PROPRIETARY

CONTRACT FOR CONSULTING SERVICES

AGREEMENT, made as of the 1st day of September, 1981, by and between CONSUMERS POWER COMPANY, a Michigan corporation, with its principal office at Jackson, Michigan, hereinafter called the Owner, and MANAGEMENT ANALYSIS COMPANY, a California corporation authorized to do business in the State of Michigan, with an office at San Diego, California, hereinafter called the Consultant.

W I T N E S S E T H:

THAT, in consideration of their mutual promises and undertakings herein, the parties hereto agree as follows:

1. SCOPE OF SERVICES

The Consultant agrees to perform for the Owner technical services, including consulting and quality assurance services, as may be requested from time to time by the Owner, relating to the design, planning, licensing, construction, repair, maintenance, and/or operation of the Owner's facilities in the State of Michigan. In the event that the Owner shall desire any such services, then the services desired, their estimated cost or fixed price, and the times for their performance, will be more particularly described in purchase orders issued by the Owner. Such purchase orders shall specifically refer to this contract and shall become effective upon issuance thereof; provided, however, that the Consultant may reject any job assignment described in any such purchase order by mailing written notice of such rejection to the Owner within 10 days after receipt of such purchase order. The Owner reserves the right to cancel the services under any such purchase order upon giving at least 48 hours' notice in writing to the Consultant. In the event of any

conflict between the provisions of this contract and the provisions of any purchase order hereunder, the provisions of this contract shall control.

In providing such services, the Consultant shall exercise a high degree of thoroughness, competence and care.

It is agreed that this contract is not exclusive, and that nothing herein shall be deemed to prevent the Owner from engaging other consultants to perform any such services, nor to prevent the Owner from performing any such services through its own employees.

2. CONTRACT PRICE

The Owner agrees to pay the Consultant and the Consultant agrees to accept, as full and complete compensation for services performed by the Consultant hereunder, the rates and charges set forth on the schedule attached hereto and made a part hereof as Exhibit A or the fixed price set forth in the purchase order issued hereunder.

3. OWNERSHIP OF WORK PRODUCT

All technical data, evaluations, reports, and other work product of the Consultant hereunder shall become the property of the Owner and shall be delivered to the Owner upon completion or cancellation of services under the applicable purchase order. The Consultant may retain copies thereof for its files and its internal use.

4. INDEPENDENT CONTRACTOR RELATIONSHIP

In the performance of services hereunder, the Consultant shall be an independent contractor with the sole authority to control and direct the performance of the details of the services, the Owner being interested only in the results obtained.

5. INDEMNITY AND INSURANCE

A. Indemnity

The Consultant shall assume all responsibility for bodily injury to persons, including death or damages, sustained or claimed by its employees, the employees of the Owner, or by any other person, and also for damage to property, including property of the Consultant, the Owner, or any other person, which may occur or allegedly occur because of, or result from, or in any manner are connected with or arise from, any action or operation under this contract or the services which are the subject of this contract; and the Consultant shall assume all responsibility for and shall indemnify and save the Owner harmless from and against all losses, liabilities, claims, demands, payments, actions, legal proceedings, recoveries, costs, expenses, attorney fees, settlements, judgments, orders and decrees of every nature and description brought or recovered against, or incurred by, the Consultant, the Owner, or both of them, by reason of any such bodily injury to persons or damage to property or by reason of any claim that any act of the Consultant constitutes an infringement of any patent of the United States as the result of the use of any patented materials, machinery, devices, equipment or processes furnished or used by the Consultant in the performance of the services which are the subject of this contract or as a result of designs furnished by the Consultant and accepted by the Owner. Notwithstanding the foregoing, the Consultant shall not be required to indemnify the Owner against liability for damages arising out of bodily injury to persons or damage to property caused by or resulting from the sole negligence of the Owner, its agents or employees. Without limiting the

foregoing, the Consultant agrees at the request of the Owner to defend at the Consultant's expense any suit or proceeding brought against the Owner for any of the above-named reasons.

B. Consultant's Insurance

For the protection of the Owner, the Consultant shall also, at its sole expense, secure and maintain in force during the life of this contract, policies of insurance of the following types:

(1) Workers' Compensation Insurance with Michigan statutory limits.

(2) Comprehensive General Liability Insurance with a minimum combined bodily injury and property damage single limit of $500,000 per occurrence.

The Owner shall be included as an Additional Insured under Premises-Operations, as its interest may appear, and this section of the policy shall be endorsed with a Cross Liability Clause acceptable to the Owner.

The Owner shall be included as an Additional Insured under Completed Operations, as its interest may appear, and this section of the policy shall be endorsed with a Cross Liability Clause acceptable to the Owner.

(3) Contractual Liability Insurance specifically endorsed to cover liability assumed by the Insured under all contracts with the Owner.

(4) Comprehensive Automobile Liability Insurance with a minimum combined bodily injury and property damage single limit of $100,000 per occurrence, providing coverage for owned, nonowned and hired vehicles.

The Owner shall be included as an Additional Insured, as its interest may appear, and the policy shall be endorsed with a Cross Liability Clause acceptable to the Owner.

(5) Should any work be subcontracted, Independent Contractor's Protective Liability Insurance shall be required with

limits equal to those specified for its Comprehensive General Liability Insurance. If the total amount of the subcontract exceeds $5,000, the subcontractor shall be required to carry Workers' Compensation Insurance with Michigan statutory limits.

Such policies of insurance shall be in a form and with companies satisfactory to the Owner and shall be obtained and become effective prior to the time specified for the commencement of any services hereunder and each policy shall include, by endorsement, the following cancellation and change clause:

"This insurance will not be canceled by this Insurance Company nor any changes made in the policy which change, restrict, or reduce the insurance provided, or change the name of the Insured, as respects contracts or subcontracts performed by the Insured for Consumers Power Company, without first giving ten days' notice in writing sent by certified mail to Consumers Power Company, Jackson, Michigan."

It is understood that the Consultant and its subcontractors may, if it or they desire, carry limits in excess of those indicated herein, or may carry additional insurance, but it is further understood that no additional premium for such higher limits or for such additional insurance is to be charged to the Owner.

Either a certificate of insurance, on a form to be supplied by the Owner, or certified copies of the policies must be filed with and approved by the Owner prior to the performance of any services hereunder.

C. Owner's Property Damage Insurance

During the period of construction at the Midland Plant, and until the time nuclear fuel for the first Unit arrives at the Midland Plant site, the Owner will secure and maintain in force an All Risk Builder's Risk Property Damage Insurance policy or policies as issued by the American Nuclear Insurers (ANI) or by ANI and the Mutual Atomic Energy Reinsurance Pool (MAERP), or by Nuclear Mutual Limited (NML), or the equivalent. Said policy or policies shall cover, subject to policy exclusions, all equipment, materials and structures at the Midland Plant site which are to become a part of the permanent Midland Plant and all temporary structures to be used in or incident to the construction of the Midland Plant, in an aggregate amount equal to the actual cash value of such equipment, materials and structures (but not exceeding repair or replacement costs therefor) or the maximum principal amount (which is presently $450,000,000) available under the standard policy or policies of the insurer or insurers selected by the Owner, whichever is less.

At the time nuclear fuel for the first Unit arrives at the Midland Plant site, and until the time nuclear fuel for the second Unit arrives at the Midland Plant site, said All Risk Builder's Risk Property Damage Insurance shall be superseded by a Combined Builder's Risk and Operating Facility Property Damage Insurance policy or policies issued by ANI, or by ANI and MAERP, or NML, or the equivalent, covering, subject to policy exclusions, all property at the Midland Plant site in an aggregate amount equal to the actual cash value of such property (but not exceeding repair or replacement costs therefor) or the maximum principal amount (which is presently $450,000,000) available under the standard policy or

policies of the insurer or insurers selected by the Owner, whichever is less.

Among the items of property which will not be covered by the Owner's All Risk Builder's Risk Property Damage Insurance or its Combined Builder's Risk and Operating Facility Property Damage Insurance are the Consultant's and its suppliers' machinery, tools and equipment used in the erection of the property covered by the policy or policies. The Owner assumes no liability for loss or damage to such machinery, tools and equipment owned or furnished by the Consultant or its suppliers, it being understood that the Consultant or its suppliers shall look solely to its or their own insurance for reimbursement for any loss or damage to such machinery, tools and equipment.

At the time nuclear fuel for the second Unit arrives at the Midland Plant site, and at least until all of the Consultant's obligations under this contract have been fulfilled or discharged, said Combined Builder's Risk and Operating Facility Property Damage Insurance shall be superseded by an Operating Facility Property Damage Insurance policy or policies issued by ANI or ANI and MAERP, or NML, or the equivalent, covering all property, subject to policy exclusions, at the Midland Plant site in an aggregate amount equal to the actual cash value of such property (but not exceeding repair or replacement costs therefor) or the maximum principal amount (which is presently $450,000,000) available under the standard policy or policies of the insurer or insurers selected by the Owner, whichever is less. Among the items of property which will not be covered by the Owner's Operating Facility Property Damage Insurance are vehicles licensed for highway use except

when such vehicles are being used for the servicing of or in connection with the operation of the property covered by the policy or policies. The Owner assumes no liability for loss or damage to such vehicles owned or furnished by the Consultant or its suppliers, it being understood that the Consultant or its suppliers shall look solely to its or their own insurance for reimbursement for any loss or damage to such vehicles.

As long as this contract is in force, Owner will carry and maintain an Operating Facility Property Damage Insurance policy or policies issued by ANI, or ANI and MAERP, or NML, or the equivalent, covering all property, subject to policy exclusions, at the Owner's Palisades Plant and Big Rock Plant in an aggregate amount equal to the actual cash value of such property or the maximum principal amount (which is presently $450,000,000 for the Palisades Plant and $60,635,408 for the Big Rock Plant) available under the standard policy or policies of the insurer or insurers selected by the Owner, whichever is less. Among the items of property which will not be covered by the Owner's Operating Facility Property Damage Insurance are vehicles licensed for highway use except when such vehicles are being used for the servicing of or in connection with the operation of the property covered by the policy or policies. The Owner assumes no liability for loss or damage to such vehicles owned or furnished by the Consultant or its subcontractors, it being understood that the Consultant or its subcontractors shall look solely to its or their own insurance for reimbursement for any loss or damage to such vehicles.

To the extent covered by the foregoing policies of property damage insurance, the Owner hereby waives any and all rights of recovery

against the Consultant and its suppliers, whether in contract or tort (including negligence and strict liability), for loss of, damage to or loss of use of any property at the Midland Plant site. At the Consultant's request, the Owner will furnish the Consultant's suppliers with a statement describing the protection available to them.

The Owner's above-described policies of property damage insurance may be subject to any of the standard deductibles, exclusions and conditions commercially available for such policies.

D. Financial Protection Against Nuclear Liability

The Owner will, to the extent the same is available, arrange for an agreement of indemnity with the NRC under Section 170 of the Atomic Energy Act of 1954, as amended, and for financial protection against liability arising out of, or resulting from, nuclear incidents in such amount and in such form as shall meet the financial protection requirements of the NRC under Section 170 of the Atomic Energy Act of 1954, as amended. Such agreement of indemnity and financial protection is in effect for the Palisades Plant and Big Rock Plant and shall become effective as to each Unit of the Midland Plant on or before the time nuclear fuel for such Unit is first shipped to the Midland Plant site. The Owner will use its best efforts to maintain the agreement of indemnity and financial protection in effect during the period that the Plants are operated by or on behalf of the Owner, and if any Plant is permanently shut down at the conclusion of such period, thereafter until all special nuclear, source and byproduct material used in, irradiated by or produced as a result of operation of the Plant reactors has been removed from the Plant site. The Consultant, its directors, officers,

employees and suppliers shall, to the extent practicable, be additional insured or indemnified parties thereunder to protect them from potential liability. Notwithstanding the foregoing, the Owner shall have no obligation to secure or maintain the agreement of indemnity or financial protection in force if such agreement of indemnity or financial protection is not required and becomes unavailable, or if available, would not provide significant additional protection for the Consultant or becomes unavailable to the Owner on reasonable terms and conditions.

6. TERM OF CONTRACT

This contract shall be effective as of the date hereof and shall continue in effect until terminated by mutual consent or by either party giving the other at least thirty days' notice in writing of its desire to terminate the same. Upon termination, the Consultant shall turn over to the Owner all data and information gathered or developed for any uncompleted services covered by any purchase orders hereunder.

7. PAYMENTS

On or as soon as practicable after the first day of each calendar month, the Consultant shall submit to the Owner a separate invoice respecting each purchase order hereunder, itemized and supported to the Owner's satisfaction, covering all services performed thereunder by the Consultant during the last preceding calendar month, together with the amount due with respect to the applicable purchase order. Upon approval by the Owner, each such invoice shall be paid on or before the 20th day following such presentation.

The Consultant shall submit with each such invoice a Mechanics' Lien Affidavit drawn and executed in accordance with the Mechanics' Lien Law of the

State of Michigan, showing that all bills for labor and materials and other indebtedness connected with such services have been paid in full.

8. COST RECORDS

The Consultant shall maintain records sufficient to substantiate all charges reflected in each invoice submitted to the Owner hereunder. Such records shall be made and kept in accordance with generally accepted accounting principles and practices. The Owner shall at all reasonable times have access to such records for the purpose of inspecting, auditing, verifying or copying the same, or making extracts therefrom.

9. OVERTIME

No premium for overtime shall be charged to the Owner unless the same shall have been authorized in writing by the Owner.

10. ASSIGNMENT AND SUBCONTRACTING

Any subcontracting or assignment of this contract or any part thereof by the Consultant without the previous written permission and approval of the Owner shall be void and of no effect. Without limiting the generality of the foregoing, in no event shall any services required to be performed by a professional engineer, architect, or land surveyor under the laws of the State of Michigan be subcontracted or assigned to any person not authorized to perform such professional engineering, architecture or land surveying services.

In the event any subcontracting is so approved, the subcontract shall be in writing and in form approved by the Owner; shall be signed on behalf of the parties thereto prior to commencement of the services involved; and shall specify that the provisions of the subcontract shall be subject to, and the subcontractor shall comply in every respect with, the provisions of

this contract, except that the insurance requirements of Article 5B hereof may be superseded by other insurance requirements as approved by the Owner and stated in such approval. Four (4) copies of the signed subcontract shall be furnished to the Owner and, if possible, shall be furnished prior to commencement of the services subcontracted. The Consultant shall assume as full responsibility to the Owner for the actions, operations and services of any such subcontractors as for the actions, operations and services of persons directly employed by the Consultant.

11. LEGAL REQUIREMENTS

The Consultant shall secure all licenses or permits required by law and shall comply with all ordinances, laws, orders, rules and regulations pertaining to its services hereunder made by any governmental authority or public regulatory body.

12. CHANGES IN CONTRACT

The terms of this contract shall not be changed, superseded or supplemented, except in a written contract change order signed by duly authorized officers of the parties hereto.

13. QUALITY ASSURANCE

The Consultant, in the performance of work and providing of services hereunder on any of the Owner's nuclear facilities, shall comply with all applicable quality assurance requirements of the US Nuclear Regulatory Commission (NRC) and other regulatory agencies, and with such industry quality standards as the Owner may require. Specific quality assurance requirements may be included in the purchase order issued hereunder. No subcontracting by the Consultant shall relieve the Consultant of these responsibilities. No work or services shall be performed by the Consultant without prior Owner

approval of the Consultant's quality assurance program description relating thereto. The Owner and its authorized representatives shall have the right of access at all times to the work and related records at the plants and (at all times during normal working hours) at the Consultant's facilities, at any of the facilities of Consultant's subcontractors or vendors of any tier, or elsewhere, in order to ensure compliance with quality assurance requirements.

The requirements of Title 10 of the Code of Federal Regulations, Part 21 (10CFR21), shall apply to this contract. In all cases where the Consultant suspects that there is or has been a "defect," as defined in 10CFR21, or a failure to comply with the Atomic Energy Act of 1954, as amended, or any applicable rule, regulation, order or license of the NRC relating to a "substantial safety hazard," as defined in 10CFR21, the Consultant shall promptly so advise the Owner. In the event the Consultant reports any information to the NRC pursuant to 10CFR21 relative to this contract or the Owner's facilities, the Consultant shall contemporaneously report such information to the Owner, both orally and in writing (including copies of related documentation).

In accordance with the provisions delineated in 10CFR21, the Consultant shall include the foregoing provisions in all applicable "procurement documents," as defined in 10CFR21, entered into in the performance of this contract.

14. HEALTH

Prior to any of the Consultant's personnel reporting for work or services at any of the Owner's operating nuclear plants if requested by the Owner, or at the time any of the Consultant's personnel report for work or services at any of the Owner's operating nuclear plants and perform any work or services hereunder at such plants in a "restricted area" as defined in

Title 10 of the Code of Federal Regulations, Part 19 (10CFR19), the Consultant shall require its personnel to comply wi h the Owner's 10CFR19 qualification and acceptance procedures for each of said personnel who will be working in a "restricted area." Said procedures shall consist of completing the Owner-provided 10CFR19 forms or Consultant-provided 10CFR19 forms acceptable to the Owner and taking physical tests or examinations necessary to determine acceptability for work or services in a "restricted area." In the event any of the information on said forms is incomplete or is not acceptable and satisfactory to the Owner and/or said tests or examinations indicate unacceptability, the Consultant will not be permitted to allow any of its personnel not in compliance access to said "restricted area" and the Owner shall incur no additional costs or claims resulting therefrom without the Owner's written approval.

Prior to any of the Consultant's personnel reporting for work or services or arriving at any of the Owner's plants and performing any work or services hereunder in a "restricted area" as defined in Section 20.3 of Title 10 of the Code of Federal Regulations (10CFR20), the Consultant shall, in accordance with 10CFR20, Section 20.101, furnish the Owner with records, acceptable and satisfactory to the Owner, for each of said personnel who will be working in a "restricted area." Said records shall consist of an up-to-date "Personnel Dosimetry Information Form" (sample form attached hereto and made a part hereof as Exhibit B) and the home address of each of said personnel. In the event any of said records are not received or are not acceptable and satisfactory to the Owner, the Consultant will not be permitted to allow any of its personnel not in compliance access to said "restricted

area" and the Owner shall incur no additional costs or claims resulting therefrom without the Owner's written approval.

Prior to furnishing any personnel for work or services hereunder, the Consultant shall (i) consult with the Owner to determine the criteria for said acceptable and satisfactory records and (ii) advise its sources for personnel of said criteria in order to avoid (i) obtaining unacceptably or unsatisfactorily qualified personnel to perform work or services in a "restricted area" and (ii) any additional costs or claims resulting therefrom.

At all times during the performance of work and services in controlled radiation or contaminated areas of the Plant, the Consultant shall comply with and require its employees to comply with the Owner's applicable Radiation Protection procedures and policies. Such Radiation Protection procedures and policies will be provided to the Consultant. In addition, in advance of the performance of any such work and services, the Owner shall provide for all Consultant personnel who are to perform any such work and services, instruction in radiation hazards and Plant Radiation Protection requirements and procedures.

15. PLANT SECURITY

Prior to any one of the Consultant's personnel or any one of the Consultant's subcontractors' personnel being granted unescorted access by the Owner to any protected and vital areas at any of the Owner's operating nuclear plants, the Consultant shall provide the Owner with documentation for each individual of said personnel (i) indicating that said individual has been screened in accordance with the requirements of the American National Standard Institute, Inc. (ANSI) N18.17-1973, Paragraph 4.3 or (ii) indicating that the employment record of said individual has been reviewed by the Consultant and

said employment record indicates successful completion of trustworthy employment for at least the latest three years of continuous employment.

In the event the Consultant is held to be legally liable to its personnel or the personnel of any of its subcontractors for costs, payments, or expenses as a direct result of its compliance with this Article 15, the Owner will reimburse the Consultant for such costs, payments, or expenses.

16. 10CFR50:55(e)

For the Midland Plant only, the Consultant shall report to the Owner each deficiency found in the design and construction of the item(s) covered by this contract, which, were it to have remained uncorrected, could have affected adversely the safety of operations of the Midland Plant at any time throughout the expected lifetime of said Plant, and which represents:

1. A significant breakdown in any portion of the Quality Assurance Program; or
2. A significant deficiency in final design as approved and released for construction such that the design does not conform to the criteria and bases stated in the specifications; or
3. A significant deviation in construction of or significant damage to a structure, system, or component which will require extensive evaluation, extensive redesign or extensive repair to meet the criteria and bases stated in the specifications or to otherwise establish the adequacy of the structure, system, or component to perform its intended safety function; or
4. A significant deviation from performance specifications which will require extensive evaluation, extensive redesign, or extensive repair to establish the adequacy of a structure, system, or component to meet the criteria and

bases stated in the specifications or to otherwise establish the adequacy of the structure, system, or component to perform its intended safety function.

A deficiency report shall be prepared by the Consultant as soon as practicable after the detection of the deficiency and shall be evaluated to ascertain the reportability to the Owner in accordance with the criteria given above. There shall be provided a written indication on the report as to whether or not the deficiency is Owner reportable in accordance with the criteria above. Technical assistance may be obtained, as necessary, to arrive at the judgment as to Owner reportability. A signature shall be provided on the report attesting to the satisfactory completion of the steps given above. If a deficiency is deemed to be reportable, the Consultant shall notify the Owner's Midland Project Quality Assurance Department as soon as possible and not later than the end of the day on which the deficiency is discovered.

The Consultant shall include the foregoing provisions in all procurement documents entered into in the performance of this contract. The Consultant shall also require that all subtier suppliers include these same requirements in procurement documents.

The Consultant's Quality Assurance Program shall describe how the above requirements are implemented and shall be subject to review and approval by the Owner.

17. GOVERNING LAW

This contract shall be deemed to be a Michigan contract and shall be construed in accordance with and governed by the laws of the State of Michigan.

18. ENTIRE AGREEMENT

With respect to the subject matter hereof, this Agreement supersedes all previous representations, understandings and negotiations, either written or oral, between the parties hereto or their representatives, and constitutes the entire contract between the parties.

IN WITNESS WHEREOF, the parties hereto have entered into this Agreement as of the day and year hereinabove first written.

CPCo. Review & Approval		
DEPT	INITIAL	DATE
PMMP	[illegible]	12/29/82
Legal	[illegible]	12/7/82
QA	[illegible]	1/4/83
MPS	[illegible]	1/6/83

CONSUMERS POWER COMPANY

By _____
J. W. Cook, Vice President 1/15/82

MANAGEMENT ANALYSIS COMPANY

By _____

EXHIBIT B

INFORMATION ON THIS FORM TO BE TRANSCRIBED TO FORM NF-07 AT WORK SITE

CONSUMERS POWER COMPANY
PERSONNEL DOSIMETRY INFORMATION FORM

SOCIAL SECURITY NUMBER

LAST NAME

FIRST INITIAL

SECOND INITIAL

NUMBER AND STREET

PERMANENT ADDRESS

CITY, STATE, ZIP CODE

DATE OF BIRTH — Month Day Year

AGE (N) _____

EFFECTIVE DATE — Month Day Year

OCCUPATIONAL EXPOSURE - PREVIOUS HISTORY

PREVIOUS EMPLOYMENT INVOLVING RADIATION EXPOSURE - List name and address of employer in reverse chronological order.	DATE OF EMPLOYMENT (From - To)	PERIODS OF EXPOSURE	PREVIOUS DOSE HISTORY *	
			Whole Body (REM)	Record or Calculated (Insert One)
Name Add Name Add Name Add Name Add				

* Doses during employment with Consumers Power Company need not be listed.

INSTRUCTIONS

One Form NRC-4 or equivalent must be completed by contractor for each individual to be working in a Consumers Power Company nuclear plant "restricted area" (where protection from radiation or radioactive materials is required). The completed form must be presented to the Plant Superintendent or his designated representative at the site the worker is to report, and must arrive prior to, or concurrently with checkin of the worker. It will be Consumers Power's option to refuse services of workers who do not furnish a completed form upon arrival at the job site. No compensation shall be paid for such services thus refused, or any other costs related thereto.

1555 - C.A. Gibson

~~PROPRIETARY~~

Ship to: Consumers Power Company
1945 W. PARNALL RD
JACKSON, MI 49201

Attn: G.S. KEELEY, P14-113

Mark for: MIDLAND PLANT

FOB DEST Terms N20

Via PER CONTRACT

CONSUMERS POWER COMPANY
JACKSON, MICHIGAN
10/15/82

1036581
To: MANAGEMENT ANALYSIS CO.
11095 TORREYANNA RD.
SAN DIEGO, CA 92121

Put this number on all invoices and packages

PURCHASE ORDER NO. CP 10-9895-Q

CONTRACT REF NO/DATE	BUYER	TRADE	DEPARTMENT	RELEASE
09/01/81	42	85	00	

REQUISITION DATE NUMBER	UNIT
1063252	GSK

TOTAL COMMITMENT [redacted]

COMMITMENT TYPE	COMMENCE DATE	COMPLETE DATE
NTEG	09/17/82	12/30/82

ITEM	QUANTITY	UNIT	DESCRIPTION AND UNIT PRICE	INSP CODE	TAX CODE	TAX %	ACCT %	ALTA DISTRIBUTION OR WORK ORDER ACCOUNT
01			CONSULTING SERVICES [redacted] PERFORM CONSULTING SERVICES PER CONTRACT DATED 09/01/81 AS FOLLOWS: (1) PERFORM A SELF-INITIATED EVALUATION OF THE QUALITY OF ENGINEERING AND CONSTRUCTION. THE "PERFORMANCE OBJECTIVES AND CRITERIA FOR CONSTRUCTION PROJECT EVALUATIONS" (INCLUDED HEREIN BY REFERENCE) PUBLISHED BY INPO SHALL BE THE BASIS FOR THIS EVALUATION. MAC SHALL BE RESPONSIBLE FOR PLANNING THE ACTIVITY INCLUDING THE ASSEMBLING OF A TEAM OF QUALIFIED PEOPLE TO PERFORM THE EVALUATION AND FOR TRAINING OF THOSE PERSONNEL IN THE INPO OBJECTIVES, CRITERIA AND METHODS." UP TO THREE MEMBERS OF THE TEAM WILL BE TERA CORPORATION EMPLOYEES UNDER SEPARATE CONTRACT TO CONSUMERS POWER, BUT UNDER THE SUPERVISION OF MAC FOR THIS ACTIVITY. THE BASIC TASKS SHALL CONSIST OF: 1. EVALUATION PLANNING 2. DOCUMENTATION IDENTIFICATION AND COLLECTION 3. OVERVIEW MEETING WITH CONSUMERS POWER MANAGEMENT 4. DOCUMENTATION REVIEW AND DATA COLLECTION PLANNING CONT/D		4			07020-998104-5

Attach #1

OCT 21 1982

Show Transportation Costs Separately on Invoice if FOB on This Order Shows Title is Accepted at Shipping Point.

USE: CONSULTING SERVICES

Michigan Sales and Use Tax Status
Refer to Reverse Side
☐ Do Not Bill Tax
☐ Bill Tax If Applicable
☐ Bill Tax at ____ % of Tax Base
☒ Per Contract

Address Correspondence to:
J A WEBB
CONSUMERS POWER COMPANY
PURCHASING DEPARTMENT
212 WEST MICHIGAN AVENUE
JACKSON, MI 49201

V.C. Anderson

ITEM	QUANTITY	UNIT	DESCRIPTION AND UNIT PRICE	INSP CODE	TAX CODE	TAX %	ACCT %	AREA, FUNCTION OR WORK ORDER ACCOUNT
			5. DATA COLLECTION AND EVALUATION IN TRAINING, QUALITY ORGANIZATION AND ADMINISTRATION, CONSTRUCTION, DESIGN, TEST CONTROL AND PROJECT SUPPORT 6. CONSOLIDATE FINDINGS AND DRAFT REPORT 7. REVIEW REPORT WITH CONSUMERS POWER MANAGEMENT 8. ISSUE AND PRESENT FINAL REPORT 9. IF REQUIRED, TAKE PART IN PRESENTATIONS TO THE NRC 10 IF REQUIRED, PREPARE TESTIMONY AND PROVIDE EXPERT WITNESSES IN LICENSING HEARING (2) EXTEND THE SCOPE OF ITEM (01) ABOVE TO SATISFY THE REQUIREMENTS FOR THE BIANNUAL MANAGEMENT AUDIT OF THE MIDLAND PROJECT. THE AUDIT REPORT WILL ADDRESS WHETHER VOLUME II OF CONSUMERS POWER COMPANY'S NUCLEAR QA MANUAL COMPLIES WITH NRC REGULATIONS AND GUIDES, INDUSTRY CODES AND STANDARDS AND CONSUMERS POWER'S POLICY STATEMENTS. THE CONSUMERS POWER QA DEPARTMENT PROCEDURES AND OTHER PROJECT PROCEDURES SHALL BE ADDRESSED RELATIVE TO CONSISTENCY WITH SAID VOLUME II. THE AUDIT SHALL ALSO ADDRESS THE ADEQUACY AND DEGREE OF IMPLEMENTATION OF RELEVANT PROCEDURES AT CONSUMERS POWER JACKSON, ANN ARBOR AND MIDLAND OFFICES, AND THE BECHTEL POWER CORPORATION'S ANN ARBOR AND MIDLAND OFFICES. THE AUDIT WILL BE PERFORMED IN ACCORDANCE WITH THE NRC REGULATORY GUIDES 1.144 (SEPTEMBER 1980, REV. 1) AND 1.146 (AUGUST 1980, REV. 0). THE FOLLOWING TASKS SHALL BE INCLUDED: 1. REVIEW OF DOCUMENTATION 2. PREPARATION OF AUDIT PLAN 3. AUDIT OF CONSUMERS POWER'S JACKSON, ANN ARBOR AND MIDLAND OFFICES 4. AUDIT OF THE BECHTEL POWER CORPORATION'S ANN ARBOR AND MIDLAND OFFICES 5. PREPARATION OF DRAFT MANAGEMENT AUDIT REPORT 6. REPORT REVIEW 7. ISSUE FINAL REPORT AND PREPARATION CONT'D					

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CONSUMERS POWER COMPANY
JACKSON, MICHIGAN

Purchase Order No. CP10-9895-Q

Continuation Page 03

ITEM	QUANTITY	UNIT	DESCRIPTION AND UNIT PRICE	INSP CODE	TAX CODE	TAX %	ACCT %	AREA FUNCTION OR WORK ORDER ACCOUNT
			(3) ASSIST THE TERA CORPORATION IN SELECTION OF THE SCOPE OF THE "INDEPENDENT DESIGN VERIFICATION" TO BE PERFORMED BY TERA CORPORATION. PROVIDE A MAC REPRESENTATIVE ON THE TERA CORPORATION'S SENIOR MANAGEMENT REVIEW TEAM. THE RESPONSIBILITY FOR THE MANAGEMENT AND TECHNICAL ADEQUACY OF THIS ACTIVITY WILL REST WITH TERA CORPORATION. "(4)) BASED UPON ITEM (01) THROUGH (03) ABOVE, ASSEMBLE AN INTEGRATED REPORT TO CONSUMERS POWER'S MANAGEMENT AND TO THE NRC ON WHETHER IN MAC'S OPINION THERE IS A HIGH DEGREE OF CONFIDENCE THAT THE MIDLAND PLANT IS DESIGNED AND CONSTRUCTED WITH THE CAPABILITY OF BEING OPERATED IN ACCORDANCE WITH THE NRC REGULATIONS, INDUSTRY CODES AND STANDARDS, AND CONSUMERS POWER'S COMMITMENTS." COST NOT TO EXCEED: [redacted] SAID COST DOES NOT INCLUDE THE PREPARATION OF TESTIMONY OR PARTICIPATION IN HEARINGS.					

