETAIN PRINCIPAL GOALS AND OBJECTIVES

ORIGINAL PLAN FOR ICVP EXECUTION

- **PRINCIPAL OBJECTIVE:** VERIFICATION OF THE QUALITY OF END PRODUCTS I.E.,

  - DOCUMENTATION/PROCEDURES
  - QUALITY VERIFICATION PACKAGES
  - INSTALLED COMMODITIES AND COMPONENTS

- **SCOPE**

	REVIEW CATEGORY	AFW SYSTEM	SEP SYSTEM	CRHVAC SYSTEM
1.	VENDOR DOCUMENTATION	X	X	X
2.	STORAGE AND MAINTENANCE	X	X	X
3.	CONSTRUCTION/INSTALLATION DOCUMENTATION	X	X	X
4.	PHYSICAL VERIFICATION	X	X	X
5.	VERIFICATION ACTIVITIES	X	X	X

- **PLAN FOR EXECUTION OF SCOPE**
  (REVIEWS CONDUCTED IN LOGICAL GROUPINGS)

  1. CONSTRUCTION/INSTALLATION DOCUMENTATION
     AND
     PHYSICAL VERIFICATION

  2. VERIFICATION ACTIVITIES

  3. VENDOR DOCUMENTATION AND STORAGE AND MAINTENANCE

INFLUENCE OF MIDLAND PROJECT ENVIRONMENT UPON ICVP COMPLETION

- FACTORS AFFECTING ICVP EXECUTION
  - PROGRAMMATIC CHANGES TO COMPLETE PROJECT
    - + RECERTIFICATION OF "Q"-RELATED WORK
    - + CONSTRUCTION COMPLETION PROGRAM (CCP)
    - + QUALITY VERIFICATION PROGRAM (QVP)
    - + DOCUMENT/RECORD HANDLING PRACTICES
  - DELAYS TO PROGRAM EXECUTION
    - + APPROVAL OF CCP/QVP
    - + STOP WORK ORDERS (FCR/FCN)
    - + COMPLETION STATUS OF ZACK WORK

- INFLUENCE UPON ICVP SCOPE

	REVIEW CATEGORY	AFW SYSTEM	SEP SYSTEM	CRHVAC SYSTEM
1.	VENDOR DOCUMENTATION	X	X	X
2.	STORAGE AND MAINTENANCE	X	X	X
3.	CONSTRUCTION/INSTALLATION DOCUMENTATION	●	●	⊗
4.	PHYSICAL VERIFICATION	●	●	⊗
5.	VERIFICATION ACTIVITIES	X	X	X

INFLUENCE OF MIDLAND PROJECT ENVIRONMENT UPON ICVP COMPLETION

- PHYSICAL VERIFICATION - HOW AFFECTED

  - WITH THE EXCEPTION OF ZACK, SELECTED COMMODITIES AND COMPONENTS WITHIN SYSTEM SAMPLE BOUNDARIES WILL BE RECERTIFIED (END PRODUCT UNAVAILABLE)
  - INSTALLED COMMODITIES AND COMPONENTS NOT CONSIDERED PROPERLY STATUSED PENDING COMPLETION OF CCP PHASE I

    + REINSPECTION (ACCESSIBLE)
    + RECERTIFICATION (INACCESSIBLE)
    + "TO DO" PUNCH LIST

- CONSTRUCTION/INSTALLATION DOCUMENTATION - HOW AFFECTED

  - REVIEWED INSTRUCTIONS AND PROCEDURES UNDERGOING REVISION (END-PRODUCT DIFFICULT TO DISCERN)

  - FINAL QUALITY VERIFICATION DOCUMENTATION NOT COMPLETE/COLLATED (END-PRODUCT DIFFICULT TO OBTAIN AND VERIFY AS BEST AND FINAL)

  - INSPECTION RECORDS FOR ACCESSIBLE ITEMS TO BE SUPERCEDED BY CCP/QVP RECERTIFICATION PROCESS (END PRODUCT NOT AVAILABLE)