Pursuant #2

m 2557

V. H. BOTTLES
P12-453A

CONSUMERS POWER COMPANY
JACKSON, MICHIGAN
MEMORANDUM OF CHANGE

Purchase Order No. CP10-9895-Q
Dated 10/15/82

Memorandum of Change No. 002
Dated 01/10/83

RMR No.
Requisition No. 1063252

Storeroom No.

Ship to: 1 Consumers Power Company
.945 W. PARNALL RD
JACKSON, MI 49201

t: G.S. KEELEY, P14-113
ork for: MIDLAND PROJECT

To: MANAGEMENT ANALYSIS CO.
11095 TORREYANA RD.
SAN DIEGO, CA 92121

TRANS OF	ITEM	QUANTITY	UNIT	THE FOLLOWING ORDER CHANGE IS AUTHORIZED NO OTHER ITEMS OR TERMS ARE AFFECTED	UNIT PRICE	INSP CODE	STOCK/MATERIAL NUMBER	TAX CODE	TAX %	ACCT %	AREA, FUNCTION OR WORK ORDER ACCOUNT
5	01			INCREASE TOTAL COMMITMENT TO: [redacted]							

VENDOR'S ACCEPTANCE — PLEASE SIGN AND RETURN ONE COPY

By

Date

- Delete, 4 - Add, 5 - Change

Address Correspondence to:
J A WEBB
CONSUMERS POWER COMPANY
PURCHASING DEPARTMENT
212 WEST MICHIGAN AVENUE
JACKSON, MI 49201

CONSUMERS POWER COMPANY

V. H. Anderson

DIRECTOR OF PURCHASING

VIM Intervenor
P12-434A

CONSUMERS POWER COMPANY
JACKSON, MICHIGAN

MEMORANDUM OF CHANGE

Purchase Order No. CP10-9895-Q
Dated 10/15/82

Memorandum of Change No. 001
Dated 11/29/82

RMR No.
Requisition No. 1063252

Storeroom No

to: 1 Consumers Power Company
LAND PROJECT
5 W. PARNALL RD
KSON, MI 49201

G.S. KEELEY

To: MANAGEMENT ANALYSIS CO.
11095 TORREYANA RD.
SAN DIEGO, CA 92121

ITEM	QUANTITY	UNIT	THE FOLLOWING ORDER CHANGE IS AUTHORIZED NO OTHER ITEMS OR TERMS ARE AFFECTED — UNIT PRICE	INSP CODE	STOCK/MATERIAL NUMBER	TAX CODE	TAX %	ACCT %	AREA, FUNCTION OR WORK ORDER ACCOUNT
			DELETE FROM 1ST PARAGRAPH (1): "UP TO THREE MEMBERS OF THE TEAM WILL BE TERA CORPORATION EMPLOYEES UNDER SEPARATE CONTRACT TO CONSUMERS POWER, BUT UNDER THE SUPERVISION OF MAC FOR THIS ACTIVITY." DELETE PARAGRAPH (3). CHANGE PARAGRAPH (4) TO READ: "(3) BASED UPON ITEM (01) THROUGH (02) ABOVE, ASSEMBLE AN INTEGRATED REPORT TO CONSUMERS POWER'S MANAGEMENT AND TO THE NRC ON WHETHER IN MAC'S OPINION THERE IS A HIGH DEGREE OF CONFIDENCE THAT THE MIDLAND PLANT IS DESIGNED AND CONSTRUCTED WITH THE CAPABILITY OF BEING OPERATED IN ACCORDANCE WITH THE NRC REGULATIONS, INDUSTRY CODES AND STANDARDS, AND CONSUMERS POWER'S COMMIT-MENTS."						

VENDOR'S ACCEPTANCE — PLEASE SIGN AND RETURN ONE COPY

Date

Delete, 4 - Add, 5 - Change

Address Correspondence to
I E VANDRY
CONSUMERS POWER COMPANY
PURCHASING DEPARTMENT
212 WEST MICHIGAN AVENUE
JACKSON, MI 49201

CONSUMERS POWER COMPANY

V C Anderson

DIRECTOR OF PURCHASING

Return Requisition to

Copies of Orders to VMButtles, P12-434A; GSKeeley, P14-113B; WRBird, P14-418A;

PURCHASE REQUISITION

Date April 8 19 83

Ship to	REF Symbol	Vendor No.	Purchase From	Terms	FOB	Shipment Promised	Purchase Order Number
Consumers Power Company Midland Nuclear Plant 3500 E Miller Road Number and Street Midland, MI 48640 City and ZIP Code			Stone & Webster Midhigan, Inc Attn: CFSundstrom 245 Summer Street P O Box 2325 Boston, MA 02107	Contract	RECEIVED MAY 18 1983 C.P.Co. Legal		

Mark Shipment Attention of DB Miller (Where Necessary Only)

Mark for Midland Nuclear Cogeneration Plant (Job or Station Name, if Applicable)

Storeroom No. Buyer Tracer Type Est.

To Be Used for Consulting Services (Sales Tax Determination) Inquiry No.

Date Required See Below Written by V M Buttles Dept. Head GS Keeley Date 4/11/83

Ship Via Approved Date

Interim Expedite Dates

A B

C D

E F

REF Symbol	Item	Quantity	Unit	Complete Description	Unit Price	Insp. Code	Stock/Material Number	Tax Code	Tax %	Acct. %	Area, Function or Work Order Account
				Provide services per contract dated 07/01/81, as amended, to perform an independent third party Construction Implementation Overview (CIO) for the Consumers Power Company (CPCo) Midland Nuclear Cogeneration Plant Completion Program (CCP) and in accordance with the Scope of Services as defined in the Stone & Webster's (S&W) Proposal B3-4220700-LP249A dated 04/01/83 (included herein by reference) and with additional scope details as follows:							9703-9544.8
				a. Weekly reports of the weekly progress meetings shall be supplied to the NRC Region III and to the CPCo Site Manager.							
				b. Prior to completion of the CIO as presently scheduled for six months, S&W shall make a presentation to the NRC Region III and CPCo on an overall assessment of the							

(Continued on Page 2)

THIS DOCUMENT SUBJECT TO QA REVIEW ☒ YES ☐ NO

PROCUREMENT SUBJECT TO QA ☒ YES ☐ NO PER PURCHASE ORDER

BY

QA Document Approval

1061041

QUOTED FROM ☐ Price List ☐ Previous Order ☐ Inquiry Written Quotation Dated Telephone Quotation Dated By

PURCHASE REQUISITION NO. 1061041 (Contd) SHEET NO. 2

REF Symbol	Item	Quantity	Unit	Complete Description	Unit Price	Insp. Code	Stock/Material Number	Tax Code	Tax %	Acct. %	Area, Function or Work Orde. Account
				results to date of the CIO with a listing of major							9703-95[illegible] 3
				strengths and weaknesses. The evaluation shall also							
				include an evaluation of the adequacy of the CPCo							
				Quality Assurance program and of the need to continue							
				or not continue the CIO effort with justification							
				thereof.							
				c. Addit performance of CPCo management reviews of							
				CCP processes. Implementation of the CCP beyond these							
				points shall not proceed until S&W has documented to							
				their satisfaction of the readiness to proceed beyond							
				such points.							
				d. S&W shall comply with the protocol that is in							
				place for the S&W Soils Remedial Construction Indepen-							
				dent Assessment of the Auxiliary Building Underpinning.							
				e. S&W shall comply with the quality assurance require-							
				ments set forth in Section 4 of the Owner's specifi-							
				cation CC-100, Revision 1, dated 01/11/83 (included							
				herein by reference), except that document submittals							
				per Section 4.4.1 (except 2.1) shall be made to							
				DBMiller.							
				Start: 03/15/83							
				Complete: 11/15/83							
				Cost Not to Exceed: [redacted]							

FWBuckman, P-14-113 KRKLine, P-14-314 DBMiller, Midland(3)
JAMooney, P-14-115 BWMarguglio, JSC-220
GSKeeley, P-14-113 ARMollenkopf, P-14-308
RCBauman, P-14-314 RAWells, Midland

FROM JWCook, P-26-336

DATE March 6, 1983

SUBJECT MIDLAND ENERGY CENTER PROJECT
UPDATED PAGES FOR THE MAC REPORT
ON INPO CONSTRUCTION PROJECT EVALUATION
FILE B1.1.5 SERIAL 20499

Consumers Power Company

INTERNAL CORRESPONDENCE

CC

INPO has completed their review of the self-initiated construction project evaluation report for the Midland Energy Center Project and provided us comments based upon their review. As a result of their comments we have modified several pages of the initial report. The revised pages are attached and are to be placed in the report sent to you on February 1, 1983. Please remove the superseded pages from your report.

The following summarizes the major strengths and weaknesses identified in this evaluation. These major weaknesses were primarily associated with the administrative controls being applied and not the quality of the workmanship being performed. Specifics associated with each finding are addressed in the body of the report including corrective action for each weakness.

Major Weaknesses

- Considerable effort is required in identifying and retrieving design criteria documentation.
- There has not been sufficient consideration given for constructability, maintainability and inspectability.
- Work instructions to the field are sometimes incomplete and conflicting.
- Construction inspection procedures and criteria for acceptance are not always clearly defined.
- Inadequate planning coordination of QA inspections with construction activities.
- QA/QC requirements for acceptability are not clearly defined and documented.

Major Strengths

- The space control program for interface checking prior to release of design changes is excellent.
- The program for scheduling and tracking testing activities is comprehensive and well staffed.

As a result of this evaluation it is the consensus of the team that the management of the Midland Plant has instituted a positive program for designing and constructing a quality plant. Although weaknesses were identified which require corrective action, most are of a minor nature. A number of good practices were noted that the evaluation team strongly urges be continued. Through continued attention to the weaknesses disclosed in this report and the implementation of current project programs, a high quality plant should result.

PERFORMANCE EVALUATION SUMMARY

CONSTRUCTION PROJECT
Consumers Power Company
Midland Plant

Performance Area Construction Facilities/Equip Objective No. CC.2

Evaluator(s) R. Kelley

IV. Areas of Weakness and Corrective Action; Good Practices

Finding: (CC.2-1) There is insufficient bulk laydown area near the plant creating smaller isolated/scattered areas on site.

Corrective Action: It is recognized that there is insufficient bulk laydown area near the plant. The power block area is relatively small and the cooling pond area was initially used as a laydown area. The pond had to be filled several years prior to its need date in order to be compatible with water use limitations imposed by the State of Michigan. Because of the status of the plant at this time, including the need for having space near the power block area to house the large numbers of field engineering, testing, resident engineering and other field personnel, it is not deemed feasible nor economically justified to move these personnel or purchase more land to have a centralized close in bulk laydown area.

Finding: (CC.2-2) The following good practice was noted:

The central control and inventory of all rigging equipment in the "rigging loft" where daily inspections are performed prior to issuance to crafts. An official weekly inspection and preparation of reports for all motor vehicles and mobile cranes.

PERFORMANCE EVALUATION SUMMARY

CONSTRUCTION PROJECT
Consumers Power Company
Midland Plant

Performance Area Industrial Safety Objective No. PS.1

Evaluator(s) R. Kelley/L. Kube

IV. Areas of Weakness and Corrective Action; Good Practices

Finding: (PS.1-1) The use of non-fire retardant wood for scaffolding and flooring expose permanent plant equipment to a possible loss from fire.

Corective Action: The majority of lumber utilized for scaffolding, etc, by contractors and subcontractors is fire-retardant material. We are removing as much non-fire retardant lumber as possible. Instead of lumber, metal scaffolding is being utilized wherever practical and we plan to continue to utilize fire retardant lumber and/or metal for future scaffolding on the job.

Finding: (PS.1-2) The following good practice was noted:

Enforcement of good industry safety practices was exemplified by accident trending indicating frequency rates only 12 percent of home office established goals.

Finding: (PS.1-3) The following good practice was noted:

Lifting and rigging equipment received above normal attention from the contractors Louisville office and weekly site inspections.

Finding: (PS.1-4) The following good practice was noted:

A very good tagging program exists with both construction activities and client interface as evident by a good double tagging procedure.

Finding: (PS.1-5) Some areas of containment number two were observed as being congested, preventing safe access and regress.

Corrective Action: We recognize that this is a problem and the actions already taken or being taken, as described below, should minimize the problem from occuring in the future.

The withdrawal of "construction aid" material, ie, scaffolding, material, etc, as part of the Construction Completion Program has helped eliminate some of the identified congestion temporarily. In addition, the Construction Completion Program has alleviated the congestion by reducing the number of people simultaneously working in the most congested areas of the containment.

While congestion will occur periodically as installation activities resume, constant monitoring by Safety and Craft supervision to ensure minimizing congestion/proximity and providing safe working area has and will continue to be an ongoing function in all areas of the job.

Accessibility within the reactor buildings and other buildings from both a traffic volume and safety standpoint will continue to be monitored.

THIRD PARTY REVIEWS

-INPO Self-initiated Evaluation by MAC

-Independent Design Verification of Auxiliary Feedwater and one Other System

-Independent Installation Implementation Overview (Soils Work being performed by Stone & Webster)

SELF-INITIATED EVALUATION

-INPO Received Report January 31, 1983

-Submission to NRC

-Corrective Action Implementation

INDEPENDENT INSTALLATION IMPLEMENTATION OVERVIEW

-Status

-Scope

1 - Familiarization With Procedures, Drawings, Specs, Organizations, Interfaces

2 - Evaluate adequacy of the above

3 - Evaluate compliance with above for construction activities and QC activities

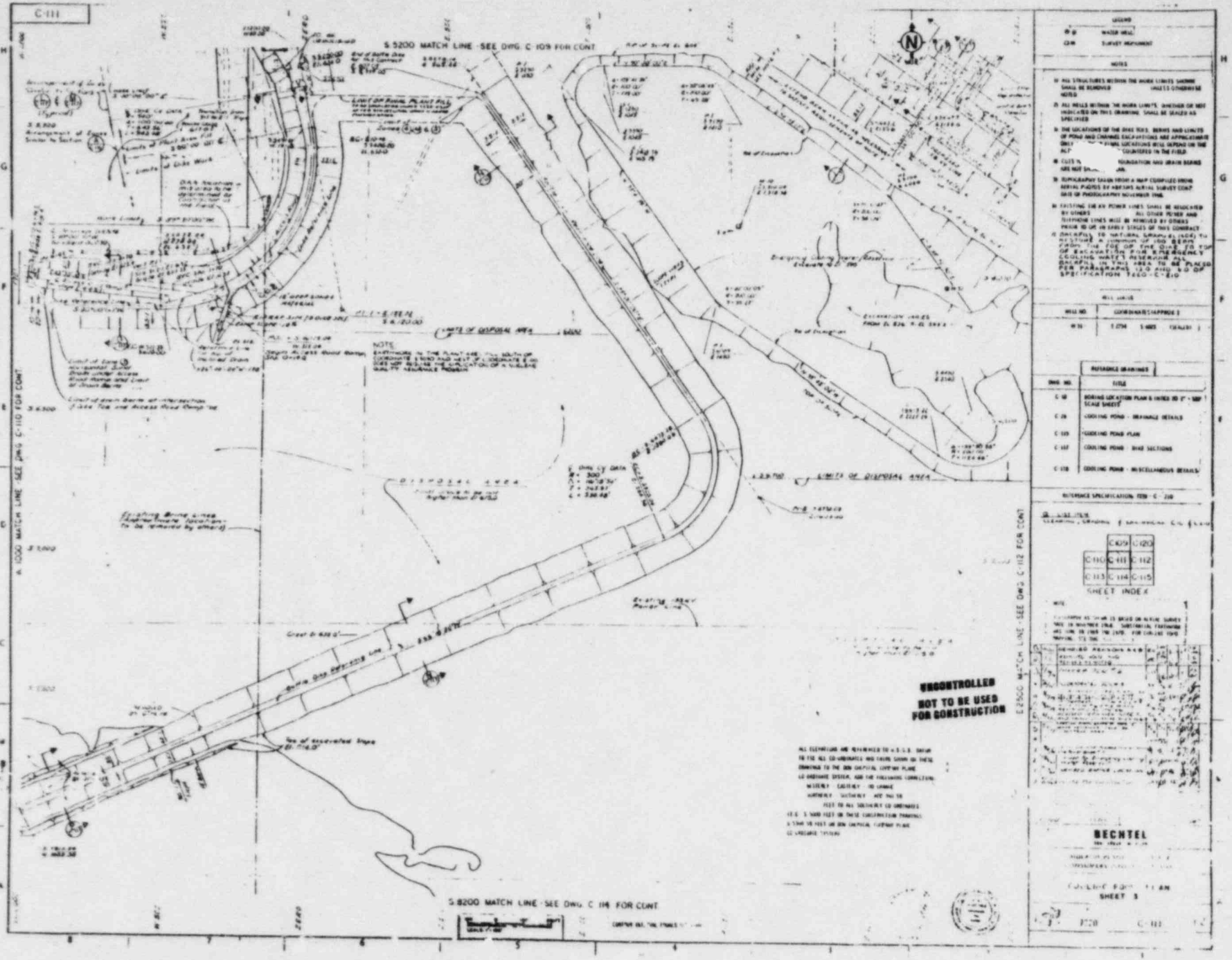
4 - Submit observations and reports to Consumers Power with copies to NRC

-Schedule

1 - Award Contract February 15, 1983

2 - Activities 1 through 5 February 15 to August 15, 1983

3 - Final Report, Evaluation and Decision on Need to Extend Overview Schedule 9/1/83


C-111
S.5200 MATCH LINE - SEE DWG. C-109 FOR CONT
N.1000 MATCH LINE - SEE DWG. C-110 FOR CONT
E.2600 MATCH LINE - SEE DWG. C-112 FOR CONT
S.8200 MATCH LINE - SEE DWG. C-114 FOR CONT
LIMITS OF DISPOSAL AREA
DISPOSAL AREA
NOTE
UNCONTROLLED
NOT TO BE USED
FOR CONSTRUCTION
SHEET INDEX
C-109
C-110
C-111
C-112
C-113
C-114
C-115
BECHTEL
SHEET 3
C-111

I. Pb. of communication
Schedule inf. promptly communicated
Weekly input of ~~problems~~ schedule

Want more inspection input. →
• JGK said to Bozul "whatever it takes"

[II] Non Q list

1. Freeze wall other than ~~[illegible]~~ Safety Related
~~[illegible]~~

2. Permanent dewatering except installation of wells & monitoring of same.

3. Aux Bldg ~~Phase I~~ access shaft (above 609') & soldier piles

~~4. [illegible]~~

4. Procurement of soldier

Communicat.

Submit ~~list~~ to R-III

I. Communications

II. Letter

III. 4 items

1 Plant vs Safety Related - underpinning

Meeting minutes - go to Board!

CONSUMERS POWER CO.
RECEIVED
FEB 11 1983
Site Mgr.
Midland Project
Consumers Power Company

INTERNAL CORRESPONDENCE

To REMcCue

From JMKnoll

Date February 9, 1983

Subject MIDLAND TECHNICAL DEPARTMENT
STATUS OF AREA CLEANLINESS WALKDOWNS

RDO 22-83
JMK 24-83
CJL 08-83
smr

CC RDOrosz, FMWiegand, GVMeyer, DVokal, JSchram, GJKahn, CJLenore, JRitzo, RMRice, JRGillis

In support of the construction completion plan we have established a team to perform area cleanliness walkdowns. This will be a one time area walkdown. Team members will consist of the following personnel from the Technical Department: J Schram, NSS; G Kahn and C Lenore, Programmatic Testing; J Ritzo, Auxiliary; and a member of CPCo Construction Department yet to be appointed.

The purpose of the walkdown team will be to verify area cleanliness after completion of cleanup activities initiated in December plus a general overview of test engineer system cleanliness walkdowns.

Walkdowns will be conducted in a systematic manner by building and elevation. Individual team members will document area discrepancies by form-40 to Layup Control Engineer (LCE - C Lenore). The LCE will then summarize discrepancies by memo to file. BPCo and cognizant test engineers will be notified of items requiring resolution.

Group members will be briefed on general guidelines to be used in conducting area walkdowns. The basic items of concern will be those that: 1) constitute gross discrepancies, 2) potentially cause degradation of systems or components, or 3) present obvious safety hazards. The following list represents examples of problems or systems discrepancies that will be observed during the walkdown. Although this list is not all inclusive it is typical of items to be observed.

- Incomplete hanger installation
- Damaged or incomplete pipe runs
- Damaged supports
- Cable tray mounting and routing acceptable
- Mounting, routing and filling of exposed conduit acceptable
- Switch gear properly set and mounted
- Damaged mechanical equipment
- Broken gauges, instruments and tubing
- Broken vapor seals, missing pipe caps and flanges
- Overall area cleanliness

If you have any questions, please contact Carl Lenore.

CONSUMERS POWER CO.
RECEIVED

JAN 18 1983

Site Mgr.

Consumers Power Company

INTERNAL CORRESPONDENCE

To Test Engineers

From REMcCue

Date January 14, 1983

Subject MIDLAND TECHNICAL DEPARTMENT **Midland Project**
SYSTEM CLEANLINESS WALKDOWNS

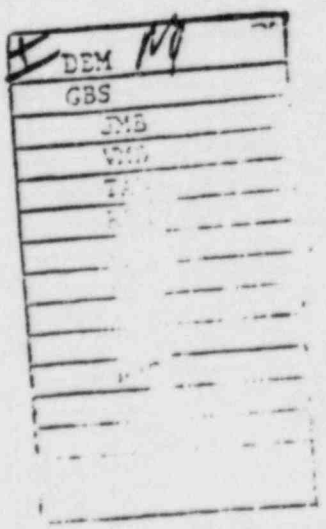
cc ~~DBMiller~~
REMcCue
Section Heads/Disc. Supervisors.

RDO-06-83
~~CMK~~-07-83
CJL-01-83
pac

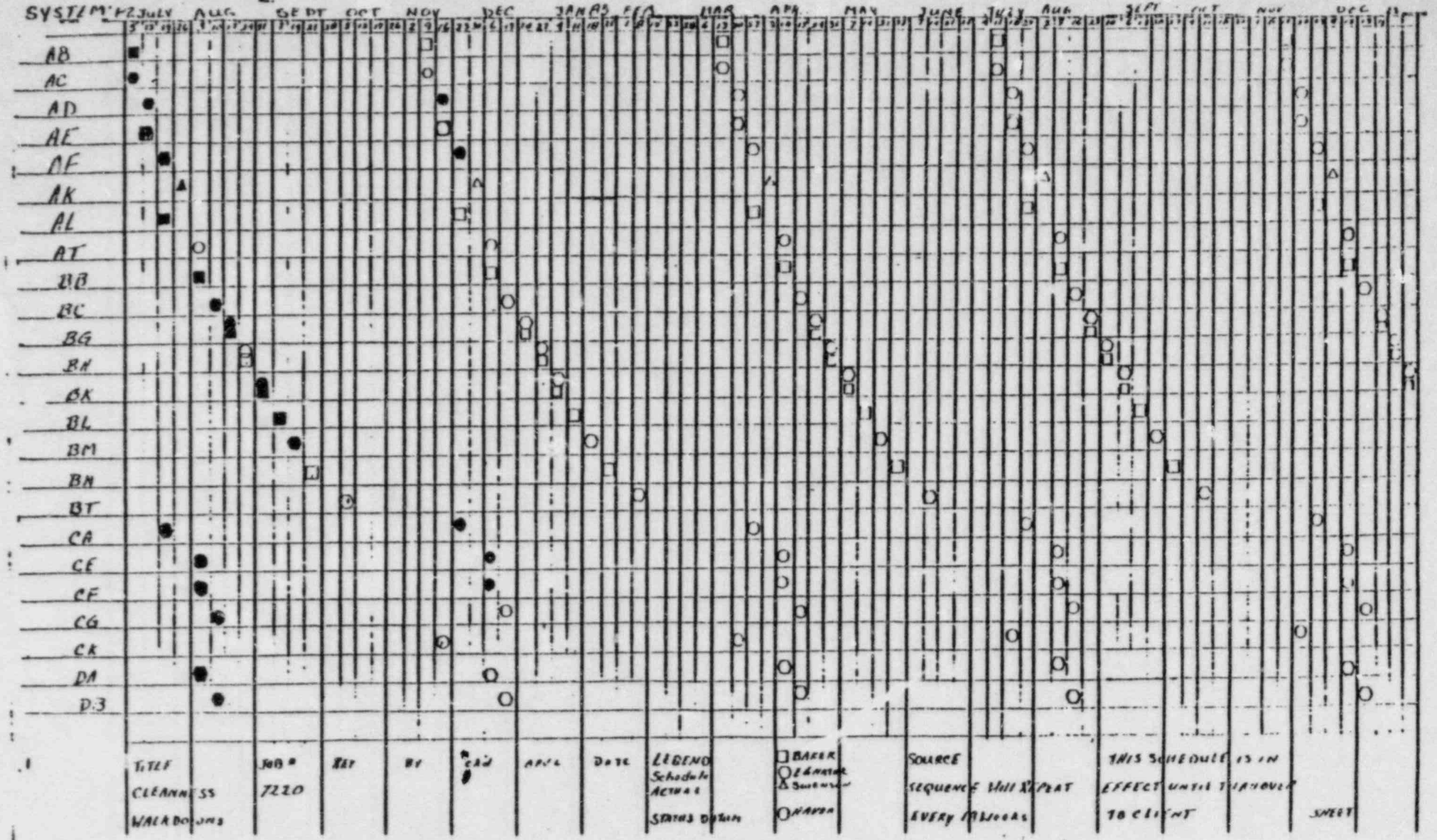
Once the pullout and system cleanup activities are complete the cleanliness walkdown program will be strictly enforced per TPM 13-4 Rev. 3. This procedure requires Test Engineers to accompany BPCo Field Engineers on all non turned over system walkdowns. Completion of walkdowns and items for resolution are documented on Form 40's and forwarded to the Programmatic Testing Engineer CJLenore.

Attached is a tentative schedule of BPCo 1983 Construction Cleanliness Walkdowns. Memo's requesting system walkdown preparations are to be forwarded to BPCo Cognizant Field Engineer or Lead Mechanical Engineer at least two weeks prior to scheduled walkdowns. If no preparation is required the walkdown should be coordinated directly by the Test Engineer and Bechtel's Field Engineer. Bechtel will notify the Test Engineer of walkdown date and time.

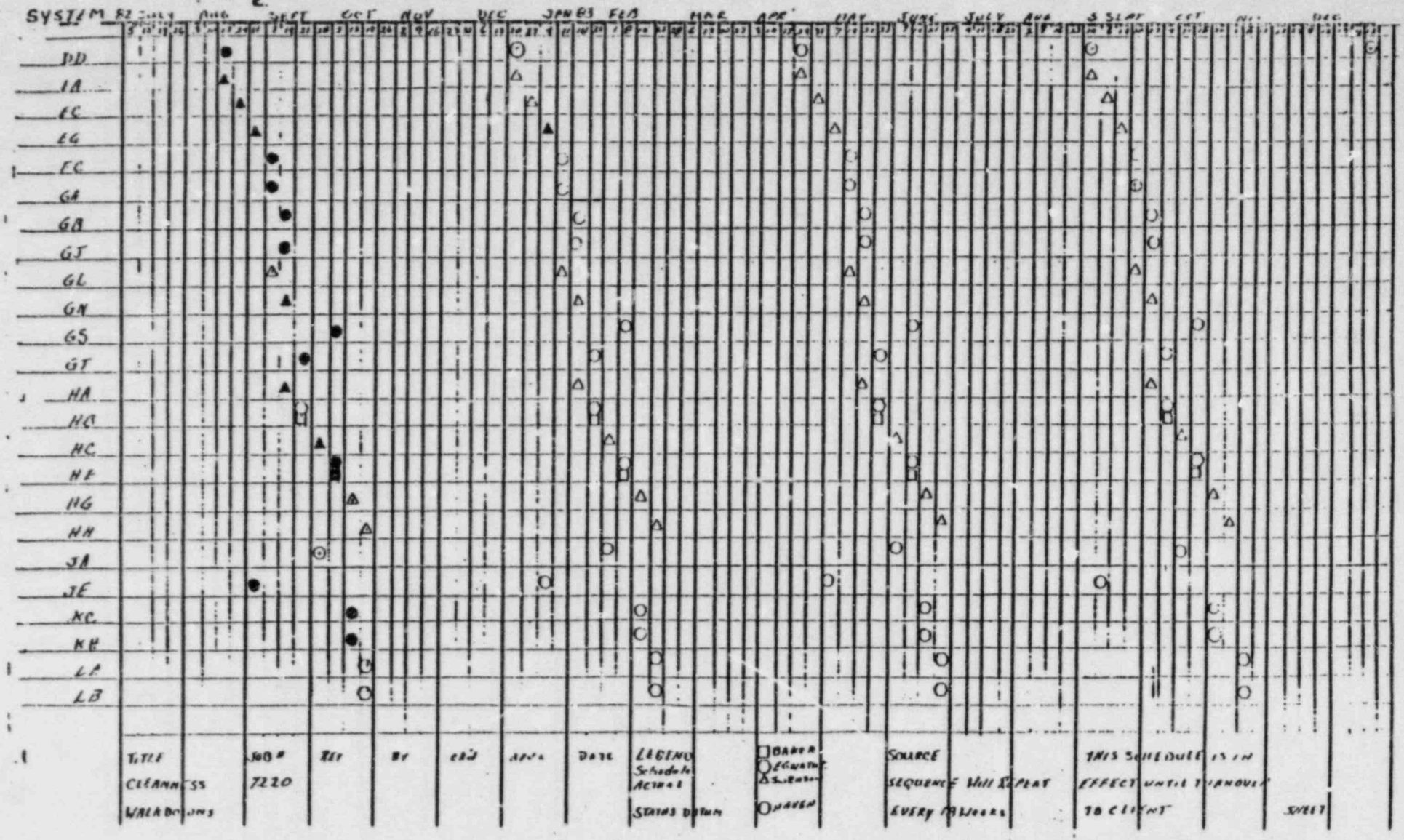
If you have any questions please contact CJLenore (ext 441).



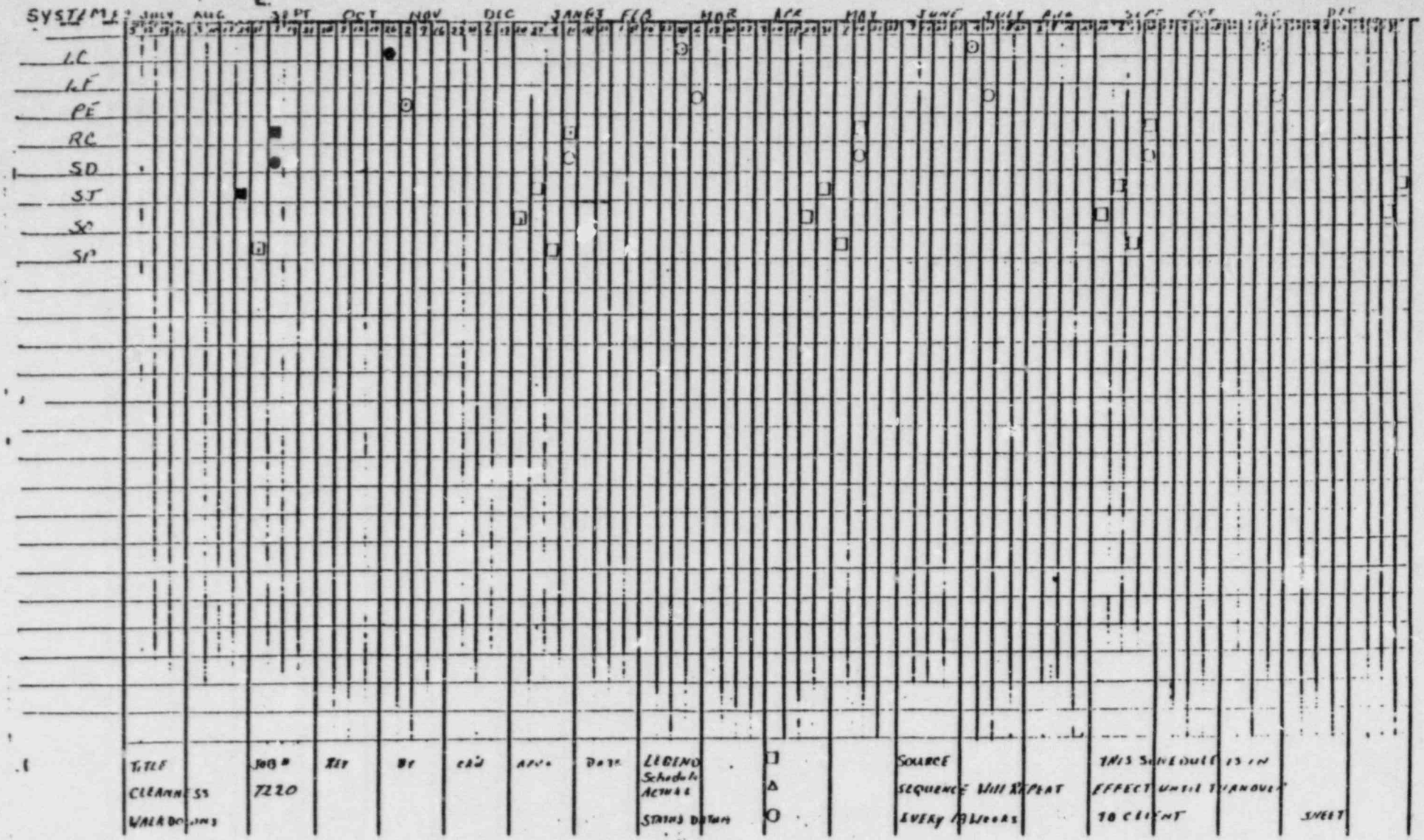
CONSTRUCTION CLEANNESS WALKDOWNS



CONSTRUCTION CLEANNESS WALKDOWNS



CONSTRUCTION CLEANLESS WALKDOWNS



Consumers Power Company

INTERNAL CORRESPONDENCE

To Test Engineers

FROM REMcCue for/for RFM

DATE January 14, 1983

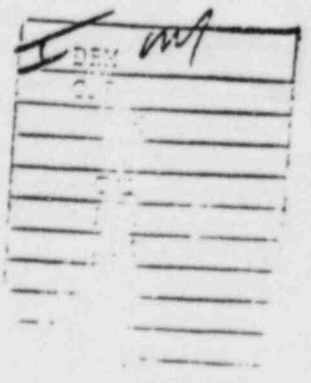
SUBJECT MIDLAND TECHNICAL DEPARTMENT
REVIEW OF BECHTEL MAINTENANCE PROGRAM

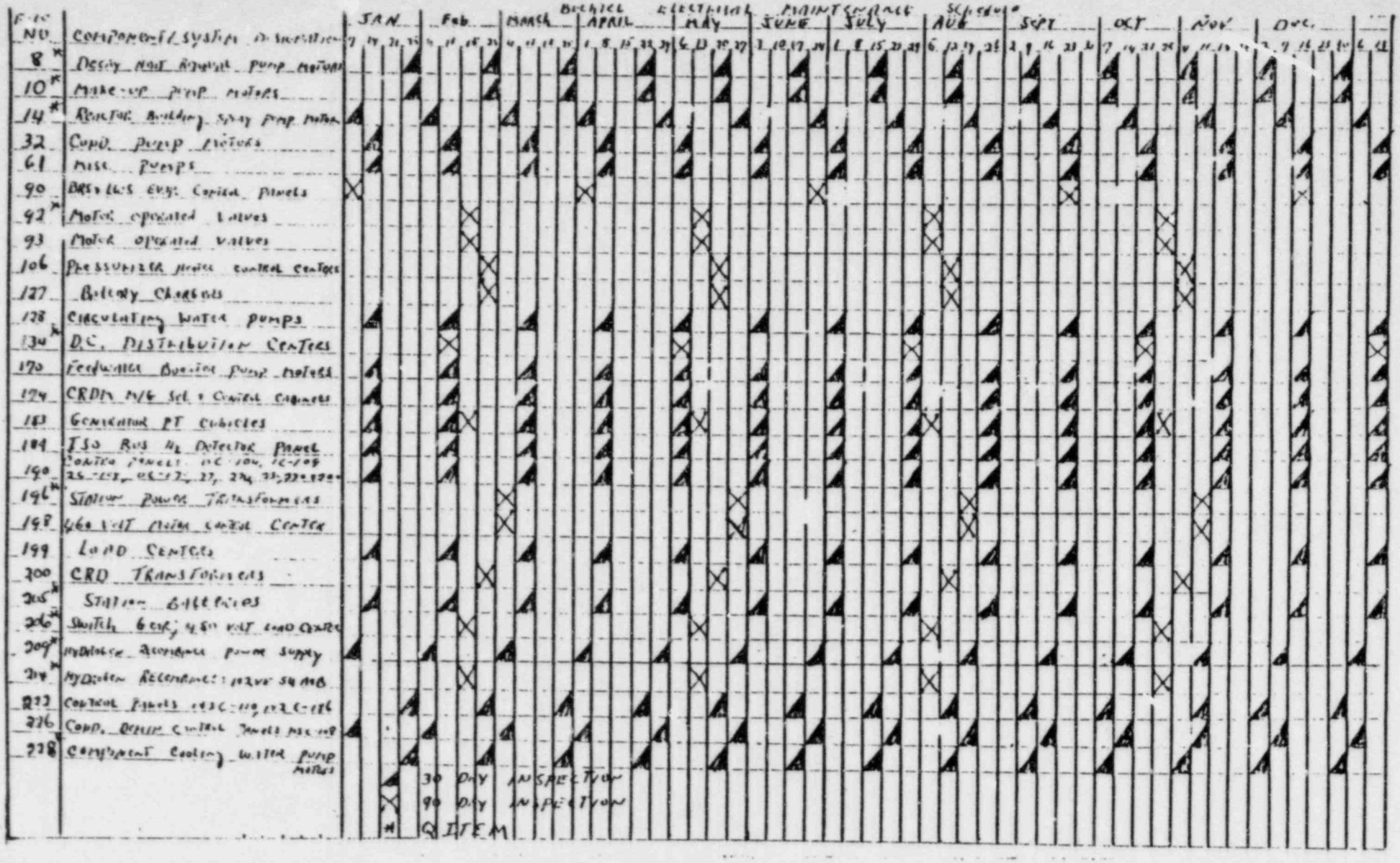
CC ~~DBMiller~~
GTPollard
BPeck CPCo Const.
Sect. Heads/Discp. Supervs.

RDQ-11-83
JMK-11-83
CJL-05-83
pac

Attached for your information is a copy of Bechtel's Electrical, I & C and Mechanical Maintenance schedules for 1983.

Plant Construction Completion Program requires CPCo to monitor Bechtel Engineers while performing maintenance activities per the F-10 forms. The Technical Department, Programmatic Testing Section is responsible for assuring maintenance activities are performed in accordance with F-10's and per the established schedule. Details and responsibilities for this program will be issued at a later date.




JAN
Feb
MARCH
APRIL
MAY
JUNE
JULY
AUG
SEPT
OCT
NOV
DEC
30 DAY INSPECTION
90 DAY INSPECTION
ITEM

MECHANICAL ELECTRICAL MAINTENANCE SCHEDULE

F-ig NO.	Component / System Description	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
		7 14 21 28	4 11 18 25	4 11 18 25	1 8 15 22 29	6 13 20 27	3 10 17 24	1 8 15 22 29	5 12 19 26	2 9 16 23 30	7 14 21 28	4 11 18 25	2 9 16 21 30 6 13
238	CIRC WATER DISCHARGE VALVES												
241	Diesel Gen. Start air compressors												
243	Power Receptacles												
245	Vertical wet pit pump												
246	Fire Protection Diesel Engines												
247*	Aux Feedwater pump Motors												
252*	Fuel Pool Cooling pump Motors												
255*	Safeguards Chilled water pump motors												
257*	Diesel Gen Control Centers												
261*	Emer. Diesel Generators												
262*	Diesel Aux (Electrical)												
263*	Cranes (Electrical portion)												
267	Cooling Tower Fans												
287	RAD waste crane control room cab												
295*	Aux Sample panel												
305*	Switch Gear												
306*	480V Load Centers												
382													

30 DAY INSPECTION

90 DAY INSPECTION

BECHTEL I & C MAINTENANCE SCHEDULE

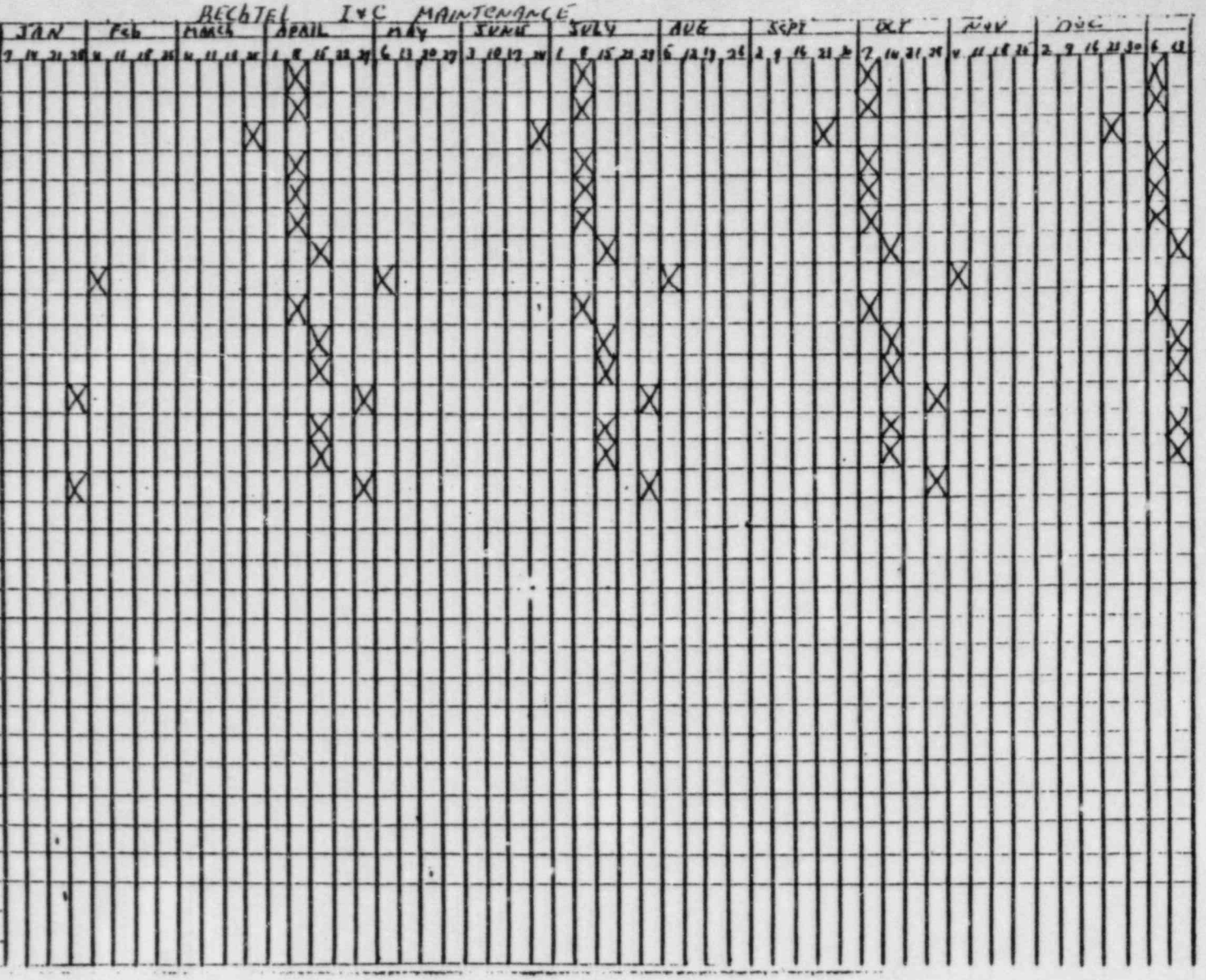
F-10 NO.	COMPONENT/SYSTEM DESIGNATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
381	ANALYSIS ELEMENT (AE)												
384	ELECTRICAL TRACE TRACE (ATT)												
385	ANALYSIS SWITCH (AS)												
386	ANALYSIS TRANS (AT)												
389	ELECT. TRIP VALVE (BTV)												
389	CONTAINER ELEMENTS (CE)												
393	FLOW CONTROLLERS (FC)												
394	FLOW CONTROL VALVE (FCV)												
395	FLOW ELEMENTS (FE)												
396	FLOW GLASSES (FG)												
397	FLOW INDICATORS (FI)												
398	FLOW IND. CONTROLLERS (FIC)												
399	FLOW IND. SWITCH (FIS)												
400	FLOW IND. TRANSMITTER (FIT)												
401	FLOW ORIFICE (FO)												
402	FLOW SWITCH (FS)												
403	FLOW TRANSMITTER (FT)												
404	FLOW VALVE (FV)												
405	FLOW CONVERTER (FY)												
407	MAIN VALVES (HV)												
408	HI/LO CONVERTER (HY)												
409	LEVEL CONTROLLER (LC)												
411	LEVEL ELEMENTS (LE)												
412	LEVEL GLASS (LG)												
413	LEVEL INDICATORS (LI)												
414	LEVEL IND. CONTROLS (LIC)												
416	LEVEL IND. TRANSMITTERS (LIT)												
417	LEVEL SWITCHES (LS)												

BECHTEL I & C MAINTENANCE Schedule

F-10 NO	COMPONENT / SYSTEM DESIGNATION	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
		7 14 21 28	4 11 18 25	4 11 18 25	1 8 15 22 29	6 13 20 27	3 10 17 24	1 8 15 23 29	6 12 13 26	2 9 16 23 30	7 14 21 28	4 11 18 25	2 9 16 23 30 6 13
418	LEVEL TRANSMITTERS (LT)	X				X		X			X		
419	SOLENOID VALVES (SV)	X				X		X			X		
420	LEVEL VALVES (LV)		X			X			X			X	
421	LEVEL CONVERTERS (LV)			X			X			X			X
424	MOISTURE SWITCH (MS)			X			X			X			X
428	PRESSURE CONTROLLERS (PS)			X			X			X			X
429	PRESSURE CONTROL VALVE (PCV)			X			X			X	X		X X
430	PRESSURE DIFF. CONTROLLER (PDC)				X			X			X		
431	PRESSURE DIFF. CONTROL VALVE (PDCV)			X			X			X			X
432	PRESSURE DIFF. IND. (PDI)		X			X			X			X	
433	PRESSURE DIFF. IND. SWITCH (PDIS)			X			X			X			X
434	PRESSURE DIFF. IND. TRANS (PDIT)				X			X			X		X
435	PRESSURE DIFF. SWITCHES (PDS)				X			X		X			X
436	PRESSURE DIFF. TRANS. (PDT)				X			X		X			X
437	PRESSURE DIFF. VALVE (PDV)				X			X			X		X
438	PRESSURE DIFF. CONVERT (PDY)				X			X			X		X
439	PRESSURE INDICATORS (PI)		X			X			X			X	
440	PRESSURE IND. CONTROL (PIC)		X			X			X			X	
442	PRESSURE IND. TRANS (PIT)			X			X			X			X
443	PRESSURE SWITCH (PS)			X			X			X			X
444	PRESSURE TRANSMITTER (PT)		X			X			X			X	
445	PRESSURE VALVE (PV)			X			X			X			X
446	PRESSURE CONVERTERS (PY)			X			X			X			X
449	SPEED CONTROL VALVES (SCV)				X			X		X			X
450	SPEED ELEMENTS (SE)				X			X		X			X
455	SPEED CONVERTER (SY)			X			X			X			X
456	TEMP CONTROLLER (TC)			X			X			X			X
457	TEMP CONTROL VALVE (TCV)			X			X			X			X

BECHTEL I&C MAINTENANCE

F-10 NO	COMPONENT/SYSTEM DESIGNATION
458	TEMP. ELEMENTS (TE)
459	TEMP. INDICATORS (TI)
460	TEMP. IND. CONTROLLERS (TIC)
461	TEMP. IND. SWITCH (TIS)
463	TEMP. SWITCH (TS)
464	TEMP. TRANSMITTERS (TT)
465	TEMP. VALVES (TV)
466	THERMOWELLS (TW)
467	THERMOSTATS (TX)
468	TEMP. CONVERTER (TY)
469	VIBRATION ELEMENT (VE)
470	ON-OFF VALVES (XV)
471	VIBRATION SWITCHES (VS)
472	VIBRATION TRANSMITTER (VT)
475	POSITION SWITCH (ZS)



BECHTEL MECHANICAL MAINTENANCE SCHEDULE

F-10 NO.	COMPONENT / SYSTEM DESIGNATION
1*	DECAY HEAT REMOVAL HX
2*	COMP. COOL WATER HX
9*	DECAY HEAT REMOVAL PUMPS
12*	MAKEUP PUMP
13*	REACTOR BLDG. SPRAY PUMPS
18*	COMP. COOLING WATER PUMPS
20*	SEAL RETURN COOLERS
33	CONDENSATE PUMPS
40	REACTOR BLDG POLAR CRANES
41*	PURIFICATION DEMINERAL.
42	MISC. HORIZ. PUMPS & MOTORS
43*	CENTRIFUGAL H2O CHILLER
44	CENTRIFUGAL H2O CHILLER
45	MISC. PUMPS
47	RC BLOWER SKIDS
49	SKID MT. REGEN. SYSTEM
50	CONDENSATE DEMINERAL.
53	FEEDWATER PUMP TURBINE DRIVE
57	RAD WASTE GAS COMPRESSORS
58	[illegible] FEEDWATER PUMP/DRIVES
59	VACUUM EXTRACTOR & MOTOR
62	EMER. L/O PUMP FOR MAIN FEEDWATER
63*	FUEL POOL COOLING HX
64	CONDENSATE & FUEL POOL DEMIN.
66	REL. & LS PACKAGE SKIDS
79*	LETDOWN COOLERS
88	TURBINE BLDG CRANE
89	AUX BLDG CRANE

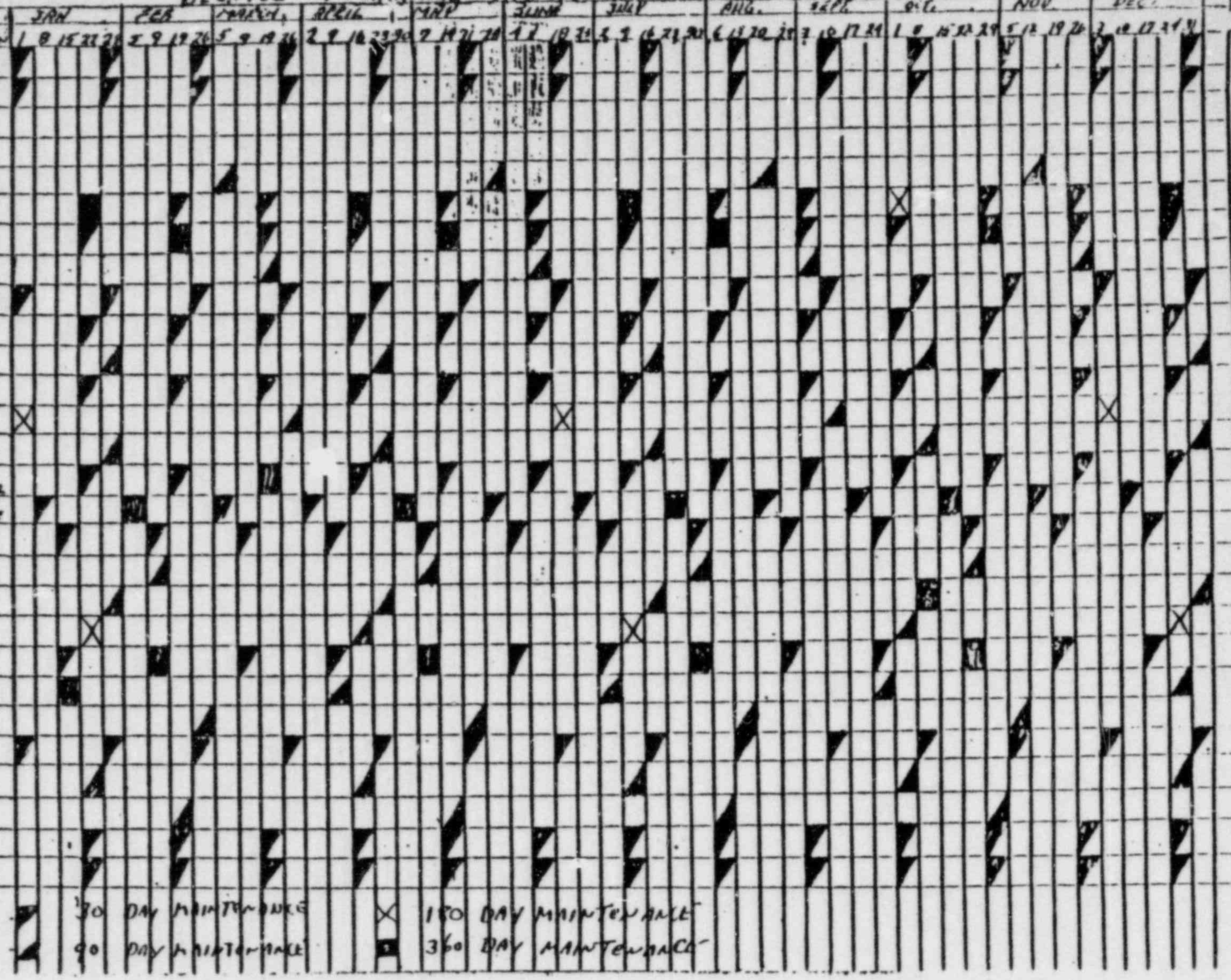
Schedule columns (weeks): JAN 1 8 15 22 29 · FEB 5 12 19 26 · MARCH 5 12 19 26 · APRIL 2 9 16 23 30 · MAY 7 14 21 28 · JUNE 4 11 18 25 · JULY 2 9 16 23 30 · AUG 6 13 20 27 · SEPT 3 10 17 24 · OCT 1 8 15 22 29 · NOV 5 12 19 26 · DEC 3 10 17 24 31

* Q CLASSIFICATION

Legend: 30 DAY MAINTENANCE · 90 DAY MAINTENANCE · 180 DAY MAINTENANCE · 360 DAY MAINTENANCE

BECHTEL MECHANICAL MAINTENANCE SCHEDULE

F-10 NO.	COMPONENT / SYSTEM DESIGNATION
100 *	MNT'L & EQUIP. OUTDOORS
118 *	AUX. FEEDWATER (TURBINE)
119 *	AUX. FEEDWATER (MOTOR)
149 *	MNT'L & EQUIP. INDOORS
173	COMBO SHOP CRANE
175	SEWAGE LIFT STATION
207	SOLID RADWASTE CRANE
208	UNIT HEATER - PLANT HEAT
213	[illegible] ASSEMBLY
217 *	SPENT FUEL POOL & SHIELDED CHILLED H2O PUMPS
218 *	MAINSTEAM (ISOLATION VALVES)
225	DISCHARGE PUMP & MOTOR
235	MAIN SECURITY GATE
240 *	FEEDWATER ISOLATION VALVES
241	ST. AIR COMPRESSOR & AFTERCOOL
249	RADWASTE ELEVATOR & TURNTABLE
254	SOLID RADWASTE PUMPS
256	CHLORINATION BLDG. EQUIP.
258 *	EMERG. GEN. DIESEL ENGINES
260	AUX. BOILER FUEL OIL PUMPS
267	COOLING TOWER FAN MOTORS
270 *	POS. DISPL. HYDRAZINE PUMPS
271 *	RECIRC. AIR COOL BOOSTER PUMPS
272 *	EMER. BORAT. SYS. RECIR. PUMPS
274	METERING & TRANSFER PUMPS
275	ASPHALT RECIRC. PUMPS
277	EHC PUMPING UNIT
279	STATOR COOLING H2O SKID



* Q CLASSIFICATION

30 DAY MAINTENANCE

90 DAY MAINTENANCE

180 DAY MAINTENANCE

360 DAY MAINTENANCE

PLANNED MECHANICAL MAINTENANCE SCHEDULE

F-10 NO.	COMPONENT / SYSTEM DESIGNATION	JAN 1 8 15 22 29	FEB 5 12 19 26	MARCH 5 12 19 26	APRIL 2 9 16 23 30	MAY 7 14 21 28	JUNE 4 11 18 25	JULY 2 9 16 23 30	AUG. 6 13 20 27	SEPT. 3 10 17 24	OCT. 1 8 15 22 29	NOV. 5 12 19 26	DEC. 3 10 17 24 31
280	STBD PACK. EXHAUST BLOWER												
301	CARG. WATER SCR. WASH PUMPS												
304*	EMVE DIESEL GEN SUPERCHARGERS												
307	HYDRAULIC POWER PUMPS												

* (1) CLASSIFICATION

▲ 30 DAY MAINTENANCE

◢ 90 DAY MAINTENANCE

X 180 DAY MAINTENANCE

■ 360 DAY MAINTENANCE

Don -

A list of new key issues for resolution and assignment is attached.

I also feel you need to think about a new approach to get and maintain control of the CCP. Your line organization probably can't carry the added burden.

I would suggest that you select a few key staff positions to cover defined areas of the CCP that would work with your manager and other organizations (MPQAD, BPCo, etc) in a matrix fashion.

An organization might look like the:

SMO MGT ↓ / RESP. FUNCTION → / ORG.	SMO CONST	SMO EST. MPQ&AD	BPCo CONST	BPCo ENG	DES PROD
OVERALL SCHEDULE	O	X	X	X	O	
DESIGN CHANGE PROCESS	X	X	X	X	X	O
PREP. & FOLLOW UP FOR MGT. REV.	X	O	X	X	O	

ASSIGN to FULL TIME SMO STAFF

X - MAJOR RESP.
O - MINOR RESP

INPO

Bechtel Power Corporation

777 East Eisenhower Parkway
Ann Arbor, Michigan
Mail Address: P.O. Box 1000, Ann Arbor, Michigan 48106

108369

March 15, 1983

CONSUMERS POWER CO.
RECEIVED
MAR 16 1983
Site Mgr.
Midland Project

BLC-16257

Consumers Power Company
1945 West Parnall Road
Jackson, Michigan 49201

Attention: Mr. K.R. Kline
Administrative Manager

Subject: Midland Plant Units 1 and 2
Consumers Power Company
Bechtel Job 7220
INPO EVALUATION REPORT
ACTION ITEMS

The action items list for the INPO Evaluation Report will be updated and presented to J.W. Cook and J.A. Rutgers the week of April 4, 1983. To support this requirement, I request that persons copied in this letter markup the attached list for items for which they are responsible and return it to me by March 30, 1983.

Very truly yours,

M N Bakarich

M.N. Bakarich
Project Administrator

(rec'd copy)

MNB/mv
3154

Attachment: Action Item List

cc: All w/a

R.C. Bauman
J.W. Cook
G.S. Keeley
D.B. Miller
R.A. Wells

Written Response Requested: No

MUST RETURN
TO CONSTRUCTION
DEPT.
UTI:

OA1-1		Revise the Project Procedures Manual to assign responsibility to PMO members so there will be clear definition of authority and responsibility relationships within the Consumers project.	G.S. Keeley	03/01/83R	[illegible] been routed for comment.
OA2-1	(1)	Revise the Consumers Power Company procedure and forms for NCRs to place responsibility on the production organization for conducting the corrective action and root cause analysis.	R.A. Wells	03/01/83R	Procedure is being developed which requires the project to use a single NCR form. Root cause analysis will be conducted by the production organization through QARs issued by QA as a result of QA review of NCRs.
	(2)	Determine whether Bechtel should modify its NCR procedure to require the production organization to conduct the corrective action and root cause analysis, or use the Consumers Power Company NCR procedure.	J.A. Rutgers/ G.L. Richardson	Complete 02/07/83A	As indicated above, it was resolved that the project will use one NCR procedure and form for nonconformance identification and one procedure and one form (QAR) for root cause analysis and process corrective action.
	(3)	Modify the Consumers Power Company trend program to provide for MPQAD not only to evaluate trends for root causes, but also to define the system for corrective action (may drop, see QP4-2).	R.A. Wells	-	- 1 0 8 3 6 9 -
	(4)	Review QUAIL and give management attention to reasons why some items are over 2 years old.	J.W. Cook/ J.A. Rutgers	-	
	(5)	Bring significant project issues regarding quality to upper management's attention to obtain an integrated, timely resolution as well as determine root causes and generic implications.	J.W. Cook/ J.A. Rutgers	Complete 09/20/82A	Frequency of project quality meetings has been increased from monthly to weekly. Attendees have been increased to include not only supervisory personnel in MPQAD, but an expanded list of project management personnel.

(1) R - Required
F - Forecast
A - Actual

		for positions at or above group supervisor level or equivalent.	A.J. Boos/ R.M. Collins/ L.E. Davis/ S.K. Jain/ E.M. Hughes		members tasked to provide position descriptions to M.N. Bakarich by 2/25/83.
DC1-1	(1)	Ensure engineering personnel consider accessibility and maintainability when doing future design work.	L.H. Curtis	Complete 01/18/83A	By memorandum dated 1/18/83, the project engineering manager reemphasized to design personnel the importance of considering accessibility and maintainability when doing future design work. Emphasis on this area will continue through plant completion.
	(2)	Through periodic audits, determine the effectiveness of project engineering in addressing accessibility and maintainability in the design process.	R.A. Wells	-	-
DC1-2		Review needs for the transfer of design information from design organizations and develop a program for configuration control.	R.C. Bauman	12/31/83R	-
DC1-3	(1)	Review status of backlog of responses to the Bechtel Generic Corrective Action Report.	M.G. O'Mara	Complete 01/19/83A	Review by QE staff completed on 1/19/83. All disciplines are generally up-to-date except mechanical.
	(2)	Close out backlog of overdue mechanical discipline items on the Bechtel Generic Corrective Action Report.	M.T. Fravel	06/30/83R	Program is in place to close out the items by 06/30/83.
	(3)	Check the effectiveness of the Consumers Power Company management system for evaluating industry experiences.	G.S. Keeley	Complete 12/15/82A	Review completed on 12/15/83. The system is effective.
DC2-1		Complete the issue of Midland Project Engineering Design Work Process Flow Charts.	R.C. Hollar	03/15/83R	Development of work process flow charts is on schedule. Forecast completion 03/15/83.
DC2-2		Evaluate whether an improvement is needed in the retrievability of data transmittals within a discipline group.	R.C. Bauman	12/31/83R	-
DC3-1	(1)	Reemphasize that engineering personnel shall comply with applicable EDPs when performing design reviews.	L.H. Curtis	Complete 01/18/83A	By memorandum dated 1/18/83, the project engineering manager reemphasized to engineering personnel the requirement to comply with applicable EDPs when performing design reviews.