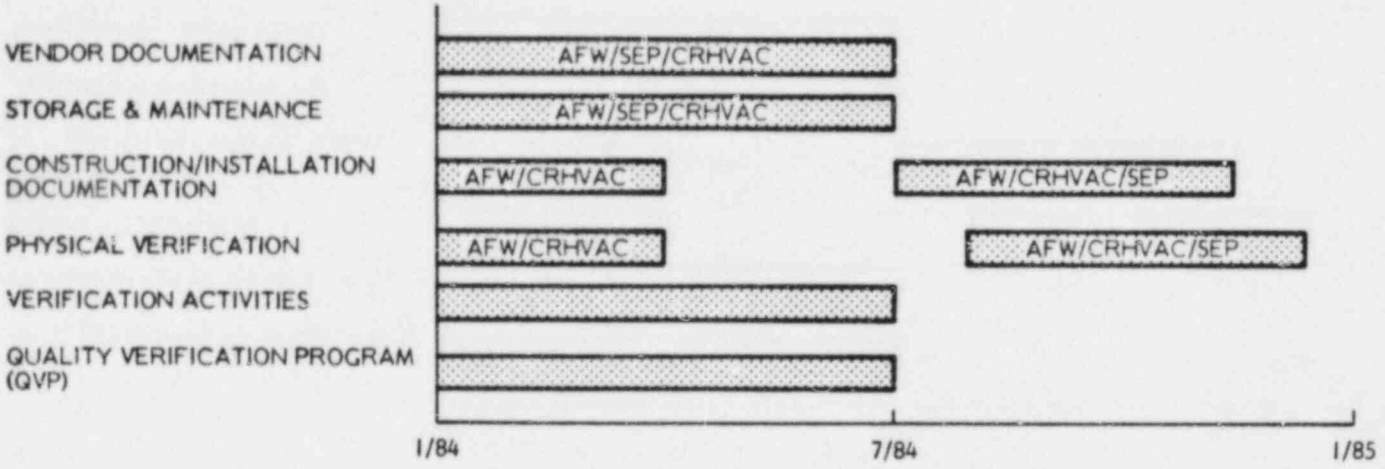
ALTERATIONS TO ICVP EXECUTION PLAN NECESSARY TO RETAIN PRINCIPAL GOALS AND OBJECTIVES

- PRINCIPAL OBJECTIVE: VERIFY THE QUALITY OF END PRODUCTS

- SCOPE

	REVIEW CATEGORY	AFW SYSTEM	SEP SYSTEM	CRHVAC SYSTEM
1.	VENDOR DOCUMENTATION	X	X	X
2.	STORAGE AND MAINTENANCE	X	X	X
3.	CONSTRUCTION/INSTALLATION DOCUMENTATION	X	X	X
4.	PHYSICAL VERIFICATION	X	X	X
5.	VERIFICATION ACTIVITIES	X	X	X
6.	QUALITY VERIFICATION PROGRAM	X	X	X

- PLAN FOR EXECUTION OF SCOPE



7/84 = ASSUMED DATE FOR CCP PHASE I COMPLETION ON SELECTED COMPONENTS AND COMMODITIES

- NEAR TERM 1-7/84

  - OCR/FINDING DISPOSITION
  - VERIFICATION OF REVIEW RESULTS
  - REVIEW OF QVP PROCESS
    + INTERFACE WITH STATUS ASSESSMENT TEAMS
    + REVIEW, IDENTIFY, AND UNDERSTAND ELEMENTS OF DOCUMENTATION (CONSIDERED) IMPORTANT TO ACCESSIBLE AND INACCESSIBLE ITEMS

- LONG TERM (7/84 - 1/85)

  - SITE MOBILIZATION
  - CONSTRUCTION/INSTALLATION DOCUMENTATION AND PHYSICAL VERIFICATION REVIEWS

SUMMARY OF IDCVP ENHANCEMENTS

PRIMARY

- AID EXTRAPOLATION OF RESULTS AND INTEGRATED ASSESSMENT
- IMPROVED EXECUTION
  - COHESIVE REVIEW
  - LESS SENSITIVE TO EXTERNAL CONSTRAINTS
- TIMELY RESULTS

SECONDARY

- IMPROVED RESOURCE USAGE/SCHEDULE