Finding	Action	Responsibility	Date Required(1)	Status/Remarks
	(2) Evaluate, through audits, the thoroughness of project engineering design reviews.	R.A. Wells	-	-
DC4-1	(1) Review examples cited of more attention being required on constructibility and maintainability and take action as appropriate.	E.M. Hughes	Complete 03/11/83	By memorandum dated 3/11/83 (Com 10662) E.M. Hughes provided the project manager with the results of engineering's review of the examples cited by the evaluators and indicated action taken.
	(2) Devote major project attention to constructibility and maintainability in the design output.	P.J. Corcoran/ L.H. Curtis/ E.M. Hughes/ J.A. Rutgers	Complete 03/09/83	Room task forces were organized and employed from 1979 to 1981 to resolve space problems in congested areas. The space control group was established in 1981 to assist further in dealing with congestion. The group's activities have now been expanded to include: 1) Additional review of all issued but not installed space-takers 2) Physical walkdowns by field engineering before forwarding designs to crafts 3) Issuance of sketches for field-run commodities (sketches are processed through the space control group before installation) 4) Consideration of broadening the scope of the group's review to areas other than the auxiliary building and containment As mentioned in the corrective action response to Finding DC.4-1, project engineering has reemphasized the importance of maintainability in future designs. Also, on 3/9/83, the project engineer reemphasized the basic responsibilities of the designers to issue constructable design without relying on feedback from others to obtain completeness of issued design. This emphasis will be continued through plant completion.

				resident engineering and field engineering activities, the position of site engineering manager (SEM) has been established effective 4/4/83. The SEM will report to the Bechtel site manager and will manage both construction field engineering and resident engineering activities.
	(3) Within construction, pay additional attention to installation sequence planning before forwarding the design to the crafts.	L.E. Davis	10/01/83P	The Construction Completion Program (CCP) will provide for planning to be conducted by systems completion teams.
DC4-2	(1) Review field-requested changes for recurring problems and, when within engineering control, initiate corrective action.	P.L. Corcoran/ E.M. Hughes	Completed 02/28/83A	Group supervisors and other engineering personnel are reviewing FCRs/FCNs for recurring problems. In addition, in 10/82, resident engineering started reviewing and categorizing (design problems, construction activities, vendor activities) FCRs/FCNs given interim approval by them. Analysis for cause and corrective action is then initiated. On 2/28/83, project engineering issued a memorandum (Com 106554) reminding group supervisors of their responsibilities in reviewing changes to design documents. Emphasis in this area will continue through plant completion.
	(2) Develop and implement a program for the review and analysis of field-requested changes.	R.C. Hollar/ E.M. Hughes	03/15/83R	Program has been developed. Forecast implementation is week of 03/14/83.
DC4-3	Review the Ann Arbor drawing control system to determine if it should be modified to be like the system used by Midland resident engineering.	R.C. Hollar/ E.M. Hughes	04/30/83R	Review is under way. Forecast completion 04/30/83.
DC5-1	(1) Incorporate redlines into parent drawings prior to system heatup.	P.J. Corcoran/ E.M. Hughes	04/30/83R	Program to incorporate redlines into parent drawings is under way.
	(2) Make incorporation of redlines consistent with piping system design and installation verification program (PSDIV).	P.J. Corcoran/ E.M. Hughes	Complete 03/07/83A	Process is in place to incorporate redlines consistent with PSDIV program.

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Finding		Action	Responsibility	Date Required(1)	Status/Remarks
	(3)	Issue PSDIV program.	D. Riat	Complete 03/07/83A	Revised PSDIV sent to CPCo on 03/07/83 (BLC 16188, Com 107286). After review and approval by CPCo, the PSDIV program will be incorporated into the PPM.
	(4)	Resolve whether the use of redlines should be discontinued or reduced.	J. Milandin	Complete 02/24/83A	On 02/24/83, project decided to discontinue use of red-lines. Discontinuance is to be effective 03/14/83 (See IOM, 03/08/83, Com 107579)
DC5-2	(1)	Annotate each issue of the change notice register with instructions to engineering to ensure that outstanding redlines are identified and incorporated into revisions of design drawings.	M.M. Bakarich	Complete 02/14/83A	Change notice register dated 2/14/83 was annotated with instructions to engineering to contact resident engineering for information on outstanding redlines. All future change notice registers will be so annotated.
	(2)	Incorporate all engineering-approved redlines outstanding as of 12/31/82 into base drawings.	P.J. Corcoran/ E.M. Hughes	04/30/83R	See DC5-1 (1) above.
CC1-1		Provide field engineering staffing to handle assigned workload.	L.E. Davis	07/01/83P	The Construction Completion Program will provide for required staffing with appropriate experience to carry out the program.
CC1-2	(1)	Provide craftsmen with information to perform tasks.	L.E. Davis	10/01/83P	Work plans are now being prepared by the responsible field engineer and craft superintendent in accordance with administrative guidelines (published in December 1982). The plans include description of work, applicable design drawings, drill permits, excavation permits, material locations, etc.
	(2)	Develop process to minimize interferences.	P.J. Corcoran/ L.H. Curtis/ E.M. Hughes/ J.A. Rutgers/	Complete 03/07/83	See DC4-1 (2) for expanded duties of the space control group and assignment of SEM.
CC3-1	(1)	Determine from Construction Completion Program activities if any equipment requires special maintenance, or if procedural control must be enhanced.	D.B. Miller	-	Walkdowns to check equipment are ongoing.
	(2)	Complete walkdowns to define layup requirements.	D.B. Miller	02/28/83R	See CC3-1(1) above.
CC3-2	(1)	Correct instances of degradation/ damage cited by INPO Evaluation Team.	L.E. Davis	07/01/83P	Damaged equipment has been identified. Repair will commence when work is released.

Finding		Action	Responsibility	Date Required(1)	Status/Remarks
	(2)	Check installed equipment for degradation/damages.	L.E. Davis	Complete 02/28/83R	See CC3-2(1) above.
CC4-1		Through the Construction Completion Program, redefine and issue responsibilities of construction supervisor in assembling work instructions to crafts.	L.E. Davis	07/01/83F	-
CC5-1	(1)	Review work plans prepared prior to the start of work in Phase II of the Construction Completion Program for compatibility with PQCIs.	L.E. Davis	07/01/84F	-
	(2)	Ensure checklists used by field engineers list QC inspection points and either reference or include acceptance criteria.	L.E. Davis	07/01/84F	-
CC5-2		Plan, implement, and monitor activities for inspection updating and completion of Q-listed systems.	R.A. Wells	-	The Construction Completion Program provides for the development of systems completion team to update inspections and complete systems.
PS1-1		Remove as much nonfire-retardant lumber as possible.	L.E. Davis	Complete 12/15/82	Nonfire-retardant lumber has been removed.
PS1-5		Minimize congestion/proximity.	L.E. Davis	Complete 12/15/82A	Complete - Monitoring by safety and craft supervisory personnel to minimize congestion/proximity and provide safe working areas will continue to be an ongoing function.
PS2-1	(1)	Revise project schedule hierarchy.	S.K. Jain	05/01/83R	Draft schedule hierarchy has been circulated for review and comment. Comments have been received and are being resolved. Forecast completion date is 05/01/83.
	(2)	Revise procedures affected by the project schedule hierarchy.	S.K. Jain	06/15/83F	Procedures are being reviewed.
PS2-2		Revise project schedule hierarchy.	S.K. Jain	05/01/83R	See PS2-1 (1)
PS3-1		Complete new project schedule.	J.W. Cook	06/30/83R	See PS
PS3-2	(1)	Revise project schedule hierarchy.	S.K. Jain	05/01/83R	See PS2-1 (1)

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Finding	Action	Responsibility	Date Required(1)	Status/Remarks
	(2) Review project procedures and instructions that govern the planning process. Document in the procedures/instructions the flow of project control information.	S.K. Jain	07/01/83F	Procedures are being reviewed. A process for the flow of project control information is being developed.
PS6-1	Implement a policy for follow through to correct deficiencies noted during stick file audits.	L.E. Davis	Complete 01/31/83A	Follow through to correct noted noted deficiencies implemented during January 1983 stick file audit. Procedure to be continued through plant completion.
TN2-1	(1) Improve effectiveness of quality assurance (QA) training.	R.A. Wells	-	An administration and training section was established and a training supervisor appointed on 1/1/83.
	(2) Ensure required MPQAD/QC training and certification is conducted.	R.A. Wells	-	-
	(3) Evaluate the adequacy of quality training by other departments.	R.A. Wells	-	-
QP1-1	(1) Coordinate quality control (QC) in-process inspection program with future installation sequences to ensure inspection points will be used by systems completion teams and inspections are adequately planned and scheduled.	R.A. Wells	-	The Construction Completion Program will provide for coordination of inspections.
	(2) Provide a link between the system completion team and MPQAD to ensure quality requirements are identified and satisfied.	R.A. Wells	-	The CCP will provide for a quality representative on the systems completion team who is to serve as the link between the team and MPQAD.
	(3) Review PQCIs to ensure: 1) proper attributes are inspected; 2) inspection plans are clear and concise; 3) inspection points are scheduled with other activities; and 4) inspection results are documented.	R.A. Wells	-	-
	(4) Issue project procedure linking construction and inspection efforts.	R.A. Wells	02/22/83R	-
QP1-2	(1) Revise QA/QC organizational chart in MPQAD manual.	R.A. Wells	-	QC was integrated into MPQAD 1/17/83; MPQAD manual and organizational chart are pending revision.

INPO Evaluation Report (Continued)

Finding		Action	Responsibility	Date Required(1)	Status/Remarks
	(2)	Revise higher level documents to reflect integration of QC into MPQAD.	R.A. Wells/ G.L. Richardson	02/17/83R	-
	(3)	Prepare functional descriptions for job assignments throughout MPQAD to support the integrated organization.	R.A. Wells	-	-
QP2-1	(1)	Review and clarify PQCIs.	R.A. Wells	-	-
	(2)	Revise organizational responsibilities and job functions to clarify relationships within MPQAD.	R.A. Wells	-	-
	(3)	Conduct orientation/training to promote understanding of requirements.	R.A. Wells	-	-
QP4-1		Evaluate QUAIL and other tracking systems to create a more effective management tool to track quality action items.	R.A. Wells	03/31/83R	-
QP4-2	(1)	Review adequacy of trend report.	R.A. Wells	-	Completed - Review of trend report was completed on _____. An expanded concept is being proposed.
	(2)	Issue procedure on expanded trend report.	R.A. Wells	03/31/83R	New procedure is being drafted.
TC5-1.	(1)	Within the technical department, prioritize efforts in procedural development.	D.B. Miller	Complete	Priority for procedural development has been established.
	(2)	Develop interim recovery plan for procedure preparation.	D.B. Miller	Complete	Recovery plan is in place. Progress is being tracked weekly.

Please provide completion date

0225u

3/11/83
Page 8 of 8

PRELIM (Pending Project Mgt Signature approval) JHR 3/9/83

SITE ENGINEERING MANAGER
REPORTING RELATIONSHIPS AND INTERFACES

A. PURPOSE

The purpose of this document is to describe the reporting relationship between the Bechtel Site Engineering Manager (SEM) and others, as well as the interface of the SEM with Bechtel Associates Professional Corporation (BAPC) engineering.

The position of SEM will exist for the first time at the Midland jobsite beginning April 4, 1983. It is being established for the purpose of improving the effectiveness of Bechtel engineering work being done at the jobsite, i.e., construction field engineering and resident design engineering.

B. REPORTING RELATIONSHIPS AND INTERFACES

The SEM is part of the construction organization and reports to the Bechtel Site Manager. As shown in Figure 1, project direction (i.e., what to do and when to do it) eminates from the Project Manager through the Site Manager to the SEM.

The SEM provide project direction to the Project Field Engineer (PFE) and the Resident Project Engineer (RPE). In the case of the RPE, project direction includes assignment of priorities for resident engineering support of construction and startup/test.

The SEM shall coordinate with the Project Engineer actions that significantly impact resident engineering staffing. This is because the project engineering planning and control program, including project engineering budget control, will continue to include resident engineering. Furthermore, assignments of engineering personnel to perform BAPC functions require the consent of the cognizant Chief Engineer.

With regard to technical direction (i.e., the "how to" of a job), the PFE may receive technical direction from the SEM. However, the RPE receives his technical direction (associated with the BAPC project engineer function) from the project engineer. In this regard, the SEM is not authorized to do the following:

1. Direct the design, in the sense of making design decisions. Likewise, the SEM is not authorized to overrule BAPC design decisions. On the other hand, the SEM may make a selection among alternatives that have been determined to be technically acceptable by BAPC engineering personnel; however, the implementing design drawings and/or specifications must be issued or otherwise approved in advance of issue by the responsible design organization, e.g., BAPC.

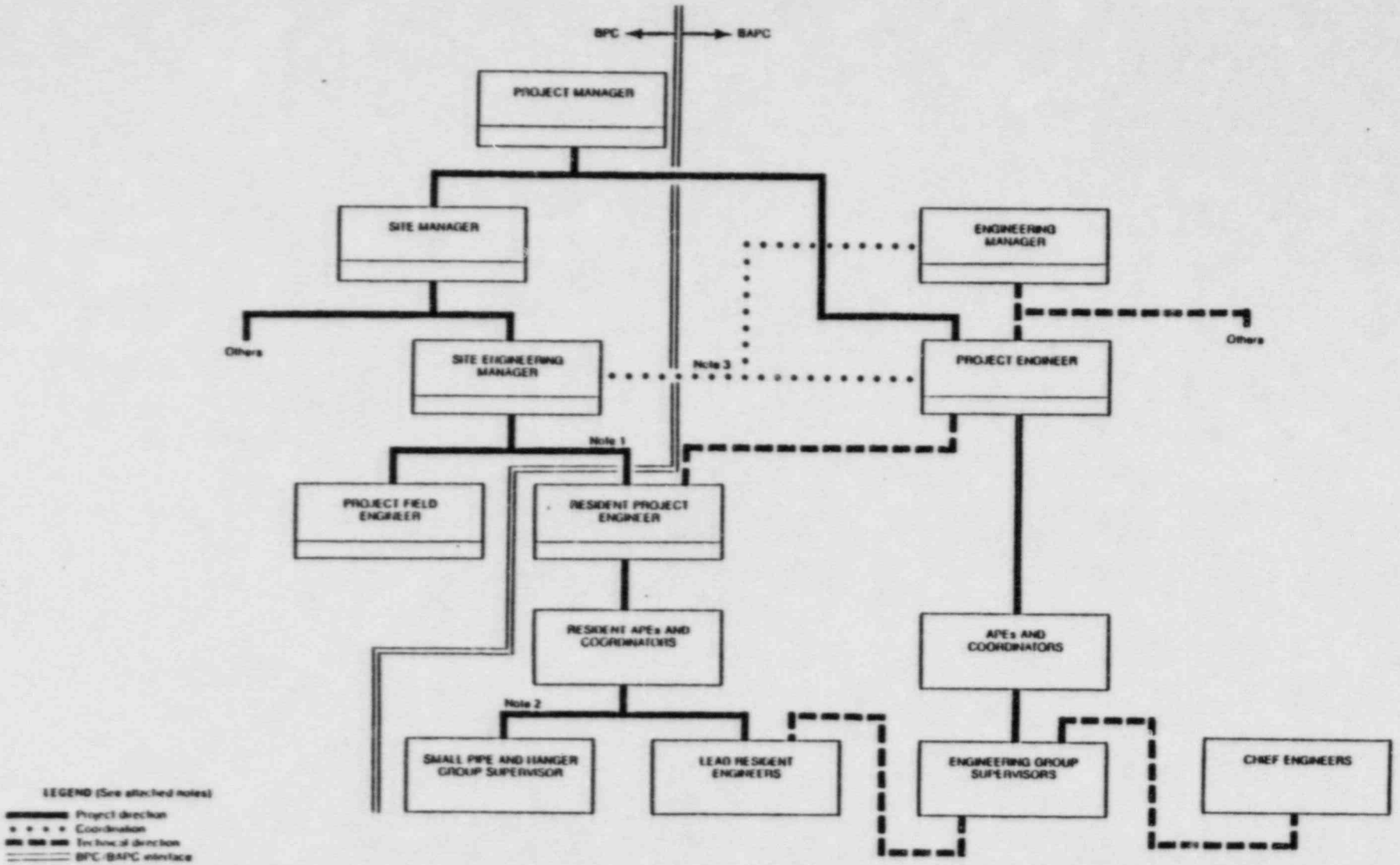
2. Overrule prescribed engineering department procedures or project engineering procedures.

As shown on Figure 1, technical direction of the lead resident engineers will continue to be provided by the cognizant Engineering Group Supervisors, with the exception of the Small Pipe and Hanger Group (SPHG) Supervisor. The SPHG Supervisor will continue to receive his technical direction from the Chief Plant Design Engineer.

FIGURE 1

ORGANIZATION INTERFACE

(Bechtel Power Corporation/Bechtel Associates Professional Corporation)



94 G 2699

ORGANIZATION INTERFACE NOTES
ASSOCIATED WITH FIGURE 1

1. Project direction is defined as follows (reference Bechtel letter to CPCo, BLC-9097, April 8, 1980):

> "Directions or instructions concerning project operations, including coordination of day-to-day direction of project entities receiving technical direction from others, but not normally including authority to overrule prescribed procedures or technical decisions of such entities"

In the case of the Site Engineering Manager giving project direction to the Resident Project Engineer, this includes assignment of priorities for resident engineering support of construction and startup/test. Specifically excluded is authority to overrule either prescribed engineering department procedures, project engineering procedures, or technical decisions made by BAPC engineering.

2. Technical direction for the small pipe and hanger group supervisor comes from the chief plant design engineer.

3. Coordination is defined as follows (reference Bechtel letter to CPCo, BLC-9097, April 8, 1980):

> "Bringing together and assuring communication between organizationally separate groups, including identification of interface problems and reconciling positions by arriving at agreement or referring to higher authority"

Cc: WJF
LEZ
W. Lee
J. Brunner
MLC.
J Norris

RAW

FEB 04 1983

JWC

Consumers Power Company

INTERNAL CORRESPONDENCE

To RAWells, Midland

From JWCook, Jackson, P-26-336

Date February 1,1983

Subject JDS/JWC TELECON TO KEPPLER REGARDING IPINS

cc DBMiller, Midland

John Selby and I called Jim Keppler yesterday to respond to a question from the Region regarding practices at other Bechtel sites regarding IPINS. As part of that conversation, John Selby informed the Region of our decision to discontinue the use of IPINs and to complete all inspections once QC has been called by construction and to document any findings of those inspections via NCR's. John also indicated that it was our plan to review all outstanding closed IPINs; and, if the completeness of the final inspection record cannot be certified directly from the existing IPIN and QCIR, then all QCIRs in this category will be specifically addressed in the verification portion of the Construction Completion Plan (CCP). Please make sure that all those working on the detailed implementation of the related parts of the CCP are aware of this conversation and properly fulfill these commitments.

VERBAL STATEMENTS ON VERIFICATION PLAN

All (100%) systems and structures will be examined.

result

The sampling plan will justify a high confidence in the 100% acceptability of the items being inspected; if it does not, 100% inspection will be performed for that item.

There is no mathematical model where the probability of a defect is zero.

Basis for sampling

The public, the commission, the constructor and the owner need to know as quickly as possible the true quality status of the Midland project, so that if there are problems they can be promptly addressed and control. Sampling provides the method by which such an assessment can be made with a high degree of assurance.

* This is all of said IPIN's
Per D. Horn

IPINS

1. Copies from D. Olmo's log book
   CUP-35 THRU CUP-1
   ECP-84 THRU 1
   E[redacted] - 2077, 2078, 2079

IN PROCESS INSPECTION NOTICE

1) PROJECT NO.	2) INSPECTION DOCUMENT NAME	4) NUMBER
07220	C-1.02-UP-1	C-UP-24
	3) ACTIVITY OR TASK	5) MO DAY YR
	N/A	5-4-82

6) ITEM LOCATION AREA BLDG	7) DWG/PART NO.	REV	8) ITEM NAME
YARD - Zone IV STARTUP SYSTEM NO. N/A	C-45	6	BACKFILL

9) INSPECTION CRITERIA DOCUMENT NUMBER & TITLE
DWG ☐ SPEC ☒ OTHER ☐ EXPLAIN C-211 Δ3 Technical spec. for BACKFILL

10) NO.	11) DESCRIPTION (list serial numbers where applicable)
1	ITEM C. IR C-1.02-UP-1 22'x 22'x 5' Deep EXCAVATION
	location 5515S - 5517S / E443 - 465
	This location was Temporarily backfilled with 4A
	stone to an approximate elev. of 634'. The
	material will be Removed and permanently
	backfilled in accordance with spec. C-211 at
	A later date

12) ORIGINATED BY DATE	13) APPROVED BY DATE	14) RECEIPT ACKNOWLEDGED DATE
Rodney Bennett 5-4-82	5/4/82	Carla Klenke 5-4-82

15) REMARKS:
NCR FSO-038

Rodney Bennett
1/31/83

16) ACTION COMPLETED DATE	17) REINSPECTION COMPLETED DATE

Responsible Superintendent or Field Engineer

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RN NOTICE	3 ORIG DATE	4 PREPARED BY	5 DEFICIENCY DESCRIPTION/REMARKS	STATUS 6 LOCATION	7 DATE XMTD	8 DATE RETD	9 DATE CLOSED	10 CLOSED BY
C-UP-27	5-12-82	Don Kincaid	FIR-MCP-34-1 :Deep Q Pit, openings between locks on piles 13&14; 4&5	Yard Zone II	5/13/82	5/5/82	5/19/82	D Kincaid
C-UP-28	5-19-82	Don Kincaid	FIR-MCP-34-1 Deep Q Pit, openings between locks on piles 13 &14: 4 & 5	Access Pit Deep Q	5/19/82	5/A/82	5/28/82	D Kincaid
* C-UP-29	5-20-82	Don Kincaid	FIR-MCP-34-1 Sheet pile #8 has penatrated the duct bank 3" horizontal	Acess Pit Deep Q	5/20/82			upgraded to NCR 4258 D. Kincaid
C-UP-30	6-2-82	Rodney Bennett	C-1.02-UP-2 to be permanently back-filled in accordance with Spec C-211	Yard Zone III				upgraded to NCR-FSO-038
C-UP-31	7-12-82	Mark Clark	C-102-UP-11 to be permanently backfilled in accord with Spec C-211	yard Zone II	7/13/82			upgraded to NCR-FSO 038
CUP-32	7-13-82	Mark Clark	C-1.02-UP-11 to be permanently backfilled in accord with Spec C-211	yard Zone II				upgraded to NCR-FSO 038
CUP-33	7-16-82	mark Clark	C-1.02-UP-12 to be permanently backfilled in accord with Spec C-211	yard Zone I	7/16/82			upgraded to NCR-FSO 038
CUP-34	7-9-82	Mark Clark	C-1.02-UP-2 to be permanently backfilled in accord with Spec C-211	yard Zone III				upgraded to NCR-FSO-038
CUP-35	7-22-82	Rod Bennett	C-102-UP-13 to be permanently backfilled in accord with Spec C-211	yard Zone II	7/27/82			upgraded to NCR-FSO 038

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C-UP-14	03-30-82	Randy Huron	C-1.02-UP-2 to be permanently back-filled in accordance with Spec C-211	Yard Zone III	4/1/82			upgraded to NCR-750-038
C-UP-15	03-30-82	Randy Huron	C-1.02-UP-5 to be permanently back-filled in accordance with Spec C-211	Yard Zone IV	4/1/82			upgraded to NCR-750-038
C-UP-16	04-02-82	Lane Edwards	C-2.05-UP-15 TH #23 was drilled in wrong location due to surveyors error	Yard Zone IV	4/2/82	5/17/82	5/17/82	R. Huron
C-UP-17	04-22-82	Randy Huron	C-1.02-UP-5 to be permanently back-filled in accordance with Spec C-211	Yard Zone IV	4/23/82			upgraded to NCR-750-038
C-UP-18	04-22-82	Randy Huron	C-1.02-UP-5 to be permanently back-filled in accordance with Spec C-211	Yard Zone IV	4/23/82			upgraded to NCR-750-038
C-UP-19	04-22-82	Randy Huron	C-1.02-UP-7 to be permanently back-filled in accordance with Spec C-211	Yard Zone IV	4/23/82			upgraded to NCR-750-038
C-UP-20	04-22-82	Randy Huron	C-1.02-UP-5 to be permanently back-filled in accordance with Spec C-211	Yard Zone IV	4/27/82			upgraded to NCR-750-038
C-UP-21	04-23-82	Randy Huron	C-1.02-UP-5 to be permanently back-filled in accordance with Spec C-211	Yard Zone IV	4/23/82			upgraded to NCR-750-038
C-UP-22	04-23-82	Randy Huron	C-1.02-UP-7 to be permanently back-filled in accordance with Spec C-211	Yard Zone IV	4/26/82			upgraded to NCR-750-038
C-UP-23	04-29-82	Forrest Mansfield	FIR-MCP-37-1 Timber lagging not installed per "Alternate Lagging Plan"	Yard Zone IV	4/29/82	5/13/82	5/13/82	Forrest Mansfield
C-UP-24	05-04-82	Rodney Bennett	C-1.02-UP-1 to be permanently back-filled in accordance with Spec C-211	Yard Zone IV	5/4/82			upgraded to NCR-750-038
C-UP-25	05-04-82	Rodney Bennett	C-1.02-UP-8 to be permanently back-filled in accordance with Spec C-211	Yard Zone II	5/5/82			upgraded to NCR-750-038
C-UP-26	05-10-82	Charles Clay	FIR-MCP-36-1 improper size bolts in surcharge support steel	Yard Zone III	5/10/82	5/18/82	5/19/82	C. Clay

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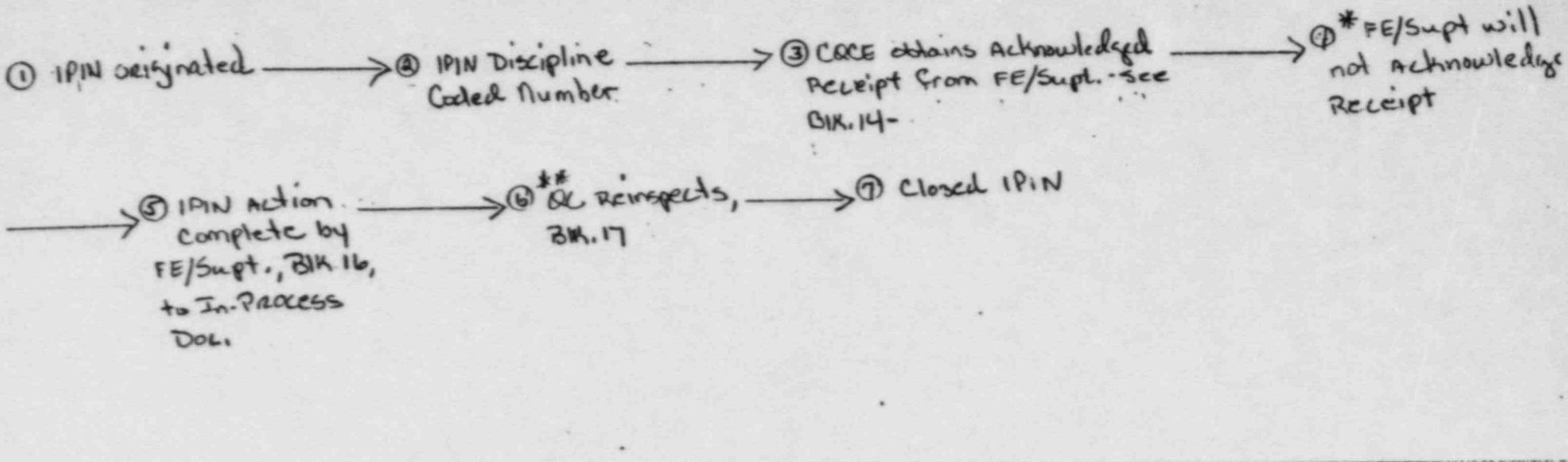
C-UP-1	02-12-82	R. Huron	C-1.02-UP-3 to be permanently back-filled in accordance with Spec C-211	Yard Zone II	2/15/82	upgraded		NCR FSO638
C-UP-2	02-12-82	R. Huron	C-1.02-UP-1 to be permanently back-filled in accordance with Spec C-211	Yard Zone IV	2/15/82	upgraded		to NCR-FSO 038
C-UP-3	02-26-82	R. Huron	C-1.02-UP-4 Light pole hole will be backfilled in accordance with Spec C-211	Yard Zone I	2/26/82			upgraded to NCR-FSO 038
C-UP-4	03-02-82	R. Huron	C-1.02-UP-5 to be permanently back-filled in accord with Spec C-211	Yard Zone IV	3/2/82			upgraded to NCR-750-038
C-UP-5	03-02-82	R. Huron	C-1.02-UP-1 to be permanently back-filled in accordance with Spec C-211	Yard Zone IV	3/2/82			upgrade to NCR-750 038
C-UP-6	03-03-82	R. Huron	C-1.02-UP-5 to be permanently back-filled in accordance with Spec C-211	Yard Zone IV	3/3/82			upgraded to NCR-750 038
C-UP-7	03-03-82	R. Huron	C-1.02-UP-6 to be permanently back-filled in accordance with Spec C-211	Yard Zone II	3/3/82			upgraded to NCR-750 038
C-UP-8	03-10-82	D. Kincaid	C-2.05-UP-3 Open cut around ME31&ME35 no freeze protection	Yard Zone IV	3/10/82	3/10/82	3/10/82	D. Kincaid
C-UP-9	03-10-82	R. Huron	C-1.02-UP-2 to be permanently back-filled in accordance with Spec C-211	Yard Zone III	3/10/82			upgraded to NCR-750 038
C-UP-10	03-10-82	R. Huron	C-1.02-UP-1 to be permanently back-filled in accordance with Spec C-211	Yard Zone IV	3/11/82			upgraded to NCR-750 038
C-UP-11	03-10-82	R. Huron	C-1.02-UP-1 to be permanently back-filled in accordance with Spec C-211	Yard Zone IV	3/11/82			upgraded to NCR-750 038
C-UP-12	03-11-82	R. Huron	C-1.02-UP-1 to be permanently back-filled in accordance with Spec C-211	Yard Zone IV	3/11/82			upgraded to NCR-750-038
C-UP-13	03-26-82	M. Clark	C-2.05-UP-15 Thermal monitor hole was not drilled in design location	Yard Zone IV	3/26/82	superceded		Void-4-2-82 by IPIN

In-Process Inspection Notice - IPIN

Flow Chart



① 4-part snap-out form - completed thru Blk. 13, excepting Blk. 4.

② To In-Process Doc. for assigning IPIN number (Blk 4). Information entered on Log sheet Blk. 2 thru 6.

③ FE/Supt. signs Blk. 14 for Acknowledgment Receipt on original IPIN - white left with FE/Supt. CQCE attaches green sheet to IR, Remaining sheets returned to In-Process Doc. for distribution: canary to MPRAD, pink [illegible] Enter date Blk. 7 of

④* Blk. 14 is not signed by FE/Supt. - IPIN may be voided with notation in Log book & IPIN discarded; IPIN upgraded to NCR with notation in Log book. White retained in Log book.

⑤ FE/Supt signs Blk. 16 when action is complete, In-Process to complete IPIN Log Blk. 8.

⑥** QC Reinspects & if acceptable, signs & dates Blk. 17. IPIN closed.** If QC does not accept, IPIN goes back to FE/Supt.

⑦ CQCE attaches original to IR in place of green sheet. Green sheet is returned to In-Process (with name of CQCE & date of closure) for Log closure entry - see Blk. 9 & 10 of Log sheet

Note: Blks. 11 & 12 of IPIN Log will be dated & signed by In-process Doc. when all IPIN's are closed on A Log sheet - see instructions on reverse side of Log sheet.

*Exception

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-OP-84	10-4-82	Harley Juttle	SD-1.0 Dwg C-1495 A sheet 1 gives the location of EX 1+2	AB E1 6'-0"	10/4/82	11/12/82	11/12/82	H Juttle

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EUP-82	8-24-82	M. Spenczewski	SCM-1.0-2 ① Roof does not show crack #10 ② no OP-42-2 & Table 43T given for valve pit cover ③ no marking on slab ④ cracks not numbered ⑤ #4 crack is not OP-43-3 and not marked on wall. ⑥ Cannot read OP43-3 for outside wall Units #1 ⑦ no traceability by page numbers for data forms	F I U P #1	8/24/82	8/25/82	8/27/82	M. Spenczewski
EUP-89	8-24-89	M Spenczewski	SCM-1.0-3 ① OP-42-2 roof inside does not show HL mark crack #4 does not extend beam ② OP-42-3 does not agree with Table 43T ③ OP-43-3 does not agree with Table 43-T ④ 43T not filled out ⑤ no legend with month	F I U P #1	8/24/82	8/25/82	8/27/82	M. Spenczewski

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EUP-72	7-25-82	M. Lenczewski	EU-6.1-DMD-3(W) #1 throut covering weld.	AB 625'6"	7/27/82	7/28/82	7/29/82	M. Lenczewski
EUP-73	7-26-82		EU-6.1-DMD-1E #TB parapet vs. incorrect print	TB FIVP	7/26/82	8/6/82	8/1/82	M. Lenczewski
EUP-74	7-26-82		EU-6.1-DMD-3E #1 welds for instrument mounting not welded to #2 Reaction angle dimd from edge of E of hole is 3/4" inst 2"	AB 625'4"	7/28/82	8/3/82	8/1/82	M. Lenczewski
EUP-75	7-25-82	M. Lenczewski	EU-6.1-DSB-3W #1 throut covering weld #2 E/W angle welds not welded	AB 604'	7-27-82		7/30/82	P.C. Miller
EUP-76	7-27-82	C. Bartimheimer	EU-1.0-EX2 #1 Conduit not welded.	AB Swg E #2	7/28/82	7/29/82	8/2/82	J.J. Long
EUP-77	7-29-82	D Yabel	EU-6.1-DMD-5W Reaction Angle & Anchor Bolt spacing not per print	AB 628'6"	7/29/82	8/3/82	8/3/82	P.C. Miller
EUP-78	7-29-82	M. Lenczewski	EU-6.1-DMD-1W Instrument not identified	FIVP #1 Lvl.	7/30/82	8/6/82	8/4/82	M. Lenczewski
EUP-79	7-27-82	P.C. Miller	EU-6.1-DMD-7W Installation of Underpinning Equipment	AB 628'6"	7/29/82	8/3/82	8/3/82	M. Lenczewski
EUP-80	7-30-82	P.C. Miller	C-1.50-EU-DSB-AS-2 INST. OF EXPANSION ANCHORS	AB 584'	7/30/82	8/4/82	8/20/82	J.J. Long
EUP-81	8-4-82	J.J. Long	C-1.50 EU-EX-9 Splicing of anchor bolts in retaining cover.	TB 685'	8/5/82	8/11/82	8/11/82	P.C. Miller

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EUP-62	7-24-82	J C Miller	EU-6.1-DMD-9 # Mounting plate stiffner plate not installed # Inst mounting 16¼" long	TB EL 631'6"	7-27-82	7/27/82	7/28/82	M Konczewski
EUP-63	7-25-82	J C Miller	C-1.50-EU-DSB-3E # 1 Anchor doesn't have full nut thread engagment	TB 644'	7-27-82	7/28/82	7/29/82	D.L. Gabel
EUP-64	7-25-82	D. Habel	C-1.50-EU-DSB-2E. # 1 Reaction angle is 4° off 90°	AB 614'	7-27-82	7/28/82	7/29/82	G.A. Long
EUP-65	7-25-82	D Habel	C-1.50-EU-DSB-2W # 1 Flange plate anchor bolt is 3/8"	AB 614'			7/27/82	J Miller
EUP-66	7-24-82	D Habel	EU-6.1-DSB-2W # 1 Support bracket not per print insp weld	AB 614'	7/27/82 7/28/82	7/30/82 7/31/82	8/3/82	J.C. Miller
EUP-67	7-25-82	D Habel	EU-6.1-DMD-10 # 1 E/W reaction plate weld covered with grout # 2 N/S Reaction plate insp welder ID # bottom weld	TB 634'	7-27-82	7/28/82	7/28/82	M Konczewski
EUP-68	7-25-82	M Konczewski	EU-6.1-DSB-2E # 1 Thrust covering weld.	TB 644'	7-27-82	7/28/82	7/30/82	M Konczewski
EUP-69	7-25-82	M. Konczewski	E-6.1-DMD-4W # 1 Thrust covering weld	AB 634'6"	7-27-82	7/28/82	7/29/82	D.K Habel
EUP-70	7-25-82	M Konczewski	EU-6.1-DMD-5W # 1 thrust covering weld	AB 628'6"	7-27-82	7/28/82	7/31/82	D L. Gabel
EUP-71	7-25-82	M Konczewski	EU-6.1-DSB-3E # 1 Thrust Covering weld.	TB 614'	7-27-82	7/28/82	7/29/82	D. L. Gabel

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EUP-56	7-22-82	J.J. Long	EU-1.0-EX7 #1 Conduit not securely fastened #2 Conduits mounted rigids from containment wall	AB 659'			8/2/82	J.J. Long.
EUP-57	7-22-82	J.J. Long	EU-1.0-DSB-1W, 2W #1 Conduits not supported within 1' of top of flex	AB 685'			7/28/82	J.W. Miller
EUP-58	7-22-82	J.J. Long	EU-1.0-EX1, 4, 6, 7, S1 #1 Conduit not supported within 1' of top of flex	AB 700'			7/28/82	J.W. Miller
EUP-59	7-23-82	J.C. Miller	EU-6.0-S2 #1 Test done with a low voltage ohmeter #2 Anchor improperly supported by post, new	AB 659'6"	7/23/82	8/1/82	8/1/82	J.C. Miller
EUP-60	7-24-82	J.J. Long	C-1.50 EU-DMD-3E #1 Plunger, single plate anchor failed torque test #2 Thrust on bolt thread	AB 628'			7/27/82	J.J. Miller
EUP-61	7-24-82	J.J. Long	C-1.50-EU-DSB-3E #1 Weld tag installed 7-9-82 by D. Purallo VCR M-01-4-2084	TB 614'	7/24/82	7/27/82	7/27/82	J.J. Long.

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EUP-48	7/21/82	JE / JJ LONG	EU-1.0, DSB-1E/2E/3E(T/C) CONDUIT INCORRECTLY SUPPORTED	634 TB	7/28/82	7/31/82	8/3/82	J.J. Long
EUP-49	7/21/82		EU-1.0, DSB-1E/2E(INST) CONDUIT INCORRECTLY SUPPORTED	634 TB			8/2/82	J.J. Long
EUP-50	7/21/82		EU-1.0, DSB-1E/2E/3E(INST) TRAY 2AKA14 - CABLE EXPOSED TO BOLTS	628 AB	7/22/82	7/27/82	8-4-82	J.J. Long
EUP-51	7/21/82		EU-1.0, DMD-5E(INST) CONDUIT INCORRECTLY SUPPORTED	628 AB			7/28/82	J.W. Miller
EUP-52	7-21-82	M. Lipniczewski	EU-5.0-EX3-1-2 Cable #1253 hanging out of J-Box and exceeds bend radius	AB, 584	7/22/82	7/27/82	8/1/82	M Lipniczewski
EUP-53	7-22-82	J.J. Long	EU-1.0-DSB-2+4, 3E, DMD-9 & 10, 5E #1 Conduit not supported within 1' of flex conn.	AB 645'			7/28/82	J.W. Miller
			#2 Conduit is mounted rigid from C. wall	700'				
EUP-54	7-22-82	J.J. Long	EU-1.0-DSB-AS 2+4 TC. #1 Conduit not supported within 1' of flex conn	AB 645'			7/28/82	J.W. Miller
			#2 Conduit is mounted rigid 700'					
EUP-55	7-22-82	J.J. Long	EU-1.0-DMD-3, 4, 5W Conduit not supported within 1' of flex	AB 685'			7/28/82	J.W. Miller

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Continued EUP-36	6-1283	D Babel	#2 Weld on reaction angle not as per print					
			#4 Dial gauge jammed into mounting angle					
EUP-37	7/21/82	JE/JJLONG	EU-1.0, DSB-1W (T/C) CONDUIT INCORRECTLY SUPPORTED	634' TB			7/28/82	Q.W. Miller
EUP-38	7/21/82		EU-1.0 DSB-1W (INST) CONDUIT INCORRECTLY SUPPORTED	634' TB			7/28/82	Q.W. Miller
EUP-39	7/21/82		EU-1.0 DSB-AS1, AS3 (INST) CONDUIT INCORRECTLY SUPPORTED	642 AB			7/28/82	Q.W. Miller
EUP-40	7/21/82		EU-1.0 DSB-AS1, AS3 (T/C) CONDUIT INCORRECTLY SUPPORTED	642 AB			7/28/82	Q.W. Miller
EUP-41	7/21/82		EU-1.0 DMD-4E (INST) CONDUIT INCORRECTLY SUPPORTED	628 AB			7/28/82	Q.W. Miller
EUP-42	7/21/82		EU-1.0 DMD-3E (INST) CONDUIT INCORRECTLY SUPPORTED	628 AB			7/28/82	Q.W. Miller
EUP-43	7/21/82		EU-1.0 DMD-3W (INST) CONDUIT INCORRECTLY SUPPORTED	628 AB			7/28/82	Q.W. Miller
EUP-44	7/21/82		EU-1.0 DSB-1E (T/C) CONDUIT INCORRECTLY SUPPORTED	634 TB			7/28/82	Q.W. Miller
EUP-45	7/21/82		EU-1.0 DSB-1E (INST) CONDUIT INCORRECTLY SUPPORTED	634 TB			7/28/82	Q.W. Miller
EUP-46	7/21/82		EU-1.0 DSB-3E (T/C)	614/634 TB			7/28/82	Q.W. Miller
EUP-47	7/21/82		EU-1.0 BSB-3E (INST)	614 TB			7/28/82	Q.W. Miller

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EUP-27	7-21-82	J J Long	EU-1.0-DSB-AS-2+4 (Dnot) conduit not supported within 1 ft of start of flex	AB [illegible]	7/21/82	7/28/82	7/28/82	J.W. Miller
EUP-28	7-21-82	J J Long	EU-1.0-DSB-3W (T/C) Bottom conduit clamp on "K" wall not tight	TB 614'	7/21/82	7/27/82	8/2/82	J J Long
EUP-29	7-21-82	J J Long	EU-1.0-DSB-AS3 (T/C) Conduit not supported on either end of section mounted on floor	AB 584'	7/21/82	7/28/82	7/28/82	J.W. Miller
EUP-30	7-21-82	J J Long	EU-1.0-DSB-3W (Dnot) Conduit not supported at instrument	TB 614'	7/21/82	7/28/82	7/28/82	J.W. Miller
EUP-31	7-21-82	J J Long	EU-1.0-DSB-AS3 (Dnot) Conduit not supported on either end of section mounted on floor	AB 584'	7/21/82	7/28/82	7/28/82	J.W. Miller
EUP-32	7-1-82	K. Melandim	C-1.50-EU-DMD-6W length code illegible on 1/4" anchor, ultrasonic meas undetermined	AB El 634'6"	7/1/82	7/26/82	7/29/82	J C Miller
EUP-33	7-8-82	H. Tuttle	EU-6.1-DSB-2W Reaction plunger angle welds are undersized	TB El 614'	7/8/82	7/25/82	7/25/82	D. Gabel
EUP-34	7-8-82	H. Tuttle	EU-6.1-DMD-10 #1 Bolt holes C/C is 1/2" undersized	TB El 631'	7/8/82	7/26/82	7/26/82	D Gabel
EUP-35	7-10-82	D. Ice	C-1.50 EU-DMD-1E #1 Bolt hole C/C space is 1/2" undersized #2 Angle of anchor bolt is more than 3° no spherical washer installed	AB El 642'	7/13/82	7/26/82	8/2/82	D Gabel
EUP-36	7-12-82	D Gabel	EU-6.1-DMD-1E #1 [illegible]	# FIVP	7/13/82	8/6/82	8/7/82	M. [illegible]

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RN NOTICE	3 ORIG DATE	4 PREPARED BY	5 DEFICIENCY DESCRIPTION/REMARKS	STATUS 6 LOCATION	7 DATE XMTD	8 DATE RETD	9 DATE CLOSED	10 CLOSED BY
EUP-20	7-16-82	C Bowtenheimer	EU-1.0-DMD-11,18,13 #1 Conduit not supported in data room #2 no covers on fittings #3 conduit not sealed	TB Data Rm	7/17/82	7/27/82	8/2/82	J J Long
EUP-21	7-19-82	J.C. Miller	EU-6.0-S1 # Ground leakage test was done with low voltage ohmeter #2 No detail for mounting 4"x4" ext. ring on Dwg E-198-6-1 for strain gage protection Ext ring is supported with set screw only	AB EL 616'	7/26/82	8/1/82	9/1/82	J C Miller
EUP-22	7-21-82	J J Long	EU-1.0-DSB-2 Conduit not supported within 1' of stuffing box	AB 584'	7/21/82	7/28/82	7/28/82	J W. Miller
EUP-23	7-21-82	J J Long	EU-1.0-DSB-AS-3 (TH) Conduit not supported within 1' of stuffing box	AB 584'	7/21/82	7/28/82	7/28/82	J W. Miller
EUP-24	7-21-82	J J Long	EU-1.0-DSB-AS-1 (TH) conduit not installed	AB 584'	7/21/82	7/28/82	7/28/82	J W. Miller
EUP-25	7-21-82	J J Long	EU-1.0-DSB-AS-1 (Inot) conduit not installed	AB 584'	7/21/82	7/28/82	7/28/82	J W. Miller
EUP-26	7-21-82	J J Long	EU-1.0-DSB-AS-2+4 Conduit not supported within 1 ft of stuffing box	AB wing wall #2	7/21/82	7/28/82	7/28/82	J W. Miller

INPROCESS INSPECTION NOTICE LOG

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RN NOTICE	3 ORIG DATE	4 PREPARED BY	5 DEFICIENCY DESCRIPTION/REMARKS	STATUS 6 LOCATION	7 DATE XMTD	8 DATE RETD	9 DATE CLOSED	10 CLOSED BY
EUP 15	7-10-82	D. Dee	C-1.50-EU-DMD-42 #1 C/C spacing is ½" too small	AB el 628'6"	7/13/82	7/22/82	7/24/82	D Habel
EUP-16	7-10-82	J.J. Long	C-1.50-EU-DSB-1E #1 The two top anchors do not meet minimum embedment	C#2 El 612'	7/13/82	7/14/82	7/14/82	D. Habel
EUP-17	7-14-82	M. Konczewski	EU-6.0-DSB-26 #1 Thermocouple outer cover damaged	AB el 614'	7/15/82	7/15/82	7/15/82	M Konczewski
EUP-18	7-16-82	M Konczewski	EU-6.0-DSB-A54 #1 Thermocouple does not agree with print	AB el 584' ↓	7/16/82 ↓	7/21/82 ↓	8/2/82 ↓	J.J. Long
EUP-19	7-16-82	A. Bautista-Reimer	EU-1.0-DMD-12,13 #1 Conduit DMD-12-13 bearing SBDMD-11,12,13 was marked DMD-13 (12 omitted) #2 Fittings have 8 or more missing covers #3 large pulley tied to EMP Conduit DMD-13	TB	7/17/82	7/21/82	8/2/82	J.J. Long

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RN NOTICE	3 ORIG DATE	4 PREPARED BY	5 DEFICIENCY DESCRIPTION/REMARKS	STATUS 6 LOCATION	7 DATE XMTD	8 DATE RETD	9 DATE CLOSED	10 CLOSED BY
EUP-12	7-10-82	D. Dee	C-1.50-EU-DMD-1E Item #1 the c/c spacing on anchor bolts is ½" too small. Item #2 Angle of anchor bolt at the h of stainless plate is more than 3°. No spherical washers installed	AB El 642'	7/13/82		7/28/82	J.W. Miller
EUP-13	7-12-82	D Dabel	EU-6.1-DMD-4E #1 Reaction angles not per print #2 Reaction angle welds not per print #3 D/a radial gauge movement rough	AB El 628'6"	7/19/82		7/29/82	JC Miller
EUP-14	7-12-82	D Dabel	EU-6.1-DMD-1E #1 Reaction angles not per prints #2 Welds on reaction angles not per print #4 Dial gauge	AB El 631'6"	9/9/82		7/28/82	J.W. Miller

INPROCESS INSPECTION NOTICE LOG

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lect No. 7220

NOTICE	3 ORIG DATE	4 PREPARED BY	5 DEFICIENCY DESCRIPTION/REMARKS	STATUS 6 LOCATION	7 DATE XMTD	8 DATE RETD	9 DATE CLOSED	10 CLOSED BY
			EV-6.1-DMD-9 Stainless	A.B	7/13/82	7/15/82	7/15/82	D Habel
)P-9	7-9-82	D. Habel	steel plate finish uncorrect	E634				
			EV-6.1-DMD-9	A B				
)P-10	7-9-82	D Habel	Item #1 no flat	E634	7/13/82	7/14/82	7/28/82	M. Jencgurski
			washers installed on					
			head of through bolts					
			Item #2 North/					
			South LVDT damaged					
			Item # 3 1/4" fillet					
			weld incorrect					
			Item #4 Reaction					
			angle bolt spacing incorrect					
			Item #5 Reaction					
			angles 1/2" too short					
			EV-6.1-DMD-3E	A B				
UP-11	7-9-82	D Habel	Item #1 Reaction	E686	7/13/82	7/15/82	7/15/82	J.W. Miller
			angle anchor bolt centers					
			to centers uncorrect					
			Item #2 fillet					
			weld uncorrect					
			Item #3 no flat					
			washers installed on					
			through bolt heads					
			Item #4 E/W LVDT					
			threads damaged					

INPROCESS INSPECTION NOTICE LOG

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RN NOTICE	3 ORIG DATE	4 PREPARED BY	5 DEFICIENCY DESCRIPTION/REMARKS	STATUS 6 LOCATION	7 DATE XMTD	8 DATE RETD	9 DATE CLOSED	10 CLOSED BY
E.V.P.8	7-10-82	M Krenczewski	EV-6.1-DSB-1E #1 mounting plate is too high #2 Reaction angle is 3 1/16" E/W #3 N/S Reaction Angle is 3 15/16" #4 Front tube holes c/c space 2 1/16" #5 mounting plate not welded all around	CH2 EL631'	7/13/82	7/16/82	7/22/82	M Krenczewski

INPROCESS INSPECTION NOTICE LOG

Project No. 7220 DISCIPLINE 12 Page Compl QC Eng Sign

RN NOTICE	3 ORIG DATE	4 PREPARED BY	5 DEFICIENCY DESCRIPTION/REMARKS	STATUS 6 LOCATION	7 DATE XMTD	8 DATE RETD	9 DATE CLOSED	10 CLOSED BY
Continued			Item #1 No full nut thread	TB	7/13/82	7/25/82	7/25/82	M Kenczewski
E-UP-5	7-9-82	M Kenczewski	engagement at cube mounting plate					
			EU-6.1-DSB-2E	TB	7/13/82	7/25/82	7/25/82	M Kenczewski
E-UP-6	7-9-82	M Kenczewski	Item #1 Back plates of					
			bracket are undersized					
			Item #2 Welded plate					
			NS Reactor angle has 5/8"					
			height instead of 6"					
			Item #3 NS + EW Reaction					
			angle bolt holes do not meets					
			FCR-C-4075					
			Item #4 No full nut					
			thread engagement at the					
			E-W valve mounting bolts.					
			Item #5 Top welds of					
			N-S + E-W reaction angles are					
			incorrect (FCR-C-4075)					
			EU-6.1-DSB-1W	Cont #1	7/9/82	7/20/82	7/30	M Kenczewski
E-UP-7	7-10-82	M. Kenczewski	Item #1 Plate not					
			welded all around.					
			Item #2 Back support					
			welded incorrect					
			Item #3 Top weld					
			incorrect, bottom weld no 1 S#					

INPROCESS INSPECTION NOTICE LOG

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DISCIPLINE

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RN NOTICE	3 ORIG DATE	4 PREPARED BY	5 DEFICIENCY DESCRIPTION/REMARKS	STATUS 6 LOCATION	7 DATE XMTD	8 DATE RETD	9 DATE CLOSED	10 CLOSED BY
			Minimum embedment requirement on wall support Item #3 Material and code of anchors					
E-UP-4	7-9-82	K. Melandin	C-1.50-EW-DMD-9 Item #1 Top left anchor codes illegible Item #2 Center to center isolation (North-South) angles between 1/2" Anchors in angle & nearby, abandoned 1/2" anchors	El 684' Turbine	7/13/82	7/23/82	7/28/82	J. J. Longo
E-UP-5	7-9-82	M. Spencewski	E.W-16.1-DSB-360 Item #1 BACKplate of bracket is oversized Item #2 Bracket is off center of back plate Item #3-2' hanger mounting holes do not conform to FCR-C-4044 Item #4 Incorrect center to center space on front mounting plate Item 6-N-S+E-W LVDTs & dial gauges were installed	TB El 614'	7/13/82	7/24/82	7/24/82	M. Spencewski

INPROCESS INSPECTION NOTICE LOG

Project No. 7220

DISCIPLINE

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RN NOTICE	3 ORIG DATE	4 PREPARED BY	5 DEFICIENCY DESCRIPTION/REMARKS	STATUS 6 LOCATION	7 DATE XMTD	8 DATE RETD	9 DATE CLOSED	10 CLOSED BY
E-UP-1	7-9-82	R. Mulandino	C-1.50-EU-DMS-38 (Item 1) plate 1/4" anchor code illegible	Aux 628'6" yard Turbine Bldg 614'	7/13/82		7/29/82	J.W. Miller
E-UP-2	7-9-82	M. Konczwski	EU-Co.1-DSB-38 Item #1 - Back plate of bracket is oversized Item #2 - E-W Reaction angle center to center spacing is 3 1/8" instead of 3" South bolt is 5/8" from angle edge instead of 3/4" Top dimension of angle is 4 1/2" bottom one - 4 5/8" Item #3 Dial gauge has wrong I.D numbers Item #4 Weld on wall mounted plate is painted and cannot be inspected No welder I.D numbers on it Item #5 Dial gauge should be cleaned		7/13/82	7/25/82	7/25/82	M. Konczwski
E-UP-2								
E-UP-3	7-9-82	J.J. Kopp	C-1.50-EU-DSB-36 Item #1 - 5/8" expansion anchor used instead of 3/4" over 2' on wall support Item #2 - 3 expansion	J.B 614'	7/9/82	7/23/82	7/24/82	J.J. Kopp

IN PROCESS INSPECTION NOTICE

1) PROJECT NO.	2) INSPECTION DOCUMENT NAME	4) NUMBER
7220	C-1.02-UP-13	CUP-35
	3) ACTIVITY OR TASK	5) MO DAY YR
	N/A	7 22 82

6) ITEM LOCATION AREA BLDG	7) DWG/PART NO.	REV	8) ITEM NAME
YARD Zone II STARTUP SYSTEM NO. N/A	C-45	7	Backfill

9) INSPECTION CRITERIA DOCUMENT NUMBER & TITLE

DWG ☐ SPEC ☒ OTHER ☐ EXPLAIN

10) NO.	11) DESCRIPTION (list serial numbers where applicable)
1	Item A on IR C-1.02-UP-13. 3-3½" ⌀ x 5' Deep probe holes. Elev's 600' & 604' 6" S/4945.85, S/4949.1, S/4952.1 E/512.4 To 5' west
	These locations were Temporarily Backfilled using Oxyrock. The material will be Removed and Permanently Backfilled as per Spec. C-211 at a later date.

12) ORIGINATED BY DATE	13) APPROVED BY DATE	14) RECEIPT ACKNOWLEDGED DATE
Rodney Bennett 7-22-82	Donald K. Von Doorn 7-22-82	M.R. Lewis 7/22/82

15) REMARKS:

NCR FSO-038

Rodney Bennett
1/31/83

16) ACTION COMPLETED DATE	17) REINSPECTION COMPLETED DATE

Responsible Superintendent or Field Engineer

IN PROCESS INSPECTION NOTICE

1) PROJECT NO.	2) INSPECTION DOCUMENT NAME	4) NUMBER
7220	C-1.02-UP-2	C-UP-32 4, add 7-16-82
	3) ACTIVITY OR TASK: N/A	5) MO DAY YR: 7.9.82

6) ITEM LOCATION AREA BLDG	7) DWG/~~PART NO.~~	REV	8) ITEM NAME
YARD - ZONE III STARTUP SYSTEM NO. N/A	C-45	6	BACKFILL

9) INSPECTION CRITERIA
DWG ☐ SPEC ☒ OTHER ☐ EXPLAIN C-211 DOCUMENT NUMBER & TITLE (13) Technical Specification for Backfill

10) NO.	11) DESCRIPTION (list serial numbers where applicable)
1	Item D-1R-C-1.02-UP-2 - 8 areas around monitoring pits
	2 & 3 - (see attached listing) - 4' in diamter, 18" deep (termd 631)
	These locations were temporarily backfilled. The
	material will be removed and permanently backfilled
	in accordance with Spec. C-211 at a later date.

12) ORIGINATED BY DATE	13) APPROVED BY DATE	14) RECEIPT ACKNOWLEDGED DATE
Mark A Clark 7.16.82	Donald L Von Doorne 7-16-82	Karl A Kleinhuis 7-16-82

15) REMARKS:
NCR FSO-038

Rodney Barnett
1/31/83

16) ACTION COMPLETED DATE	17) REINSPECTION COMPLETED DATE

Responsible Superintendent or Field Engineer

IPIN # 2/2
C-UP-34

Abandoned Wells

MW-2	-	S 5113.16 , E 484
MW-3	-	S 5105.5 , E 488.26
MW-4		S 5104.17 , E 505.65
MW-5		S 5113.37 , E 506.92
MW-7		S 5150.15 , E 505.53
MW-8		S 5154.57 , E 508.59
MW-10		S 5168.17 , E 489.37
MW-11		S 5157.18 , E 485.86

IN PROCESS INSPECTION NOTICE

1) PROJECT NO. 7220	2) INSPECTION DOCUMENT NAME C-1.02-UP-12	4) NUMBER C-UP-33
	3) ACTIVITY OR TASK N·A	5) MO DAY YR 7·15·82

6) ITEM LOCATION AREA BLDG YARD-ZONE I STARTUP SYSTEM NO. N·A	7) DWG/PART NO. C-45 REV 7	8) ITEM NAME BACKFILL

9) INSPECTION CRITERIA DWG ☐ SPEC ☒ OTHER ☐ EXPLAIN C-211/13 DOCUMENT NUMBER & TITLE TECHNICAL SPECIFICATIONS FOR BACKFILL

10) NO.	11) DESCRIPTION (list serial numbers where applicable)
1	ITEM A ON IR C-1.02-UP-12! 25'X12'X8' SLOPE LAYBACK
	EXCAVATION AT EL 626' AT LOCATION S 4876/S 4864 -
	E 73/E 98
	THESE LOCATIONS WERE TEMPORARILY BACKFILLED USING SOIL
	WITH A ±4" CONCRETE BASE. THE MATERIAL WILL BE REMOVED AND
	PERMANENTLY BACKFILLED AS PER SPECIFICATION C-211 AT A LATER DATE

12) ORIGINATED BY DATE	13) APPROVED BY DATE	14) RECEIPT ACKNOWLEDGED DATE
Mark R Clark 7·16·82	Donald L Van Doorn 7-16-82	Karl G Kleinlein 7-16-82

15) REMARKS:

NCR FSO-038

Rodney Bennett
1/31/83

16) ACTION COMPLETED DATE

17) REINSPECTION COMPLETED DATE

Responsible Superintendent or Field Engineer

IN PROCESS INSPECTION NOTICE

1) PROJECT NO.	2) INSPECTION DOCUMENT NAME	4) NUMBER
7220	C-1.02-UP-11	C-UP-32
	3) ACTIVITY OR TASK: N.A	5) MO DAY YR: 7-13-82

6) ITEM LOCATION AREA BLDG	7) DWG/PART NO.	REV	8) ITEM NAME
YARD-ZONE II STARTUP SYSTEM NO. N/A	C-45	7	BACKFILL

9) INSPECTION CRITERIA
DWG ☐ SPEC ☒ OTHER ☐ EXPLAIN C-211/13 DOCUMENT NUMBER & TITLE TECHNICAL SPECIFICATIONS FOR BACKFILL

10) NO.	11) DESCRIPTION (list serial numbers where applicable)
1	ITEM C ON I.R. C-1.02-UP-11: 4X4'X4' EXCAVATION AT
	LOCATION S 4876/S4872 - E 468/E472 AT EL 630'-0"
2	ITEM D ON I.R. C-1.02-UP-11: 4'X4'4' EXCAVATION AT
	LOCATION S4888/S4884 - E471/E475 AT EL 630'0"
	THESE LOCATIONS WERE TEMPORARILY BACKFILLED USING SOIL AND
	A 4" CONCRETE BASE. THE MATERIAL WILL BE REMOVED AND
	PERMANENTLY BACKFILLED AS PER SPECIFICATION C-211 AT A LATER DATE

12) ORIGINATED BY DATE	13) APPROVED BY DATE	14) RECEIPT ACKNOWLEDGED DATE
Mark R. Clark 7-13-82	Donald L Van Doorne 7-14-82	Karl A Kleinhuth 7-13-82

15) REMARKS:

NCR FSO-038

Rodney Bennett
1/31/83

16) ACTION COMPLETED	DATE	17) REINSPECTION COMPLETED	DATE

Responsible Superintendent or Field Engineer

IN PROCESS INSPECTION NOTICE

1) PROJECT NO.	2) INSPECTION DOCUMENT NAME	4) NUMBER
7220	C-1.02-UP-11	C-UP-31
	3) ACTIVITY OR TASK: N·A	5) MO DAY YR: 7·12·82

6) ITEM LOCATION AREA BLDG	7) DWG/PART NO.	REV	8) ITEM NAME
YARD-ZONE II. STARTUP SYSTEM NO. N·A	C-45	7	BACKFILL

9) INSPECTION CRITERIA DWG ☐ SPEC ☒ OTHER ☐ EXPLAIN C-211/3 DOCUMENT NUMBER & TITLE: TECHNICAL SPECIFICATIONS FOR BACKFILL

10) NO.	11) DESCRIPTION (list serial numbers where applicable)
1	ITEM A ON I.R. C-1.02-UP-11: 16'X12'X8' SLOPE LAYBACK EXCAVATION
	AT ELEV 626' AT LOCATION S4876/S4864-E467/E451
2	ITEM B ON I.R. C-1.02-UP-11: 26'X6'X6' SLOPE LAYBACK EX-
	CAVATION AT EL 629' AT LOCATION S4896/S4890-E493/E467
	THESE LOCATIONS WERE TEMPORARILY BACKFILLED WITH SOIL AND A 4"
	CONCRETE BASE. THE MATERIAL WILL BE REMOVED AND PERMANENTLY
	BACKFILLED AS PER SPECIFICATION C-211 AT A LATER DATE

12) ORIGINATED BY DATE	13) APPROVED BY DATE 7-14-82	14) RECEIPT ACKNOWLEDGED DATE 7-13-82
Mike R Clark 7.13.82	Donald Von Downe	Karen Kleinhuber

15) REMARKS:

NCR FSO-038

Rodney Bennett
1/31/83

16) ACTION COMPLETED DATE	17) REINSPECTION COMPLETED DATE

Responsible Superintendent or Field Engineer

IN PROCESS INSPECTION NOTICE

2) INSPECTION DOCUMENT NAME	4) NUMBER
C-102-UP-2	C-UP-30
3) ACTIVITY OR TASK	**5) MO DAY YR**
N/A	6-2-82

1) PROJECT NO. 7220

6) ITEM LOCATION AREA BLDG	7) DWG/PART NO. REV	8) ITEM NAME
YARD ZONE III STARTUP SYSTEM NO. N/A	C-45 6	BACKFILL

9) INSPECTION CRITERIA DOCUMENT NUMBER & TITLE

DWG ☐ SPEC ☒ OTHER ☐ EXPLAIN C-211 (13) Technical spec. for Backfill

10) NO.	11) DESCRIPTION (list serial numbers where applicable)
1	ITEM C ON IR C-102-UP-2 6 AREA'S AROUND MONITORING P.T #2. SEE ATTACHED SKETCH.
	THIS LOCATION WAS TEMPORARY BACKFILLED. THE MATERIAL WILL BE REMOVED AND PERMANENTLY BACKFILLED IN ACCORDANCE WITH SPECIFICATION C-211 AT A LATER DATE

12) ORIGINATED BY DATE	13) APPROVED BY DATE	14) RECEIPT ACKNOWLEDGED DATE
* Rodney Bennett 6-2-82	Donald VanDoorn 6-2-82	Carl A Klein 6-2-82

15) REMARKS:

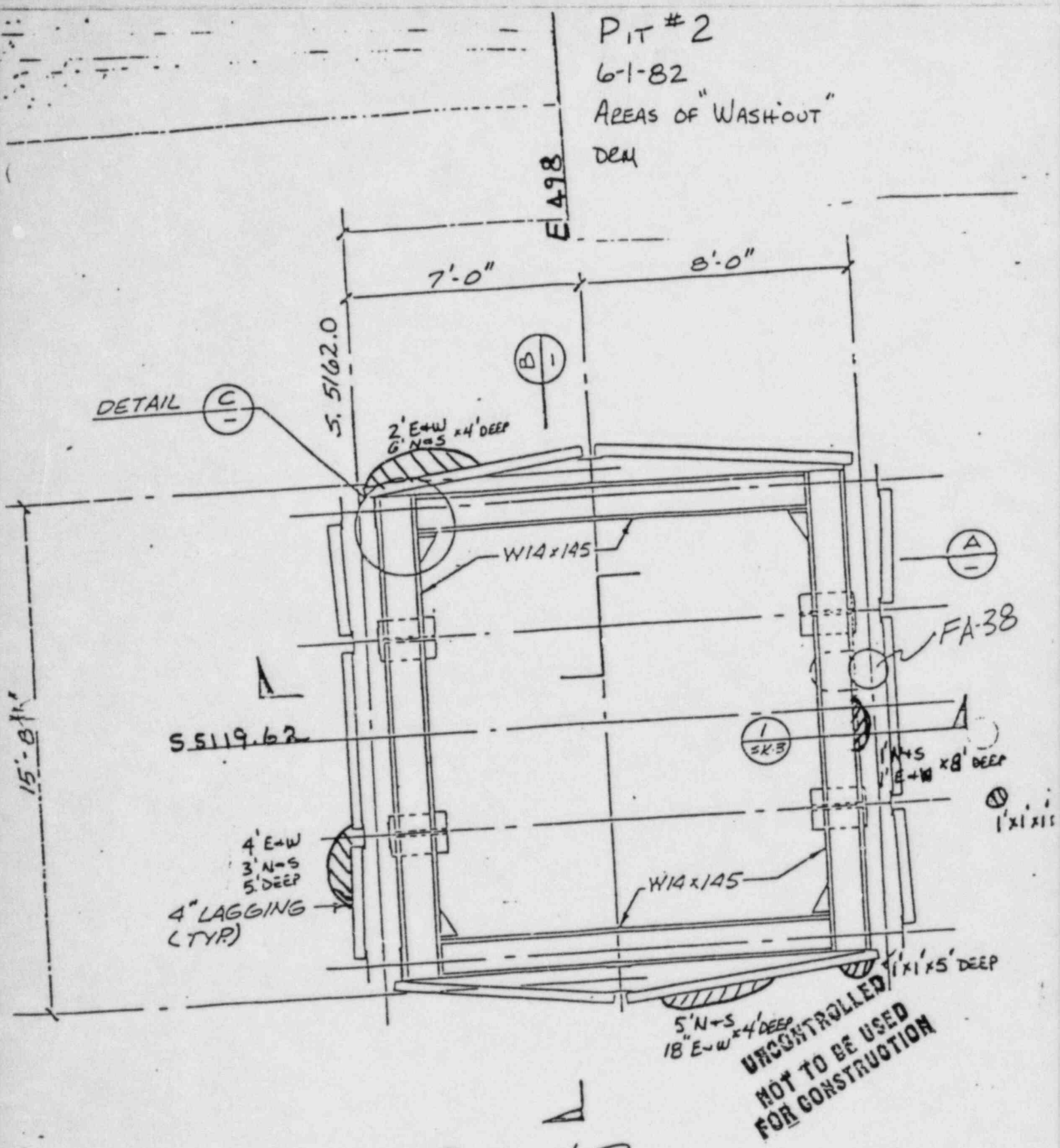
NCR FSO-038

Rodney Bennett
1/31/83

16) ACTION COMPLETED DATE	17) REINSPECTION COMPLETED DATE

Responsible Superintendent or Field Engineer

PIT #2
6-1-82
AREAS OF "WASH-OUT"
DEM



PIT #2
PLAN @ EL. 629'

1/4" = 1'-0"

— ℄ W8 PILE

IN PROCESS INSPECTION NOTICE

1) PROJECT NO. 7220	2) INSPECTION DOCUMENT NAME INSTALLATION OF SHEET PILES DP. 9 DUCT BANK ACCESS PIT MCP 34-1	4) NUMBER C-UP-29
	3) ACTIVITY OR TASK INSTALLATION OF SHEET PILES	5) MO DAY YR 5-20-82

6) ITEM LOCATION AREA BLDG ACCESS PIT DEEP 9 DUCT BANK SEE ATTACHED SKETCH STARTUP SYSTEM NO. N/A	7) DWG/PART NO. REV F-7220-C-195-58-4 3	8) ITEM NAME INSTALLATION OF SHEET PILES

9) INSPECTION CRITERIA DWG ☑ SPEC ☐ OTHER ☑ EXPLAIN — DOCUMENT NUMBER & TITLE: PROC. MCP 34-1 F7220 C-195-53-1

10) NO.	11) DESCRIPTION (list serial numbers where applicable) NOTE: SEE ATTACHED SKETCH.
1	ON 5-20-82 AT 0830 HRS OBSERVATION OF ESCAVATION AT
	599' ELEVATION IT WAS IDENTIFIED THAT SHEET PILE #8
	HAD PENETRATED THE DUCT BANK 3" MEASURED HORIZONTALLY, THE
	SIGNIFICANCE AND DEPTH VERTICALLY IS INDETERMINATE AT
	THIS ELEVATION.

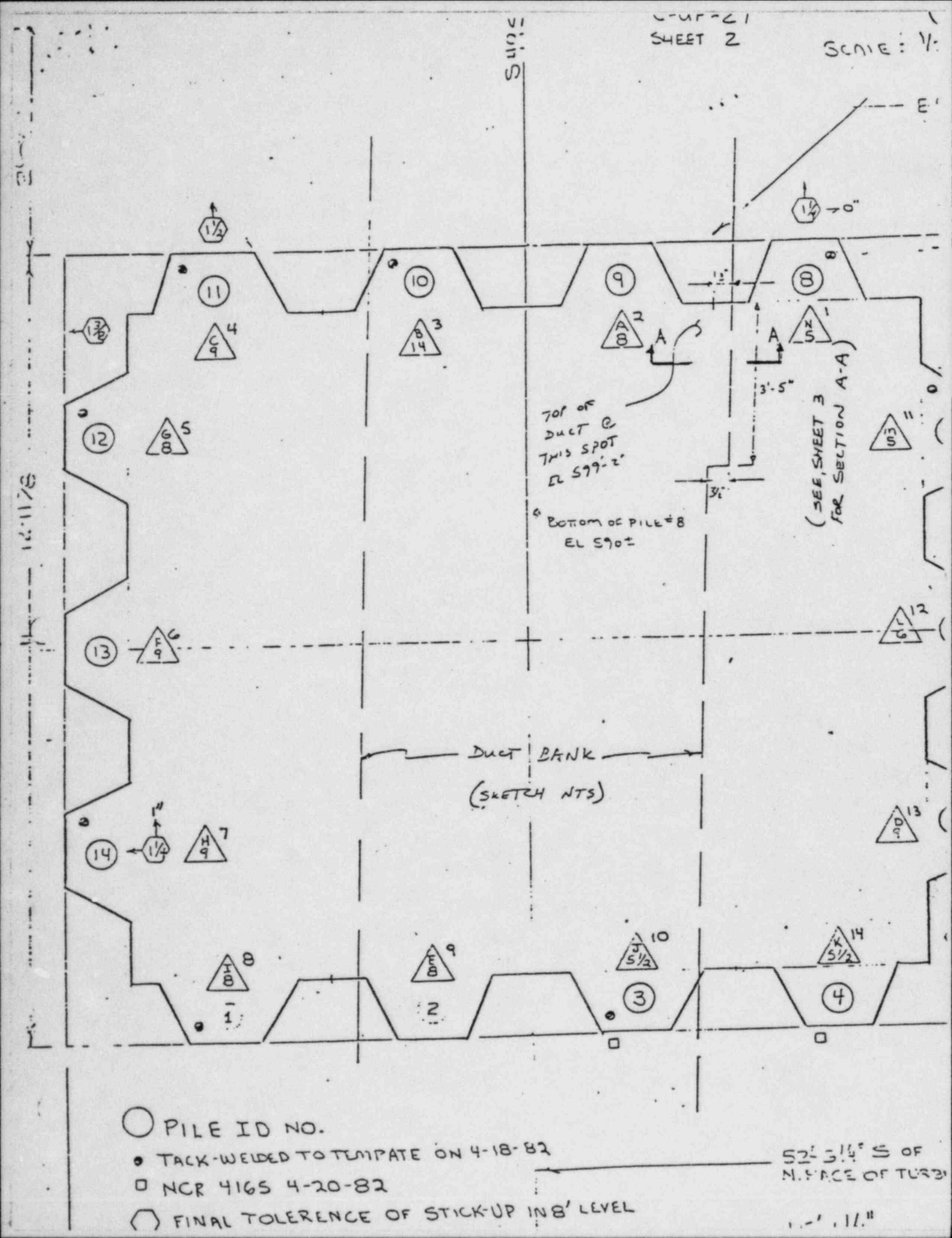
12) ORIGINATED BY DATE	13) APPROVED BY DATE	14) RECEIPT ACKNOWLEDGED DATE
D. Kunisch 5-20-82	Donald L. Von Doorne 5-20-82	William D Dooley 5-20-82

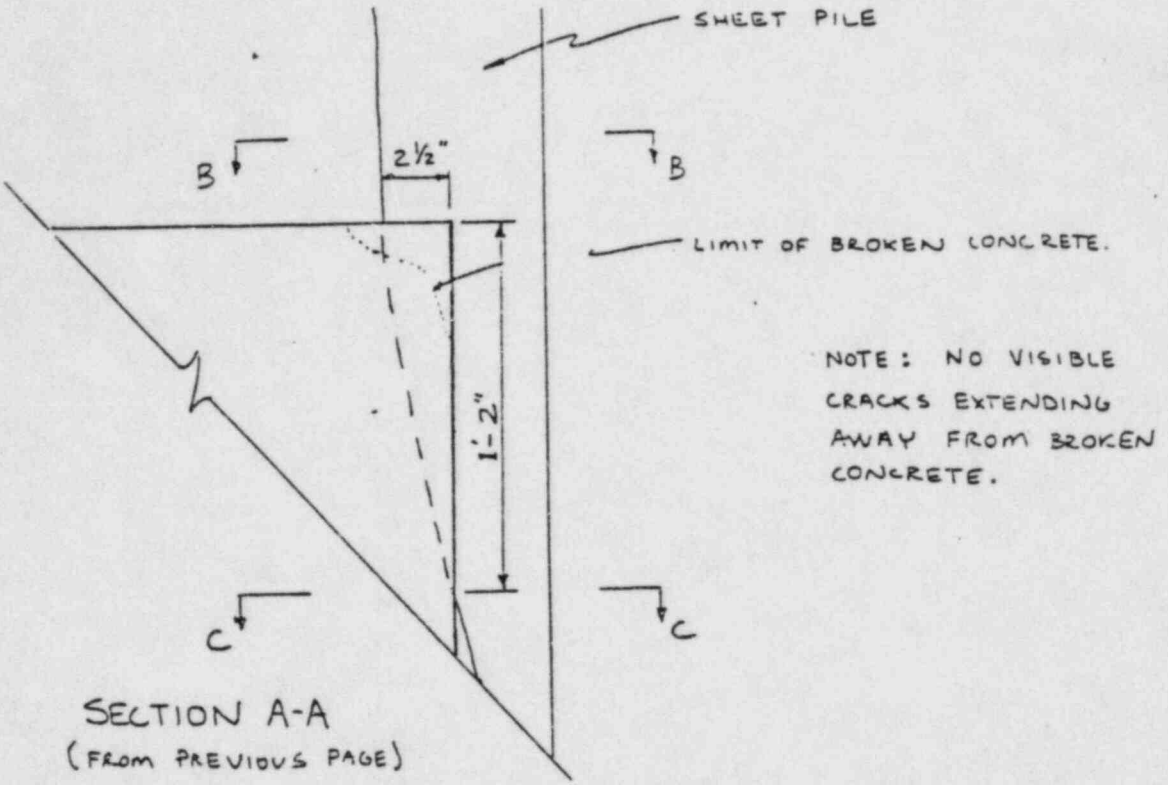
15) REMARKS: UPGRADED TO NCR 525-82 #4258 TK 6-2-82

ON 5-25-82 A VISUAL EXAMINATION DETERMINED THE EXTENT OF PENETRATION BY THE SHEET PILE INTO THE DUCT BANK. (SEE SHEET 3). THERE WERE NO VISIBLE CRACKS NOR WERE THERE ANY INDICATIONS THAT THE REINFORCING STEEL OR CONDUITS HAD BEEN DAMAGED BY THE PENETRATION OF THE SHEET PILE; FIELD ENGINEERING SUGGESTS THAT THE DUCT BANK BE USED AS-IS.

16) ACTION COMPLETED DATE — 17) REINSPECTION COMPLETED DATE

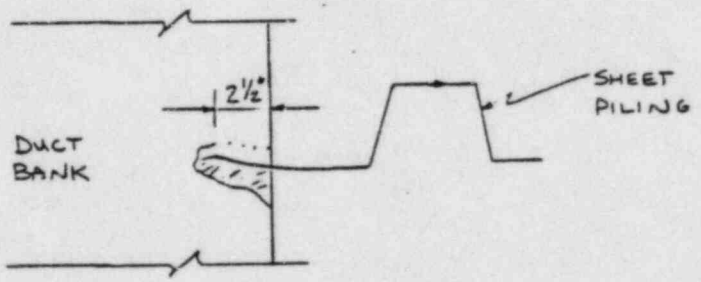
Responsible Superintendent or Field Engineer


SHEET 2
SCALE: 1/
E'
TOP OF DUCT @ THIS SPOT EL 599'-2"
3'-5"
3½"
BOTTOM OF PILE ± 8 EL 590 ±
(SEE SHEET 3 FOR SECTION A-A)
DUCT BANK
(SKETCH NTS)
52'-3¼" S OF N. FACE OF TURB
PILE ID NO.
TACK-WELDED TO TEMPATE ON 4-18-82
NCR 4165 4-20-82
FINAL TOLERENCE OF STICK-UP IN 8' LEVEL

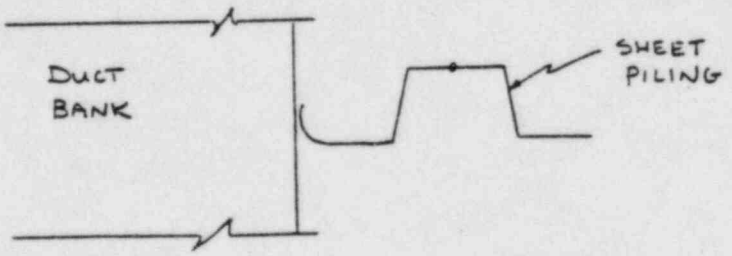


NOTE: NO VISIBLE CRACKS EXTENDING AWAY FROM BROKEN CONCRETE.

SECTION A-A
(FROM PREVIOUS PAGE)



SECTION B-B



SECTION C-C

IN PROCESS INSPECTION NOTICE

1) PROJECT NO. 7220

2) INSPECTION DOCUMENT NAME: INSTALLATION OF SHEET PILES DEEP Q DUCT BANK ACCESS PIT MCP-34-1

4) NUMBER: C-UP-28

3) ACTIVITY OR TASK: II B - INSTALLATION OF SHEET PILES

5) MO DAY YR: 5-19-82

6) ITEM LOCATION AREA BLDG: ACCESS PIT DEEP Q DUCT BANK SEE ATTACHED SKETCH
STARTUP SYSTEM NO.: N/A

7) DWG/PART NO. REV: F7220-C195-58-4 (3)

8) ITEM NAME: INSTALLATION OF SHEET PILES

9) INSPECTION CRITERIA: DWG ☑ SPEC ☐ OTHER ☑ EXPLAIN — DOCUMENT NUMBER & TITLE: PROC. MCP 34-1 F7220 C195-53-1

10) NO.	11) DESCRIPTION (list serial numbers where applicable) NOTE: SEE ATTACHED SKETCH
1	ON 5-19-82 OBSERVATION OF SHEET PILES INDICATES LOCK BETWEEN
	PILES #13 & #14 WERE OPEN #13 EDGE AT ELEV. 599.5± WAS
	12"± TO THE NORTH; LOCK BETWEEN PILES #4 & #5 WAS
	OPEN #5 TO THE NORTH & #4 TO THE EAST 16"± AT ELEV.
	599-5±'.

12) ORIGINATED BY DATE: D. Kincaid 5-19-82

13) APPROVED BY DATE 5-19-82: Donald V. McGowne

14) RECEIPT ACKNOWLEDGED DATE: William D Dooley 5-19-82

15) REMARKS:

SEE FCN# 2086 FOR DISPOSITION OF THIS I.P.I.N.

16) ACTION COMPLETED DATE: 6/3/82

17) REINSPECTION COMPLETED DATE: Donald C. Kincaid 5-28-82

Responsible Superintendent or Field Engineer

SCALE : 1/2" = 1'-

E 518.0
1/2
1/4 → 0"
11
10
9
8
C 9 4
B 14 3
A 8 2
N S 1
12
G 8 5
M S 11
7
BOT. OF ESCAVATION WAS FIELD MEASURED TO BE 599.5± BASED FROM BOTTOM OF 3RD WALE ON 5-19-82
13
F 9 6
L 6 12
12" ± OPEN @ 599.5 ± ELEV.
1"
14
1/4
H 9 7
D 9 13
5
I 8 8
E 8 9
J 5½ 10
K 5½ 14
2¼
1
2
3
4
11" ± SPACING @ 599.5 ±
PILE ID NO.
TACK-WELDED TO TEMPATE ON 4-18-82
NCR 4165 4-20-82
FINAL TOLERENCE OF STICK-UP IN 8' LEVEL
#THREADING ORDER
52'-5 1/4" ≤ OF N. FACE OF TURBINE
15'-1 1/4"

IN PROCESS INSPECTION NOTICE

1) PROJECT NO. 7220

2) INSPECTION DOCUMENT NAME: INSTALLATION OF SHEET PILES FOR DEEP C DUCT BANK ACCESS PIT MCP 34-1

4) NUMBER: C-UP-27

3) ACTIVITY OR TASK: II-B INSTALLATION OF SHEET PILES

5) MO DAY YR: 5-12-82

6) ITEM LOCATION AREA BLDG: ACCESS PIT DEEP C DUCT BANK SEE ATTACHED SKETCH
STARTUP SYSTEM NO.: N/A

7) DWG/PART NO. REV: F7220-C195-58-4 (3)

8) ITEM NAME: INSTALLATION OF SHEET PILES

9) INSPECTION CRITERIA: DWG ☑ SPEC ☐ OTHER ☑ EXPLAIN PROC. MCP 34-1 F7220C195-53-1
DOCUMENT NUMBER & TITLE

10) NO.	11) DESCRIPTION (list serial numbers where applicable) NOTE: SEE ATTACHED SKETCH
1	ON 5-12-82 OBSERVATION OF SHEET PILES INDICATES LOCK BETWEEN
	PILES # 13 & #14 WERE OPEN, # 13 EDGE AT ELEV. 604.9'± WAS 9"±
	TO THE NORTH. LOCK BETWEEN PILES #4 & #5 WAS OPEN #5 TO
	THE NORTH & # 4 TO THE EAST ± 8" AT ELEV 604.9'±

12) ORIGINATED BY DATE: D. Kincaid 5-12-82

13) APPROVED BY DATE: 5/13/82

14) RECEIPT ACKNOWLEDGED DATE: William D Dooley 5-13-82

15) REMARKS:

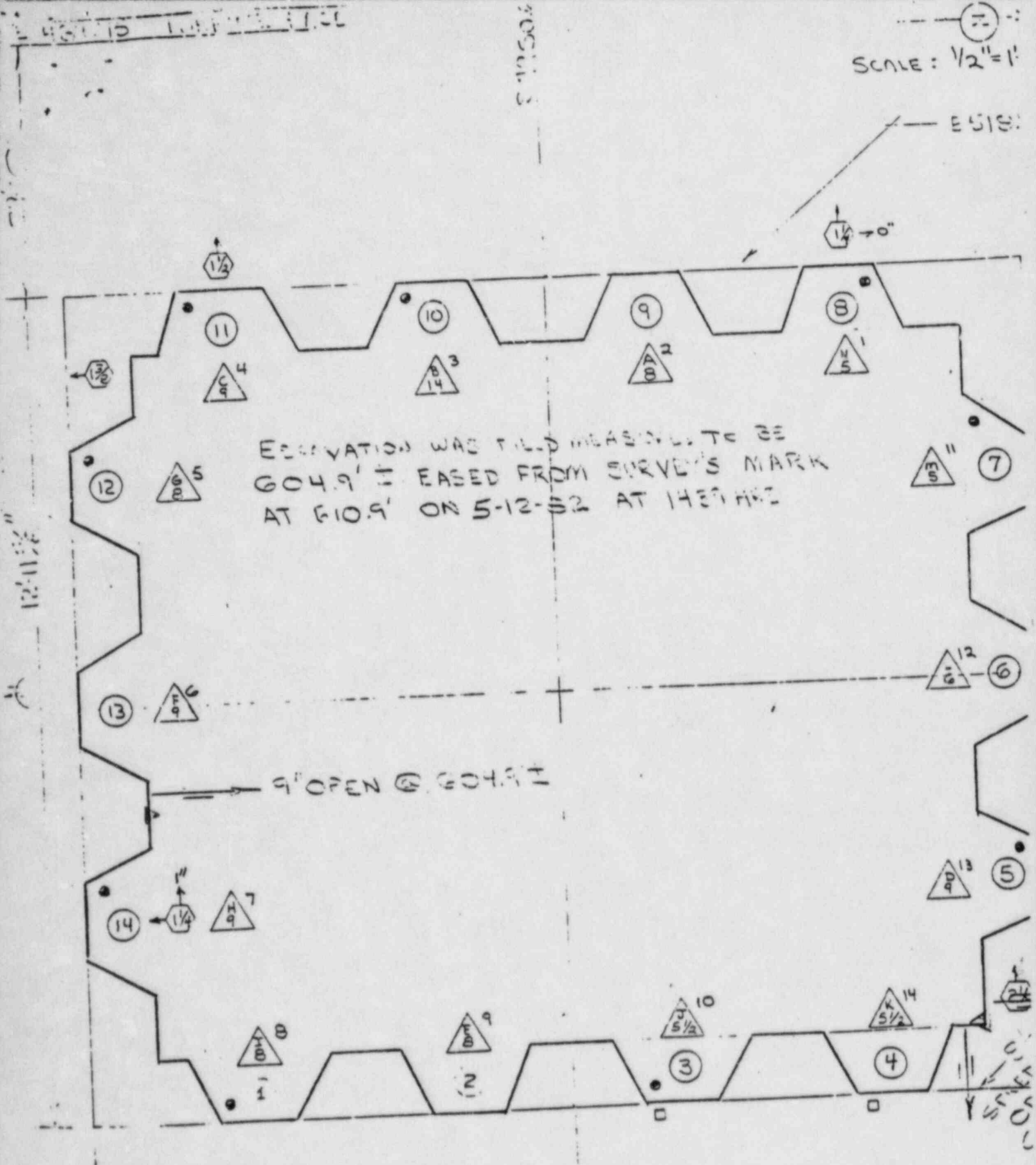
SEE FCN # 2086 FOR DISPOSITION OF THIS I.P.I.N.

16) ACTION COMPLETED DATE: John for William D Dooley 5-15-82

17) REINSPECTION COMPLETED DATE: Donald C Kincaid 5-19-82 AS PER FCN # 2086

Responsible Superintendent or Field Engineer

SCALE: 1/2"=1'



○ PILE ID NO.

• TACK-WELDED TO TEMPATE ON 4-18-82

□ NCR 4165 4-20-82

⬡ FINAL TOLERENCE OF STICK-UP IN 8' LEVEL

52'-3½" ± OF N. FACE OF TURBINE

15'-1¼"

IN PROCESS INSPECTION NOTICE

1) PROJECT NO. 7220	2) INSPECTION DOCUMENT NAME: MCP-36-1	4) NUMBER: C-UP-26
	3) ACTIVITY OR TASK: N/A	5) MO DAY YR: 5-10-82
6) ITEM LOCATION AREA BLDG: Yard ZONE III STARTUP SYSTEM NO.	7) DWG/PART NO. REV: F7220-C195-54(2)-2	8) ITEM NAME: Monitoring Pits For Service Water Lines

9) INSPECTION CRITERIA DOCUMENT NUMBER & TITLE

DWG ☐ SPEC ☐ OTHER ☐ EXPLAIN

10) NO.	11) DESCRIPTION (list serial numbers where applicable)
1)	Drawing C195-54(2)-2 requires one(1) inch diameter A-325 structural Bolts. Contractor has installed improper size bolts in surcharge support steel with improper edge distance per AISC Code of Standard Practise.

12) ORIGINATED BY DATE	13) APPROVED BY DATE	14) RECEIPT ACKNOWLEDGED DATE
Charles R. Clay 5-10-82	5/10/82	CR 5/10/82

15) REMARKS:

~~The discrepancy was identified and corrected. The wood lagging detail was revised to clarify the intent of lagging & cleat installation.~~

The temporary bolts will be replaced with the proper bolts and the angles that do not have the proper edge distance will be replaced.

16) ACTION COMPLETED DATE	17) REINSPECTION COMPLETED DATE
James J. Kelleher 5/11/82	C R Clay 5-19-82

Responsible Superintendent or Field Engineer

IN PROCESS INSPECTION NOTICE

1) PROJECT NO.	2) INSPECTION DOCUMENT NAME	4) NUMBER
7220	C-1.02-UPB	C-UP-25
	3) ACTIVITY OR TASK	5) MO DAY YR
	N/P	5-4-82

6) ITEM LOCATION AREA BLDG	7) DWG/PART NO.	REV	8) ITEM NAME
YARD Zone II STARTUP SYSTEM NO. N/P	C-45	6	Backfill

9) INSPECTION CRITERIA DWG ☐ SPEC ☒ OTHER ☐ EXPLAIN C-211 (13) Technical spec. for Backfill — DOCUMENT NUMBER & TITLE

10) NO.	11) DESCRIPTION (list serial numbers where applicable)
Item 1	Item C IR C-1.02-UPB 10'x10'x5' Deep EXCAVATION
	Location S4850 - S4860 / E460 - E470
" 2	Item B IR C-1.02-UPB 10'x8'x5' Deep EXCAVATION
	Location S4835 - S4845 / E461 - E469'
" 3	Item A IR C-1.02-UPB 10'x8'x6' Deep EXCAVATION
	Location S4825 - S4835 / E461 - E469
	See page 2

12) ORIGINATED BY DATE	13) APPROVED BY DATE	14) RECEIPT ACKNOWLEDGED DATE 5-5-82
* Rodney Bennett 5-4-82	Donald L VanDoorn 5-6-82	Karl A Kleinhuis

15) REMARKS:

NCR FSO-03B

Rodney Bennett
1/31/83

16) ACTION COMPLETED	DATE	17) REINSPECTION COMPLETED	DATE

Responsible Superintendent or Field Engineer

IN PROCESS INSPECTION NOTICE

1) PROJECT NO.	2) INSPECTION DOCUMENT NAME	3) ACTIVITY OR TASK	4) NUMBER	5) MO DAY YR
7220	C-1.02-UPB	N/A	C-UP-25	5-4-82

6) ITEM LOCATION AREA BLDG	7) DWG/PART NO.	REV	8) ITEM NAME
YARD ZONE II STARTUP SYSTEM NO. N/A	C-45	6	BACKFILL

9) INSPECTION CRITERIA DWG ☐ SPEC ☒ OTHER ☐ EXPLAIN C-211 (13) Technical spec. for Backfill — DOCUMENT NUMBER & TITLE

10) NO.	11) DESCRIPTION (list serial numbers where applicable) (CONT FROM PAGE 1)
Item 4	ITEM D IR C-1.02-UPB 12'x9'x6' Deep EXCAVATION LOCATION S4809-S4824/E 460.5-E 469.5' These locations were Temporarily BACKFILLED with 4A STONE To An Approximate elev. of 634'. The MATERIAL will Be Removed AND permanently BACKFILLED IN ACCORDANCE with spec. C-211 AT A later DATE.

12) ORIGINATED BY DATE	13) APPROVED BY DATE	14) RECEIPT ACKNOWLEDGED DATE
Rodney Bennett 5-4-82	Donald L Van Doorn 5-4-82	Karl A Kleinhuth 5-5-82

15) REMARKS:

NCR FSO-038

Rodney Bennett
1/31/83

16) ACTION COMPLETED DATE	17) REINSPECTION COMPLETED DATE

Responsible Superintendent or Field Engineer

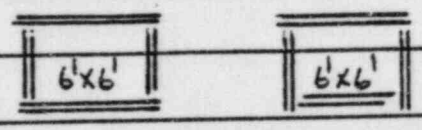
IN PROCESS INSPECTION NOTICE

1) PROJECT NO. 7220	2) INSPECTION DOCUMENT NAME SHALLOW "Q" ACCESS PIT FIR MCP-37-1	4) NUMBER C-UP-23
	3) ACTIVITY OR TASK FIR LAGGING - ITEM A	5) MO DAY YR 04-29-82

6) ITEM LOCATION AREA BLDG	7) DWG/~~PART NO.~~ REV	8) ITEM NAME
ZONE IV S5167.2 E458.5 STARTUP SYSTEM NO. N/A	F7220-C195-65-1	TIMBER LAGGING - STAGE IV

9) INSPECTION CRITERIA DWG ☒ SPEC ☐ OTHER ☐ EXPLAIN — DOCUMENT NUMBER & TITLE: F7220-C195-65-1

10) NO.	11) DESCRIPTION (list serial numbers where applicable)
1.	TIMBER LAGGING NOT INSTALLED PER "ALTERNATE LAGGING PLAN" ON DRAWING F7220-C195-65-1, LAPPING OF TIMBER LAGGING AT CORNERS IS NOT AS SHOWN ON DRWG. REFERENCED IN MCP-37 SECTION 9.0



"AS DETAILED" "AS BUILT"

12) ORIGINATED BY DATE	13) APPROVED BY DATE	14) RECEIPT ACKNOWLEDGED DATE
Forest Mansfield 4.29.82	4/29/82	James J Kelleher 4/29/82

15) REMARKS:

The descrepency was identified and corrected. The wood lagging detail was revised to clarify intent of lagging and cleat installation.

J Kelleher 5/13/82

16) ACTION COMPLETED	DATE	17) REINSPECTION COMPLETED	DATE
5/13/82	5/13/82	Forest Mansfield	5.13.82

Responsible Superintendent or Field Engineer

IN PROCESS INSPECTION NOTICE

1) PROJECT NO.	2) INSPECTION DOCUMENT NAME	4) NUMBER
7220	C-1.02-UP-7	C-UP-22
	3) ACTIVITY OR TASK: N/A	5) MO DAY YR: 4·23·82

6) ITEM LOCATION AREA BLDG	7) DWG/PART NO.	REV	8) ITEM NAME
Yard - Zone III STARTUP SYSTEM NO. N/A	C-45	6	Backfill

9) INSPECTION CRITERIA DWG ☐ SPEC ☑ OTHER ☐ EXPLAIN C-211/13 DOCUMENT NUMBER & TITLE: Technical Specification for Backfill

10) NO.	11) DESCRIPTION (list serial numbers where applicable)
1	Item B on I.R. C-1.02-UP-7: 10'x11'x5' Deep excavation
	location 55185-55175/E182-E193
	This location was temporarily backfilled
	with 4A stone to an approximate elevation of
	634', the material will be removed and
	permanently backfilled in accordance with
	specification C-211 at a later date.

12) ORIGINATED BY DATE	13) APPROVED BY DATE	14) RECEIPT ACKNOWLEDGED DATE
Rod Hudson 4-23-82	4/23/82	David R. Miller 4/26/82

15) REMARKS:

NCR FSO-038

Rodney Barnette
1/31/83

16) ACTION COMPLETED DATE	17) REINSPECTION COMPLETED DATE

Responsible Superintendent or Field Engineer

IN PROCESS INSPECTION NOTICE

1) PROJECT NO. 7220	2) INSPECTION DOCUMENT NAME: C-1.02-UP-5
3) ACTIVITY OR TASK: N/A	4) NUMBER: C-UP-21
	5) MO DAY YR: 4.23.82
6) ITEM LOCATION AREA BLDG: Yard - Zone III STARTUP SYSTEM NO.: N/A	7) DWG/PART NO.: C-45 REV: 6
	8) ITEM NAME: Backfill

9) INSPECTION CRITERIA
DWG ☐ SPEC ☒ OTHER ☐ EXPLAIN C-211/13: Technical Specification for Backfill
DOCUMENT NUMBER & TITLE

10) NO.	11) DESCRIPTION (list serial numbers where applicable)
1	Item A on I.R. C-1.02-UP-5: 12'x12'x5' Deep excavation
	location 55169-55181/E153-E165
	This location was temporarily backfilled with
	#A stone to an approximate elevation of 634',
	the material will be removed and permanently
	backfilled in accordance with specification
	C-211 at a later date.

12) ORIGINATED BY DATE	13) APPROVED BY DATE	14) RECEIPT ACKNOWLEDGED DATE
Randy Hueon 4-23-82	4/23/82	David R Nutter 4/23/82

15) REMARKS:
NCR FSO-038

Rodney Bennett
1/31/83

16) ACTION COMPLETED DATE	17) REINSPECTION COMPLETED DATE

Responsible Superintendent or Field Engineer

IN PROCESS INSPECTION NOTICE

1) PROJECT NO. 7220	2) INSPECTION DOCUMENT NAME: COMPACTED BACKFILL C-1.02-191	4) NUMBER: CE 20
	3) ACTIVITY OR TASK: N/A	5) MO DAY YR: 1/29/82

6) ITEM LOCATION AREA BLDG: "Q" BACKFILL ZONES II & III STARTUP SYSTEM NO.: N/A	7) DWG/PART NO. REV: DWG. C-45 REV. 6 SPEC. C-211 REV. 13 SCN-11004	8) ITEM NAME: TEMPOARY BACKFILL

9) INSPECTION CRITERIA
DWG ☐ SPEC ☑ OTHER ☐ EXPLAIN — DOCUMENT NUMBER & TITLE: C-211/13 SCN-11004 BACKFILL

10) NO.	11) DESCRIPTION (list serial numbers where applicable)
1	TEMPOARY BACKFILL IN A "Q" LISTED ZONE
	ZONE II - 11'± X 17'± AREA FROM EL. 631.5'± to 633'0"
	@ S4693 → S4710 & E401 → E412
	ZONE III - 2'± X 5'± AREA FROM EL. 632'0"± to 633'0"
	@ S4992 → S4999 & E788 → E798

12) ORIGINATED BY	13) APPROVED BY	14) RECEIPT ACKNOWLEDGED
1/29/82		Karl A Kleinknecht

15) REMARKS:
NCR FSO-038 — SUPERCEDES IPIN NO. C-20 # 2/2/83

Rodney Bennett
1/31/83

16) ACTION COMPLETED	DATE	17) REINSPECTION COMPLETED	DATE
		2/21/83	2/1/83

Responsible Superintendent or Field Engineer

IN PROCESS INSPECTION NOTICE

2) INSPECTION DOCUMENT NAME	4) NUMBER
C-1.02-UP-5	C-UP-20
3) ACTIVITY OR TASK	**5) MO DAY YR**
N/A	4·22·82

1) PROJECT NO. 7220

6) ITEM LOCATION AREA BLDG	7) DWG/PART NO.	REV	8) ITEM NAME
Yard - Zone IV STARTUP SYSTEM NO. N/A	C-45	6	Backfill

9) INSPECTION CRITERIA
DWG ☐ SPEC ☑ OTHER ☐ EXPLAIN C-211/13: Technical Specification for Backfill
DOCUMENT NUMBER & TITLE

10) NO.	11) DESCRIPTION (list serial numbers where applicable)
1	Item C on IR C-1.02-UP-5: 9'x7'x4' Deep excavation, location 55181-55174/E226-E235 This location was temporarily backfilled with 4A stone to an approximate elevation of 634', the material will be Removed and permanently backfilled in accordance with specification C-211 at a later date.

12) ORIGINATED BY DATE	13) APPROVED BY DATE	14) RECEIPT ACKNOWLEDGED DATE
Randy Thurow 4·22·82	4/22/82	David R Miller 4-23-82

15) REMARKS:
NCR FSO-038

Rodney Bennett
1/31/83

16) ACTION COMPLETED DATE	17) REINSPECTION COMPLETED DATE

Responsible Superintendent or Field Engineer

IN PROCESS INSPECTION NOTICE

1) PROJECT NO.	2) INSPECTION DOCUMENT NAME	4) NUMBER
7220	C-1.02-UP-7	C-UP-19
	3) ACTIVITY OR TASK: N/A	5) MO DAY YR: 4·22·82

6) ITEM LOCATION AREA BLDG / STARTUP SYSTEM NO.	7) DWG/PART NO.	REV	8) ITEM NAME
Yard - Zone IV / N/A	C-45	6	Backfill

9) INSPECTION CRITERIA
DWG ☐ SPEC ☑ OTHER ☐ EXPLAIN C-211 (13) DOCUMENT NUMBER & TITLE: Technical Specification for Backfill

10) NO.	11) DESCRIPTION (list serial numbers where applicable)
1	Item A on I.R. C-1.02-UP-7: 8'x12'x3' Deep excavation,
	location S5184-S5176/E304-E316
	This location was temporarily backfilled with
	4A stone to an approximate elevation of 634',
	the material will be removed and permanently
	backfilled in accordance with specification
	C-211 at a later date.

12) ORIGINATED BY DATE	13) APPROVED BY DATE	14) RECEIPT ACKNOWLEDGED DATE
Randy Hueon 4·22·82	4/22/82	David R Miller 4-23-82

15) REMARKS:
NCR FSO-038

Edward Bennett
1/31/83

16) ACTION COMPLETED DATE	17) REINSPECTION COMPLETED DATE

Responsible Superintendent or Field Engineer

IN PROCESS INSPECTION NOTICE

1) PROJECT NO.	2) INSPECTION DOCUMENT NAME	4) NUMBER
7220	C-1.02-UP-5	C-UP-18
	3) ACTIVITY OR TASK: N/A	5) MO DAY YR: 4·22·82

6) ITEM LOCATION AREA BLDG	7) DWG/PART NO.	REV	8) ITEM NAME
Yard - Zone IV STARTUP SYSTEM NO.: N/A	C-45	6	Backfill

9) INSPECTION CRITERIA
DWG ☐ SPEC ☒ OTHER ☐ EXPLAIN C-211 A: Technical Specification for Backfill
DOCUMENT NUMBER & TITLE

10) NO.	11) DESCRIPTION (list serial numbers where applicable)
1	Item D on I.R. C-1.02-UP-5: 9'x7'x4' Deep excavation,
	location 55175-55182/E275-E284
	This location was temporarily backfilled with
	4A stone to an approximate elevation of 634'.
	The material will be removed and permanently
	backfilled in accordance with specification
	C-211 at a later date.

12) ORIGINATED BY DATE	13) APPROVED BY DATE	14) RECEIPT ACKNOWLEDGED DATE
Randy Huron 4·22·82	4/22/82	David R Miller 4-23-82

15) REMARKS:
NCR FSO-038

Rodney Bennett
1/31/83

16) ACTION COMPLETED DATE	17) REINSPECTION COMPLETED DATE

Responsible Superintendent or Field Engineer

IN PROCESS INSPECTION NOTICE

1) PROJECT NO.	2) INSPECTION DOCUMENT NAME	4) NUMBER
7220	C-1.02-UP-5	(1-UP-17
	3) ACTIVITY OR TASK: N/A	5) MO DAY YR: 4·22·82

6) ITEM LOCATION AREA BLDG	7) DWG/PART NO.	REV	8) ITEM NAME
Yard - Zone III STARTUP SYSTEM NO. N/A	C-45	6	Backfill

9) INSPECTION CRITERIA
DWG ☐ SPEC ☒ OTHER ☐ EXPLAIN C-211 A/3 DOCUMENT NUMBER & TITLE: Technical Specification for Backfill

10) NO.	11) DESCRIPTION (list serial numbers where applicable)
1	Item B on I.R. C-1.02-UP-5: 8'x4'x4' Deep excavation,
	location 55184-55176/E357-E361
	This location was temporarily backfilled with
	4A stone to an approximate elevation of 634',
	the material will be removed and permanently
	backfilled in accordance with specification
	C-211 at a later date.

12) ORIGINATED BY DATE	13) APPROVED BY DATE	14) RECEIPT ACKNOWLEDGED DATE
Randy Hudson 4-22-82	4/22/82	David R Miller 4-23-82

15) REMARKS:
NCR FSO-038

Rodney Barnett
1/31/83

16) ACTION COMPLETED DATE	17) REINSPECTION COMPLETED DATE

Responsible Superintendent or Field Engineer

IN PROCESS INSPECTION NOTICE

1) PROJECT NO. 7220

2) INSPECTION DOCUMENT NAME: Drilling in 'C' for Underpinning Operations C-205-UP-15

3) ACTIVITY OR TASK: 2.3 A Holes located per drawings ± ½'

4) NUMBER: C-UP-16

5) MO DAY YR: 4/2/82

6) ITEM LOCATION AREA BLDG: ZONE III, S. 5167.0, E. 487.0

STARTUP SYSTEM NO.: N/A

7) DWG/PART NO. REV: F-7220-C195-50(3)-1 Thermal Monitering Hole (#23)

8) ITEM NAME: Thermal Monitering Hole #23

9) INSPECTION CRITERIA: DWG ☒ SPEC ☐ OTHER ☒ EXPLAIN Procedure F-7220-C-195-2-3 3.C.2

DOCUMENT NUMBER & TITLE

10) NO.	11) DESCRIPTION (list serial numbers where applicable)
1	Thermal monitor hole #23 was drilled ± 4' from design location. Design location is S. 5167.0, E. 491.0 Surveyors staked thermal moniter hole #23 at wrong location, coordinates ± S. 5167.0, E. 487.0. Thermal moniter hole #23 was drilled and located at surveyors staked location on 3/26/82. Before location was discovered inaccurate hole was 90% complete

12) ORIGINATED BY DATE: Lane M. Edwards 4/2/82

13) APPROVED BY DATE: 4/2/82

14) RECEIPT ACKNOWLEDGED DATE: Kenneth Lewis 4/2/82

15) REMARKS:

This IPIN supersedes IPIN C-UP-13

See Notes, DWG ~~F-7220~~ F-7220-C195-50(6)-2 - Received 5/14/82

Kenneth Lewis 5-17-82

16) ACTION COMPLETED ↑ DATE

17) REINSPECTION COMPLETED DATE: Lane Huron 5.17.82

Responsible Superintendent or Field Engineer

IN PROCESS INSPECTION NOTICE

1) PROJECT NO.	2) INSPECTION DOCUMENT NAME	4) NUMBER
7220	C-1.02-UP-5	C-UP-15
	3) ACTIVITY OR TASK: N/A	5) MO DAY YR: 3·30·82

6) ITEM LOCATION AREA BLDG / STARTUP SYSTEM NO.	7) DWG/PART NO.	REV	8) ITEM NAME
Yard - Zone IV / N/A	C-45	6	Backfill

9) INSPECTION CRITERIA — DWG ☐ SPEC ☑ OTHER ☐ EXPLAIN — DOCUMENT NUMBER & TITLE: C-211 Δ13 : Technical Specification for Backfill

10) NO.	11) DESCRIPTION (list serial numbers where applicable)
1	Item B on I.R. C-1.02-UP-5 : 12'x6'x3' Deep excavation, location S5185-S5180/E336-E324 This location was temporarily backfilled with 4A stone to an approximate el. 634, the material will be removed and permanently backfilled in accordance with specification C-211 at a later date

12) ORIGINATED BY DATE	13) APPROVED BY	DATE	14) RECEIPT ACKNOWLEDGED DATE
Richard Hudson 3·30·82		3/31/82	Karl A Kleinknecht 4-1-82

15) REMARKS:

NCR FSO-038

Rodney Bennett
1/31/83

16) ACTION COMPLETED	DATE	17) REINSPECTION COMPLETED	DATE

Responsible Superintendent or Field Engineer

IN PROCESS INSPECTION NOTICE

1) PROJECT NO. 7220	2) INSPECTION DOCUMENT NAME C-1.02-UP-2	4) NUMBER C-UP-14
	3) ACTIVITY OR TASK N/A	5) MO DAY YR 3·30·82

6) ITEM LOCATION AREA BLDG Yard - Zone III STARTUP SYSTEM NO. N/A	7) DWG/PART NO. C-45 REV 6	8) ITEM NAME Backfill

9) INSPECTION CRITERIA DWG ☐ SPEC ☑ OTHER ☐ EXPLAIN C-211 Δ3 DOCUMENT NUMBER & TITLE: Technical Specification for Backfill

10) NO.	11) DESCRIPTION (list serial numbers where applicable)
1	Item A on I.R. C-1.02-UP-2: 21' x 8' x 10' Deep excavation, location 55097-55118/E496-E504 This location was temporarily backfilled with 4A stone to an approximate el. 634, the material will be removed and permanently backfilled in accordance with specification C-211 at a later date.

12) ORIGINATED BY DATE	13) APPROVED BY DATE	14) RECEIPT ACKNOWLEDGED DATE
Randy Hudson 3·30·82	3/31/82	Karl Kleinke 4-1-82

15) REMARKS:

NCR FSO-038

Rodney Bennett
1/31/83

16) ACTION COMPLETED DATE	17) REINSPECTION COMPLETED DATE

Responsible Superintendent or Field Engineer

IN PROCESS INSPECTION NOTICE

1) PROJECT NO. 7220	2) INSPECTION DOCUMENT NAME. DRILLING IN 9" FOR UNDERPINNING OPERATIONS C-105-UP-15	4) NUMBER C-UP-13
	3) ACTIVITY OR TASK 2.3.A HOLES LOCATED PER DRAWINGS ± 1/2	5) MO DAY YR 3/26/82

6) ITEM LOCATION AREA BLDG	7) DWG/PART NO. REV	8) ITEM NAME
ZONE IV, S.5167.0, E. 487.0 STARTUP SYSTEM NO. N/A	F-7220-C195-50(3)-1 THERMAL MONITORING HOLE (#23)	THERMAL MONITOR HOLE #23

9) INSPECTION CRITERIA DOCUMENT NUMBER & TITLE

DWG [X] SPEC [ ] OTHER [X] EXPLAIN PROCEDURE F-7220-C-195-2-3 3.C.2

10) NO.	11) DESCRIPTION (list serial numbers where applicable)
1	THERMAL MONITOR HOLE #23 WAS DRILLED ± 4' FROM DESIGN LOCATION, DESIGN LOCATION IS S.5167.0, E. 491. THERMAL MONITOR HOLE #23 IS DRILLED & LOCATED AT ± E. 487.0 AND S.5167.0

12) ORIGINATED BY DATE	13) APPROVED BY DATE	14) RECEIPT ACKNOWLEDGED DATE
Mark L Clark 3/26/82	3/26/82	3/26/82

15) REMARKS:

VOID — SUPERCEDED BY IPIN NO. C-UP-16

4/2/82 CHAD CIVIL QCE

16) ACTION COMPLETED DATE	17) REINSPECTION COMPLETED DATE

Responsible Superintendent or Field Engineer

IN PROCESS INSPECTION NOTICE

1) PROJECT NO.	2) INSPECTION DOCUMENT NAME	3) ACTIVITY OR TASK	4) NUMBER	5) MO DAY YR
7220	C-1.02-UP-5	N/A	C-UP-12	3.11.82

6) ITEM LOCATION AREA BLDG	7) DWG/PART NO.	REV	8) ITEM NAME
Yard - Zone IV STARTUP SYSTEM NO. N/A	C-45	6	Backfill

9) INSPECTION CRITERIA DOCUMENT NUMBER & TITLE
DWG ☐ SPEC ☒ OTHER ☐ EXPLAIN C-211A: Technical Specification for Backfill

10) NO.	11) DESCRIPTION (list serial numbers where applicable) NOTE: SURFACE EL. 634'±
1	Item A on I.R. C-1.02-UP-5: 9'x14'x5' Deep excavation, location S5179/E167
2	Item B on I.R. C-1.02-UP-5: 7'x12'x6.5' Deep excavation location S5176/E330
3	Item B on I.R. C-1.02-UP-5: 6'x11'x4.5' Deep excavation location S5176/E366
	These locations were temporarily backfilled w/SAND. The material will be removed and permanently backfilled in accordance with specification C-211 at a later date.

12) ORIGINATED BY DATE	13) APPROVED BY DATE	14) RECEIPT ACKNOWLEDGED DATE
Randy Hueon 3.11.82	3/11/82	Paul C. Jarson 3/11/82

15) REMARKS:
NCR FSO-038

Rodney Bennett
1/31/83

16) ACTION COMPLETED DATE	17) REINSPECTION COMPLETED DATE

Responsible Superintendent or Field Engineer

IN PROCESS INSPECTION NOTICE

1) PROJECT NO.	2) INSPECTION DOCUMENT NAME	4) NUMBER
7220	C-1.02-UP-1	C-UP-11
	3) ACTIVITY OR TASK: N/A	5) MO DAY YR: 3·10·82

6) ITEM LOCATION AREA BLDG	7) DWG/PART NO.	REV	8) ITEM NAME
Yaed - Zone IV STARTUP SYSTEM NO. N/A	C-45	6	Backfill

9) INSPECTION CRITERIA
DWG ☐ SPEC ☒ OTHER ☐ EXPLAIN C-211 A&B: Technical Specification for Backfill
DOCUMENT NUMBER & TITLE

10) NO.	11) DESCRIPTION (list serial numbers where applicable)
1	Item D on IR. C-1.02-UP-1: 8'x25'x7' Deep excavation
	location S5178/S5153 - E490/E482
2	Item C on IR. C-1.02-UP-1: 10'x20'x10' Deep excavation
	location S5165/E441 to S5172/E461
	These locations were temporarily backfilled, the material
	will be removed and permanently backfilled in accordance with specification C-211 at a later date.

12) ORIGINATED BY DATE	13) APPROVED BY DATE	14) RECEIPT ACKNOWLEDGED DATE
Rudy Hupon 3.10.82	3/10/82	Paul C. Jansen 3/11/82

15) REMARKS:
NCR FSO-038

Rudy Barnett
1/31/83

16) ACTION COMPLETED DATE	17) REINSPECTION COMPLETED DATE

Responsible Superintendent or Field Engineer

IN PROCESS INSPECTION NOTICE

1) PROJECT NO.	2) INSPECTION DOCUMENT NAME	4) NUMBER
7220	C-1.02-UP-1	C-UP-10
	3) ACTIVITY OR TASK: N/A	5) MO DAY YR: 3.10.82

6) ITEM LOCATION AREA BLDG	7) DWG/PART NO.	REV	8) ITEM NAME
Yard - Zone IV STARTUP SYSTEM NO. N/A	C-45	6	Backfill

9) INSPECTION CRITERIA
DWG ☐ SPEC ☒ OTHER ☐ EXPLAIN C-211 A; Technical Specification for Backfill
DOCUMENT NUMBER & TITLE

10) NO.	11) DESCRIPTION (list serial numbers where applicable)
1	Item C on I.P. C-1.02-UP-1: 3'x 22' x 10' Deep excavation,
	location S5185/E420 to S5180/E424 to S5170/E442
2	Item C on I.P. C-1.02-UP-1: 11'x 3' x 8' Deep excavation
	location S5185/S5182 - E430/E441
	These locations were temporarily backfilled, the material
	will be removed and permanently backfilled in accord-
	ance with specification C-211 at a later date.

12) ORIGINATED BY DATE	13) APPROVED BY DATE	14) RECEIPT ACKNOWLEDGED DATE
Randy Huron 3.10.82	3/10/82	Paul C. Jansen 3/11/82

15) REMARKS:
NCR FSO-038

Rodney Bennett
1/31/83

16) ACTION COMPLETED DATE	17) REINSPECTION COMPLETED DATE

Responsible Superintendent or Field Engineer

IN PROCESS INSPECTION NOTICE

1) PROJECT NO.	2) INSPECTION DOCUMENT NAME	4) NUMBER
7220	C-1.02-UP-2	C-UP9
	3) ACTIVITY OR TASK: N/A	5) MO DAY YR: 3.10.82

6) ITEM LOCATION AREA BLDG	7) DWG/PART NO.	REV	8) ITEM NAME
Yard - Zone III STARTUP SYSTEM NO. N/A	C-45	6	Backfill

9) INSPECTION CRITERIA
DWG ☐ SPEC ☒ OTHER ☐ EXPLAIN C-211A: Technical Specification for Backfill
DOCUMENT NUMBER & TITLE

10) NO.	11) DESCRIPTION (list serial numbers where applicable)
1	Item B on I.R. C-1.02-UP-2: 18'x9'x7' Deep excavation
	location 55150/55168 - E590/E599.
	This location was temporarily backfilled, the
	material will be removed and permanently
	backfilled in accordance with specification
	C-211 at a later date.

12) ORIGINATED BY DATE	13) APPROVED BY DATE	14) RECEIPT ACKNOWLEDGED DATE
Randy Huron 3.10.82	3/10/82	Karl A Kleinhans 3-10-82

15) REMARKS:
NCR FSO-038

Roman Bennett
1/31/83

16) ACTION COMPLETED DATE	17) REINSPECTION COMPLETED DATE

Responsible Superintendent or Field Engineer

IN PROCESS INSPECTION NOTICE

1) PROJECT NO. 7220

2) INSPECTION DOCUMENT NAME: DRILLING IN @ UP: OPERATIONS C-205 UP-3

4) NUMBER: C-UP-8

3) ACTIVITY OR TASK: 2.2 B. EARTH SURROUNDING OPEN CUT

5) MO DAY YR: 3-10-82

6) ITEM LOCATION AREA BLDG: (ME35) @ S 5178', E 331' (ME31) @ S 5178 E 361.5' STARTUP SYSTEM NO. ZONE III N/A

7) DWG/PART NO. REV: DWG C-45 (6); DWG C-1313 (1); F7220-C-195-2-3 (3)

8) ITEM NAME: OPEN CUT EXCAVATING AROUND ME 35 + ME 31 (EJECTOR WELLS)

9) INSPECTION CRITERIA: DWG ☑ SPEC ☐ OTHER ☑ EXPLAIN PROC. F7220-C-195-2-3/3 PG. 8 — DOCUMENT NUMBER & TITLE

10) NO.	11) DESCRIPTION (list serial numbers where applicable)
1	OPEN CUT EXCAVATING APPROX. 6' X 10' AROUND ME 31 BY
	6' DEEP + OPEN CUT EXCAVATING APPROX. 6' X 11' AROUND ME 35
	BY 6' DEEP WAS NOT PROTECTED FROM FREEZING. ON
	3-10-82 @ 0700 HRS AMBIENT TEMP WAS 20° BOTTOM
	OF CUT TEMP. WAS. 23° EARTH WAS FROZEN. UTILITY
	WAS ENCOUNTERED ON 3-9-82 @ 1400 HRS OF UNKNOWN
	NATURE

12) ORIGINATED BY DATE: D. KINCAID 3-10-82

13) APPROVED BY DATE: 3/10/82

14) RECEIPT ACKNOWLEDGED DATE: Kenneth Horner 3/10/82

15) REMARKS:

The excavation around ME 35 did not have a utility exposed - only a mud mat. At 6' the top of the mud mat was at a depth of 4', at or near the frost line. No protection was deemed necessary for a mud mat. The excavation around ME 31 had ~15" of a 2" utility exposed. This utility was at a depth of 3 ft, within the frost area. Foil type insulation had been placed over this utility for protection. The excavation is to be backfilled 3/10/82

16) ACTION COMPLETED: Kenneth Horner DATE: 3/10/82

17) REINSPECTION COMPLETED: D. KINCAID DATE: 3-10-82

Responsible Superintendent or Field Engineer

IN PROCESS INSPECTION NOTICE

1) PROJECT NO. 7220

2) INSPECTION DOCUMENT NAME: DRILLING IN Q ID. OPERATIONS C-2C5 CP-3

4) NUMBER: Q-IIP-7

3) ACTIVITY OR TASK: 2.2 B EARTH SURROUNDING OPEN CUT

5) MO DAY YR: 3-10-82

6) ITEM LOCATION AREA BLDG
(ME35) @ S 5173 E 331'
(ME-31) @ S 5178 E 361.5'
STARTUP SYSTEM NO. ZONE III
N/A

7) DWG/PART NO. REV
DWG C-45 (6)
DWG C-1313 (1)
F 7220-C-195-2-3 (3)

8) ITEM NAME
OPEN CUT EXCAVATING AROUND ME 35 + ME 31 (INJECTOR WELLS)

9) INSPECTION CRITERIA
DWG ☑ SPEC ☐ OTHER ☑ EXPLAIN PROC. F7220-C-195-2-3 (3) PG 8
DOCUMENT NUMBER & TITLE

10) NO.	11) DESCRIPTION (list serial numbers where applicable)
1	OPEN CUT EXCAVATING APPROX. 6' x 10' AROUND ME 31 BY
	6' DEEP + OPEN CUT EXCAVATING APPROX. 6' x 11' AROUND ME 35
	BY 6' DEEP WAS NOT PROTECTED FROM FREEZING. ON
	3-10-82 @ 0700 HRS AMBIENT TEMP WAS 20° BOTTOM
	OF CUT TEMP. WAS. 23° EARTH WAS FROZEN, UTILITY
	WAS ENCOUNTERED ON 3-9-82 @ 1400 HRS OF UNKNOWN
	NATURE

12) ORIGINATED BY DATE: D. K. WILSON 3-10-82

13) APPROVED BY DATE: 3/10/82

14) RECEIPT ACKNOWLEDGED DATE

15) REMARKS:

16) ACTION COMPLETED DATE

17) REINSPECTION COMPLETED DATE

IN PROCESS INSPECTION NOTICE

2) INSPECTION DOCUMENT NAME	4) NUMBER
C-1.02-UP-6	C-UP-7
3) ACTIVITY OR TASK	**5) MO DAY YR**
N/A	3.3.82

1) PROJECT NO. 7220

6) ITEM LOCATION AREA BLDG	7) DWG/PART NO.	REV	8) ITEM NAME
Yard - Zone II STARTUP SYSTEM NO. N/A	C-45	6	Backfill

9) INSPECTION CRITERIA DWG ☐ SPEC ☒ OTHER ☐ EXPLAIN C-211/A: Technical Specification for Backfill — DOCUMENT NUMBER & TITLE

10) NO.	11) DESCRIPTION (list serial numbers where applicable)
1	Item A on I.R. C-1.02-UP-6: excavation for light posts, hole is 6' Deep x 18" dia., S4883/E472
2	Item B on I.R. C-1.02-UP-6: excavation for light post, hole is 6' Deep x 18" dia., S4823/E449
	These locations were temporarily backfilled. The material will be removed and permanently backfilled in accordance with specification C-211 at a later date

12) ORIGINATED BY DATE	13) APPROVED BY DATE	14) RECEIPT ACKNOWLEDGED DATE
Randy Hudson 3.3.82	3/3/82	Karl G Kleinsorge 3-3-82

15) REMARKS:

NO's 1 & 2 NCR FSO-038

Rodney Bennett 1/31/83

16) ACTION COMPLETED DATE	17) REINSPECTION COMPLETED DATE

Responsible Superintendent or Field Engineer

IN PROCESS INSPECTION NOTICE

1) PROJECT NO.	2) INSPECTION DOCUMENT NAME	4) NUMBER
7220	C-1.02-UP-5	C-UP-6
	3) ACTIVITY OR TASK: N/A	5) MO DAY YR: 3.3.82

6) ITEM LOCATION AREA BLDG	7) DWG/PART NO.	REV	8) ITEM NAME
Yard - Zone IV STARTUP SYSTEM NO. N/A	C-45	6	Backfill

9) INSPECTION CRITERIA DWG ☐ SPEC ☒ OTHER ☐ EXPLAIN C-211 A-13 DOCUMENT NUMBER & TITLE: Technical Specification for Backfill

10) NO.	11) DESCRIPTION (list serial numbers where applicable)
1	Item A on I.R. C-1.02-UP-5. 9'x12'x9' deep excavation,
	location 55173-E171
	This location was temporarily backfilled,
	the material will be removed and permanently
	backfilled in accordance with specification
	C-211 at a later date.

12) ORIGINATED BY DATE	13) APPROVED BY DATE	14) RECEIPT ACKNOWLEDGED DATE
Randy Thoen 3.3.82	3/3/82	Karl G Kleinhans 3-3-82

15) REMARKS:

NCR FSO-038

Rodney Bennett
1/31/83

16) ACTION COMPLETED	DATE	17) REINSPECTION COMPLETED	DATE

Responsible Superintendent or Field Engineer

BECHTEL

IN PROCESS INSPECTION NOTICE

1) PROJECT NO. 7220	2) INSPECTION DOCUMENT NAME: C-1.02-UP-1	4) NUMBER: C-UP-5
	3) ACTIVITY OR TASK: N/A	5) MO DAY YR: 3.2.82

6) ITEM LOCATION AREA BLDG	7) DWG/PART NO.	REV	8) ITEM NAME
Yard-Zone IV STARTUP SYSTEM NO. N/A	C-45	6	Backfill

9) INSPECTION CRITERIA — DWG ☐ SPEC ☑ OTHER ☐ EXPLAIN — DOCUMENT NUMBER & TITLE: C-211 (13): Technical Specification for Backfill

10) NO.	11) DESCRIPTION (list serial numbers where applicable)
1	Item D on I.R. C-1.02-UP-1: 8'x20'x3' deep excavation,
	location S5173/S5181 - E462/E482
	This location was temporarily backfilled, the
	material will be removed and permanently
	backfilled in accordance with specification
	C-211 at a later date.

12) ORIGINATED BY DATE	13) APPROVED BY DATE	14) RECEIPT ACKNOWLEDGED DATE 3-2-82
Randy Theron 3.2.82	[signature] 3/2/82	Karl A Kleinhans

15) REMARKS:

NCR FSO-038

Rodney Bennett
1/31/83

16) ACTION COMPLETED	DATE	17) REINSPECTION COMPLETED	DATE

Responsible Superintendent or Field Engineer

IN PROCESS INSPECTION NOTICE

1) PROJECT NO. 7220	2) INSPECTION DOCUMENT NAME C-1.02-UP-5	4) NUMBER C-UP-4
	3) ACTIVITY OR TASK N/A	5) MO DAY YR 3.2.82
6) ITEM LOCATION AREA BLDG Yard - Zone IV STARTUP SYSTEM NO. N/A	7) DWG/PART NO. C-45 REV 6	8) ITEM NAME Backfill

9) INSPECTION CRITERIA DWG ☐ SPEC ☑ OTHER ☐ EXPLAIN C-211/13: Technical Specification for Backfill — DOCUMENT NUMBER & TITLE

10) NO.	11) DESCRIPTION (list serial numbers where applicable)
1	Item B on I.R. C-1.02-UP-5: 12'x18'x9' Deep excavation,
	location 35178 - E348
	This location was temporarily backfilled, the
	material will be removed and permanently
	backfilled in accordance with specification
	C-211 at a later date.

12) ORIGINATED BY	13) APPROVED BY	14) RECEIPT ACKNOWLEDGED
Randy Huron 3.2.82	3/2/82	3-2-82 Kelly Kleinknecht

15) REMARKS:

NCR ESO-038

Robert Bennett
1/31/83

16) ACTION COMPLETED	DATE	17) REINSPECTION COMPLETED	DATE

Responsible Superintendent or Field Engineer

IN PROCESS INSPECTION NOTICE

1) PROJECT NO.	2) INSPECTION DOCUMENT NAME	4) NUMBER
7220	C-1.02-UP-4	C-U.P.-3
	3) ACTIVITY OR TASK: N/A	5) MO DAY YR: 2.26.82

6) ITEM LOCATION AREA BLDG	7) DWG/PART NO.	REV	8) ITEM NAME
Yard - Zone 1 STARTUP SYSTEM NO. N/A	C-45	6	Backfill

9) INSPECTION CRITERIA
DWG ☐ SPEC ☑ OTHER ☐ EXPLAIN C-211 A : Technical Specification for Backfill
DOCUMENT NUMBER & TITLE

10) NO.	11) DESCRIPTION (list serial numbers where applicable)
1	Item A on I.R. C-1.02-UP-4; excavation for light posts, hole is 6' deep x 18" dia.
	This hole was temporarily backfilled. The material will be removed and permanently backfilled in accordance with specification C-211 at a later date.

12) ORIGINATED BY DATE	13) APPROVED BY DATE	14) RECEIPT ACKNOWLEDGED DATE
Randy Thuron 2.26.82	2/26/82	Karl G Kleinsmith DATE 2-26-82

15) REMARKS:
NCR FSO-038

Rodney Barnett
1/31/83

16) ACTION COMPLETED DATE	17) REINSPECTION COMPLETED DATE

Responsible Superintendent or Field Engineer

IN PROCESS INSPECTION NOTICE

1) PROJECT NO. 7220	2) INSPECTION DOCUMENT NAME: C-1.02-UP-1	4) NUMBER: C-UP-2
	3) ACTIVITY OR TASK: N/A	5) MO DAY YR: 2·12·82
6) ITEM LOCATION AREA BLDG: Yard - Zone IV STARTUP SYSTEM NO.: N/A	7) DWG/PART NO.: C-45 REV: 6	8) ITEM NAME: Backfill

9) INSPECTION CRITERIA DWG ☐ SPEC ☑ OTHER ☐ EXPLAIN C-211 A: Technical Specification for Backfill — DOCUMENT NUMBER & TITLE

10) NO.	11) DESCRIPTION (list serial numbers where applicable)
1	Item C on I.R. C-1.02-UP-1; excavated probe holes, location S5184± to E438±, 2' to 12'6" deep - 6 holes
	These probe holes were temporarily backfilled with lean concrete grout the material will be removed and permanently backfilled in accordance with C-211 at a later date.

12) ORIGINATED BY DATE	13) APPROVED BY DATE	14) RECEIPT ACKNOWLEDGED DATE
Randy Hudson 2·12·82	2/15/82	Karla Kleinhuth 2-15-82

15) REMARKS:

NCR FSO-038

Rodney Bennett
1/31/83

16) ACTION COMPLETED DATE	17) REINSPECTION COMPLETED DATE

Responsible Superintendent or Field Engineer

IN PROCESS INSPECTION NOTICE

1) PROJECT NO. 7220	2) INSPECTION DOCUMENT NAME: C-1.02-UP-3	4) NUMBER: C-UP-1
	3) ACTIVITY OR TASK: N/A	5) MO DAY YR: 2.12.82
6) ITEM LOCATION AREA BLDG: Yard - Zone II STARTUP SYSTEM NO.: N/A	7) DWG/PART NO.: C-45 REV: 6	8) ITEM NAME: Backfill

9) INSPECTION CRITERIA DWG ☐ SPEC ☒ OTHER ☐ EXPLAIN C-211 A; DOCUMENT NUMBER & TITLE: Technical Specification for Backfill

10) NO.	11) DESCRIPTION (list serial numbers where applicable)
1	Item A on I.R. C-1.02-UP-3: 6'x3'x5' deep excavation,
	location S4957 - E519
2	Item C on I.R. C-1.02-UP-3: 2'x2'x2' deep excavation,
	location S4950 - E530
	These locations were temporarily backfilled, the material
	will be removed and permanently backfilled in accordance
	with specification C-211 at a later date.

12) ORIGINATED BY DATE	13) APPROVED BY DATE	14) RECEIPT ACKNOWLEDGED DATE
Randy Hudson 2.12.82	2/15/82	Karla Klenke 2-15-82

15) REMARKS:

NCR FSO-03B

Rodney Bennett
1/31/83

16) ACTION COMPLETED DATE	17) REINSPECTION COMPLETED DATE

Responsible Superintendent or Field Engineer

IN PROCESS INSPECTION NOTICE

1) PROJECT NO.	2) INSPECTION DOCUMENT NAME	4) NUMBER
7220	50-1.0 Underpinning 114	EUP-84
	3) ACTIVITY OR TASK	5) MO DAY YR
	PQCI-1.1 Rev 1*	10-4-82

6) ITEM LOCATION AREA BLDG	7) DWG/PART NO.	REV	8) ITEM NAME
Aux. Bldg. - El-659'0"	C-1495	1	Extensometers Ex1 & Ex2
STARTUP SYSTEM NO. Underpinning			

9) INSPECTION CRITERIA DWG ☒ SPEC ☐ OTHER ☐ EXPLAIN — DOCUMENT NUMBER & TITLE: Inst. Location Dwg. C-1495 Rev #1

10) NO.	11) DESCRIPTION (list serial numbers where applicable)
1.	Dwg. C-1495 Rev #1, Does Not give the location of Extensometer Ex1 and Ex2.

12) ORIGINATED BY DATE	13) APPROVED BY DATE	14) RECEIPT ACKNOWLEDGED DATE
Harley Tuttle 10-4-82	Donald V. VanDoorn 10/4/82	James J. Kelleher 10/4/82

15) REMARKS:

DCN #5 TO DRAWING C-1495 REV. 1 PROVIDES THE REQUIRED LOCATIONS.

16) ACTION COMPLETED	DATE	17) REINSPECTION COMPLETED	DATE
Paul Jones	11/12/82	Harley Tuttle	11-12-82

Responsible Superintendent or Field Engineer

IN PROCESS INSPECTION NOTICE

1) PROJECT NO.	2) INSPECTION DOCUMENT NAME	4) NUMBER
7220	SCM-1.0-3	EVP-83
	3) ACTIVITY OR TASK: 2.3, 3.1, 3.2	5) MO DAY YR: 8-24-82

6) ITEM LOCATION AREA BLDG.	7) DWG/PART NO. REV	8) ITEM NAME
F, I, V, P II N OF K AS AND S. OF J. BETWEEN 10 AND 11 STARTUP SYSTEM NO. UNDERPINNING	PROC. OP-42-M 2	CRACK MONITORING F. I. V. P. II

9) INSPECTION CRITERIA DWG ☐ SPEC ☐ OTHER ☑ EXPLAIN — DOCUMENT NUMBER & TITLE: PROC-OP-42-M REV. 2

10) NO.	11) DESCRIPTION (list serial numbers where applicable)
1	OP-42-2 ROOF INSIDE DOES NOT SHOW HL MARKED AT F. CRACK #9 DOES NOT EXTEND TO BEAM NO END MARKING.
X	CRACK #9 ON OP-42-2 IS SHOWN AS .0075 BUT ON TABLE 43-T SHOWS IT AS HL.
2X	OP-42-3 DOES NOT AGREE WITH TABLE 43-T FOR SECTOON F-G 43-T NOT FILLED OUT.
3X	OP-42-3 DOES NOT AGREE WITH TABLE 43-T FOR SECTION G-A 43-T IS NOT FILLED OUT. CRACK ARE NOT #7-9-9 AND 2-3-4-5-6 ARE MISS NUMBERED
4+	43-T NOT FILLED OUT FOR SECTION D-E
5+	NO TRACEABILITY BY PAGE NUMBERS FOR DATA FORM 8-24-82 mel

12) ORIGINATED BY DATE	13) APPROVED BY DATE	14) RECEIPT ACKNOWLEDGED DATE
Melbourne Lenczuski 8/24/82	Dale S. Preslar 8-24-82	M. Lowe 8/24/82

15) REMARKS:

(#1.) H.L. at F added to OP-42-2. Crack 4 does have ends numbered. Changed 43-T crack #9 to 0.0075" width. (#2) Corrected 43-T for section F-G. (#3) Corrected Wall, OP-42-3 and 43-T for section G-A. (#4) Filled out 43-T for D-E. (#5) Page numbers not required per OP-42M.

16) ACTION COMPLETED	DATE	17) REINSPECTION COMPLETED	DATE
M Lowe	8/25/82	Melbourne Lenczuski	8/27/82

Responsible Superintendent or Field Engineer

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IN PROCESS INSPECTION NOTICE

1) PROJECT NO.	2) INSPECTION DOCUMENT NAME	4) NUMBER
7220	SCM-1.0-2	EUP-82
	3) ACTIVITY OR TASK: 2.3, 3.1, 3.2	5) MO DAY YR: 8-24-82

6) ITEM LOCATION AREA BLDG	7) DWG/PART NO.	REV	8) ITEM NAME
F.I.N.P. #1 N. OF K-LINE AND BETWEEN 2.5 AND 3.0 STARTUP SYSTEM NO. UNDER PINNING	PROC. OP-42M	2	CRACK MONITORING F.I.N.P. I

9) INSPECTION CRITERIA DWG ☐ SPEC ☐ OTHER ☑ EXPLAIN — DOCUMENT NUMBER & TITLE: PROC. OP-42M REV. 2

10) NO.	11) DESCRIPTION (list serial numbers where applicable)
(1) X	OP-42-2 ROOF INSIDE DOES NOT SHOW CRACK #10
2 X	NO OP-42-2 AND TABLE 43-T GIVEN FOR VALVE PIT COVER OPENNING
(3) X	NO MARKING SHOW ON SLAB INSIDE AS SHOWN ON OP-42-1
(4) X	CRAKS NOT NUMBERED AS SHOWN ON OP-42-3 SECTION D-E
5 X	#4 CRACK SHOWN ON TABLE 43-T SECTION A-B IS NOT OP-42-3 AND NOT MARKED ON WALL.
6 X	CAN NOT MAKE OUT WHAT IS ON OP-42-3 FOR OUTSIDE WALL UNIT I
7 X	NO TRACEABILITY BY PAGE NUMBERS FOR DATA FORMS. ~~CAN NOT MAKE OUT~~ Mel B. 8-24-82

12) ORIGINATED BY DATE	13) APPROVED BY DATE	14) RECEIPT ACKNOWLEDGED DATE
Melbourne Lenczuski 8/24/82	Dale S. Preslar 8-24-82	M Lomen 8/24/82

15) REMARKS:

(#1) Corrected OP-42-2 Roof Inside to include crack #10. (#2) Submitted OP-42-2 & 43-T for Valve Pit Cover opening. (#3) Marking was on floor but covered with dirt. (#4) Renumbered cracks on Walls, 43-T & 42-2 for section A-B. (#6) Clarified OP-43-2 outside Unit II. (#7) Pages numbers not required on OP-42M.

16) ACTION COMPLETED DATE	17) REINSPECTION COMPLETED DATE
M. Lomen 8/25/82	Melbourne Lenczuski 8/27/82

Responsible Superintendent or Field Engineer

CONTINUED ON BACK

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IN PROCESS INSPECTION NOTICE

1) PROJECT NO. 7220	2) INSPECTION DOCUMENT NAME C-150 EU-EX-9	4) NUMBER EUP-81
	3) ACTIVITY OR TASK 3.41	5) MO DAY YR 8-4-82

6) ITEM LOCATION AREA BLDG 685 Turbine RC AT 7-8 Staine way STARTUP SYSTEM NO.	7) DWG/PART NO. REV FCR 4113 C-1495 0	8) ITEM NAME Protective Cover EX-9

9) INSPECTION CRITERIA DWG ☒ SPEC ☐ OTHER ☐ EXPLAIN — DOCUMENT NUMBER & TITLE C-305 Rev 14

10) NO.	11) DESCRIPTION (list serial numbers where applicable)
1.	Spacing of Anchor bolts in protective Cover Do Not Meet the requirments of FCR 4113

12) ORIGINATED BY	13) APPROVED BY	14) RECEIPT ACKNOWLEDGED
James J Long 8-4-82	J.W. Mella 8-4-82	L. Thomas 08/05/82

15) REMARKS

① Bolt added, however per DCN #4 to C-1495 Rev 0 it is not required.

16) ACTION COMPLETED	DATE	17) REINSPECTION COMPLETED	DATE
Pam Glass	8/7/82	J.W. Mella	8-7-82

Responsible Superintendent or Field Engineer

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IN PROCESS INSPECTION NOTICE

2) INSPECTION DOCUMENT NAME	4) NUMBER
DSB AS-2 C-1.50	EUP-80
3) ACTIVITY OR TASK	**5) MO DAY YR**
3.4	7-30-82

1) PROJECT NO. 7220

6) ITEM LOCATION AREA BLDG	7) DWG/PART NO. REV	8) ITEM NAME
584 Aux Bd. Wing wall STARTUP SYSTEM NO. Under Pinning	C-305 · 14	Anchors. DSB-AS-2

9) INSPECTION CRITERIA DOCUMENT NUMBER & TITLE

DWG ☑ SPEC ☑ OTHER ☐ EXPLAIN C-305 INST. OF EXPANSION ANCHORS

10) NO.	11) DESCRIPTION (list serial numbers where applicable)
1.	Abandoned hole. is 3 3/8" From Center of 3/4" Anchor.
	Note 6 of Table. 4.1 and Table 4.1 of C-305 Rev 14 Minimum Distance 4"

12) ORIGINATED BY DATE	13) APPROVED BY DATE	14) RECEIPT ACKNOWLEDGED DATE
J.C Miller 7-30-82	J.C Miller 7-30-82	Pam Glass 7-30-82

15) REMARKS:

~~Invalid IPIN. Sec C-305, Section 4.11, Case III.~~ PJ 8-7-82

Abandoned Hole has been repaired.

16) ACTION COMPLETED	DATE	17) REINSPECTION COMPLETED	DATE
Pam Glass	8/2/82	J.J Long	8-30-82
Pam Glass	8/7/82		

Responsible Superintendent or Field Engineer

IN PROCESS INSPECTION NOTICE

2) INSPECTION DOCUMENT NAME: EU6.1 - DMD-7W INST OF UNDERPINNING EQUIP

4) NUMBER: EUP-79

1) PROJECT NO. 7220

3) ACTIVITY OR TASK: 3.3

5) MO DAY YR: 7-27-82

6) ITEM LOCATION AREA BLDG: AUX BLDG. EL. 628'6" EPA FLOOR
STARTUP SYSTEM NO.: UNDERPINNING

7) DWG/PART NO.: C-1490 REV: 2

8) ITEM NAME: LVDT DMD-7W LOCATION

9) INSPECTION CRITERIA: DWG ☐ SPEC ☐ OTHER ☐ EXPLAIN C-1490 INST LOC. AT 634'6"
DOCUMENT NUMBER & TITLE

10) NO.	11) DESCRIPTION (list serial numbers where applicable)
1.	DWG C-1490 Δ SHOWS DMD-7W 9' WEST OF LINE 5.
	ACT. LOC. IS 7' WEST OF LINE 5.

12) ORIGINATED BY DATE: J.C. Miller 7-27-82

13) APPROVED BY DATE: J.C. Miller 7-29-82

14) RECEIPT ACKNOWLEDGED DATE: Pam Glass 7-30-82

15) REMARKS:
1 4290
① See FCR-C-~~4290~~ pg 8-3-82

16) ACTION COMPLETED DATE: Pam Glass 8-3-82

17) REINSPECTION COMPLETED DATE: McClure Terzuoli 8-3-82

Responsible Superintendent or Field Engineer

IN PROCESS INSPECTION NOTICE

1) PROJECT NO.	2) INSPECTION DOCUMENT NAME	4) NUMBER
7220	EV. 6.1 DMD.-1W	EVP-78
	3) ACTIVITY OR TASK: 3.2, 3.3	5) MO DAY YR: 7-22-82

6) ITEM LOCATION AREA BLDG	7) DWG/PART NO.	REV	8) ITEM NAME
FIVP. A / UNIT EL642.	C-1490	2	Support only.
	C-1491	2	
STARTUP SYSTEM NO.			
Underpinning	OP 39	1	DMD-1W

9) INSPECTION CRITERIA — DOCUMENT NUMBER & TITLE

DWG ☐ SPEC ☐ OTHER ☐ EXPLAIN

10) NO.	11) DESCRIPTION (list serial numbers where applicable)
1	Instrument Not Identified at location
2.	C-1490 Rev 2. Shows 2" From edge of Mounting plate on Turbine Bldg. Parapet to F.V.P. As Built is 4½".

12) ORIGINATED BY DATE	13) APPROVED BY DATE	14) RECEIPT ACKNOWLEDGED DATE
Melbourne Lenguski 7/29/82	J.W. Mella 7-29-82	Pam Glass 7-30-82

15) REMARKS:

① No requirement for I.D., however location # has been stenciled on cover

② See FCR-C-4299

16) ACTION COMPLETED DATE	17) REINSPECTION COMPLETED DATE
Pam Glass 8-6-82	Melbourne Lenguski 8/7/82

Responsibl Superintendent or Field Engineer

IN PROCESS INSPECTION NOTICE

2) INSPECTION DOCUMENT NAME	4) NUMBER
PACE E4-6.1	EUP-77
3) ACTIVITY OR TASK	**5) MO DAY YR**
2.1a	7-29-82

1) PROJECT NO. 7220

6) ITEM LOCATION AREA BLDG	7) DWG/PART NO.	REV	8) ITEM NAME
AUX BLDG. EL 628'-0" B'E. OF 3.6/J STARTUP SYSTEM NO. UNDER PINNING	C 1491 (Q) FCR C4102	2	E4-6.1-DMD-SW

9) INSPECTION CRITERIA
DWG ☒ SPEC ☐ OTHER ☐ EXPLAIN

DOCUMENT NUMBER & TITLE
SEE BLOCK 7

10) NO.	11) DESCRIPTION (list serial numbers where applicable)
1	E/W REACTION ANGLE WIDTH & ANCHOR BOLT
	SPACING NOT PER PRINT.

12) ORIGINATED BY DATE	13) APPROVED BY DATE	14) RECEIPT ACKNOWLEDGED DATE
D.L. Ball 7-29-82	J.W. Miller 7-29-82	Pam Glass 7-29-82

15) REMARKS:
(1) See FCR-C-4292

16) ACTION COMPLETED DATE	17) REINSPECTION COMPLETED DATE
Pam Glass 8-3-83	J.C. Miller 8-3-82

Responsible Superintendent or Field Engineer

Page _____ Of _____

IN PROCESS INSPECTION NOTICE

"RECORD COPY"

1) PROJECT NO. 7220	2) INSPECTION DOCUMENT NAME Instrn. PQCI EU 1.0-EX2	4) NUMBER EUP-76
	3) ACTIVITY OR TASK 3,8	5) MO DAY YR 7-27-82
6) ITEM LOCATION AREA BLDG Aux. Bldg S.W. of Cont. No. 2 STARTUP SYSTEM NO. UNDERPINNING INSTRUM.	7) DWG/PART NO. REV Engr. DWG	8) ITEM NAME Identification of Conduit EX2

9) INSPECTION CRITERIA DOCUMENT NUMBER & TITLE

DWG ☐ SPEC ☐ OTHER ☐ EXPLAIN

10) NO.	11) DESCRIPTION (list serial numbers where applicable)
	PQCI EU 1.0 states conduit shall be identified per Engr. Dwg. Conduit running to EX2 has no I.D.

12) ORIGINATED BY DATE	13) APPROVED BY DATE	14) RECEIPT ACKNOWLEDGED DATE
C.F. Braithwaite 7-27-82	Dale S. Perlas 7-28-82	Pam Gleaso 7-28-82

15) REMARKS:

Conduit has been identified

Pam Gleaso 7-29-82 — 16) ACTION COMPLETED — DATE

J.J. Tang 8-2-82 — 17) REINSPECTION COMPLETED — DATE

Responsible Superintendent or Field Engineer

IN PROCESS INSPECTION NOTICE

1) PROJECT NO. 7220

2) INSPECTION DOCUMENT NAME EV-6.6 DSB-300 mel 7-25 3W

3) ACTIVITY OR TASK 2.1a

4) NUMBER EUP-75

5) MO DAY YR 7-25-82

6) ITEM LOCATION AREA BLDG Aux BLDG EL. 414 3'W. OF 5.25 AND 8' S OF K-LINE
STARTUP SYSTEM NO. UNDERPINNING

7) DWG/PART NO. REV
C-1490 2
C-1491 2

8) ITEM NAME PLUNGER REACTION ANGLES

9) INSPECTION CRITERIA DOCUMENT NUMBER & TITLE FCR C4215
DWG ☑ SPEC ☑ OTHER ☑ EXPLAIN C-1490 REV. 2 C-1491 REZ FCR C4151

10) NO.	11) DESCRIPTION (list serial numbers where applicable)
1	N-S REACTION ANGLE CAN NOT SEE WELD
	AT BOTTOM OF ANGLE, DUE TO GROUT COVERING WELD
2	F-WA ANGLE WELDS IN CORRENT. BOTH WELDS. mel 7/29/82

12) ORIGINATED BY DATE Melbourne Ferguson 7/25/82

13) APPROVED BY DATE Dale G. Preston

14) RECEIPT ACKNOWLEDGED DATE Pam Glass 7/27/82

15) REMARKS:

16) ACTION COMPLETED DATE

17) REINSPECTION COMPLETED DATE J.C. Miller 7-30-82

Responsible Superintendent or Field Engineer

IN PROCESS INSPECTION NOTICE

1) PROJECT NO. 7220	2) INSPECTION DOCUMENT NAME: EV-6.1 DMD 3E	4) NUMBER: EqP-74
	3) ACTIVITY OR TASK: 2.1, 2.1a	5) MO DAY YR: 7-26-82

6) ITEM LOCATION AREA BLDG: EL. 628'-6" 24' E. OF 9.4 AND 5' N. OF J-LINE STARTUP SYSTEM NO.: UNDER PINNING	7) DWG/PART NO. / REV: C-1490 / 2; C-1491 / 2	8) ITEM NAME: SUPPORT BRACKET REACTION ANGLE

9) INSPECTION CRITERIA: DWG ☑ SPEC ☐ OTHER ☐ EXPLAIN — DOCUMENT NUMBER & TITLE: C-1490 REV 2 C-1491-REV 2. FCR 4151

10) NO.	11) DESCRIPTION (list serial numbers where applicable)
1	WELDS FOR INST. MOUNTING ARE IN CORRECT
	DWG. C-1491 REV. 2 SHORT HANGER. BOTH WELD mel 7/27/82
2	E-W REACTION ANGLES DIMS. FROM EDGE TO ℄ OF
	HOLES IS 3/4" NOT 2". FRONT EDGE. 7/27/82 mel.

12) ORIGINATED BY DATE	13) APPROVED BY DATE	14) RECEIPT ACKNOWLEDGED DATE
Melbourne Langwish 7/26/82	Dales Preston 7-26-82	Pam Glass 7/27/82

15) REMARKS:

① Upon re-inspection (by QCE) welds were found to be correct ② See FCR-C-4283.

16) ACTION COMPLETED DATE	17) REINSPECTION COMPLETED DATE
Pam Glass 8-3-82	Melbourne Langwish 8-4-82

Responsible Superintendent or Field Engineer

IN PROCESS INSPECTION NOTICE

1) PROJECT NO.	2) INSPECTION DOCUMENT NAME	4) NUMBER
7220	EU6.1 DMD 1-E	EuP-73
	3) ACTIVITY OR TASK: 3.2, 3.3	5) MO DAY YR: 7-26-82

6) ITEM LOCATION AREA BLDG	7) DWG/PART NO.	REV	8) ITEM NAME
#2 FIVP	C-1490	2	LOCATION AND INSTALLATION
STARTUP SYSTEM NO. UNDER PINNING	C-1491	2	

9) INSPECTION CRITERIA
DWG ☑ SPEC ☐ OTHER ☐ EXPLAIN — DOCUMENT NUMBER & TITLE: C-1490 REV 2. C-1491 REV 2

10) NO.	11) DESCRIPTION (list serial numbers where applicable)
1	DISTANCE FROM TURBINE BLDG. PARAPET
	IS INCORRECT - AS SHOWEN ON DWG. 1490 REV. 2.
	DETAIL (1)

12) ORIGINATED BY DATE	13) APPROVED BY DATE	14) RECEIPT ACKNOWLEDGED DATE
Melbourne Lenczuski 7/26/82	Dale E. Preslar 7-26-82	Pam Glass 7/27/82

15) REMARKS:

(1) See FCR-C-4299

16) ACTION COMPLETED	DATE	17) REINSPECTION COMPLETED	DATE
Pam Glass	8/6/82	Melbourne Fred Lenczuski mel 8-7-82	8-7-82

Responsible Superintendent or Field Engineer

IN PROCESS INSPECTION NOTICE

2) INSPECTION DOCUMENT NAME: EV-E.1-DMD-3W

4. NUMBER: EUP-72

1) PROJECT NO.: 7220

3) ACTIVITY OR TASK: 2.1a

5) MO DAY YR: 7-25-82

6) ITEM LOCATION AREA BLDG: EL 628'-6" 24' W OF 3.6 AND 41' N. OF J-LINE AUX BLDG

STARTUP SYSTEM NO.: UNDER PINNING

7) DWG/PART NO. / REV:
C-1490 / 2
C-1491 / 2

8) ITEM NAME: N.S. REACTION ANGLE

9) INSPECTION CRITERIA: DWG ☑ SPEC ☐ OTHER ☐ EXPLAIN — DOCUMENT NUMBER & TITLE: C-1491 REV. 2 C-1490 REV. 2 FCR 4215

10) NO.	11) DESCRIPTION (list serial numbers where applicable)
1	N.S. REACTION ANGLE COULD NOT INSP. BOTTOM WELD ON ANGLE, DUE TO GROUT COVERING WELD

12) ORIGINATED BY DATE: Melbourne Lengyuski 7/29/82

13) APPROVED BY DATE: Dale S. Preslan 7-26-82

14) RECEIPT ACKNOWLEDGED DATE: Pam Glass 7/27/82

15) REMARKS: Grout removed from weld.

16) ACTION COMPLETED DATE: Pam Glass 7-28-82

17) REINSPECTION COMPLETED DATE: Melbourne Lengyuski 7/29/82

Responsible Superintendent or Field Engineer

IN PROCESS INSPECTION NOTICE

2) INSPECTION DOCUMENT NAME	4) NUMBER
EU 6.1-DSB-3E	EUP-71
3) ACTIVITY OR TASK	**5) MO DAY YR**
2.1a	7-25-82

1) PROJECT NO. 7226

6) ITEM LOCATION AREA BLDG	7) DWG/PART NO.	REV	8) ITEM NAME
EL. 614'0 BETWEEN 7.2 AND 7.8 S. OF Kc LINE STARTUP SYSTEM NO. UNDER PINNING	C-1490 C-1491	2 2	REACTION ANGLE N.S.

9) INSPECTION CRITERIA
DWG ☑ SPEC ☐ OTHER ☐ EXPLAIN — DOCUMENT NUMBER & TITLE: C-1490 REV. 2 C-1491 REV. 2 FCR 4215

10) NO.	11) DESCRIPTION (list serial numbers where applicable)
1	mat'l. 7/26/82 ~~E~~ N.S. REACTION ANGLE CAN NOT SEE WELD AT BOTTOM OF ANGLE. DUE TO GROUT COVERING WELD.

12) ORIGINATED BY DATE	13) APPROVED BY DATE	14) RECEIPT ACKNOWLEDGED DATE
Melbourne Lengquist 7/25/82	Dale E. Presler 7-26-82	Pam Glass 7/27/82

15) REMARKS:
Grout removed from weld

16) ACTION COMPLETED DATE	17) REINSPECTION COMPLETED DATE
Pam Glass 7-28-82	W.K. Dahl 7-29-82

Responsible Superintendent or Field Engineer

IN PROCESS INSPECTION NOTICE

1) PROJECT NO.	2) INSPECTION DOCUMENT NAME	4) NUMBER
7220	EV6.1-DHD-SW	EUP-70
	3) ACTIVITY OR TASK	5) MO DAY YR
	2.1a	7-25-82

6) ITEM LOCATION AREA BLDG	7) DWG/PART NO.	REV	8) ITEM NAME
EL. 628'6" J-LINE B'E. OF 3.6	C-1490	2	N.S. REACTION ANGLE
STARTUP SYSTEM NO.	C-1491	2	
UNDERPINNING			

9) INSPECTION CRITERIA DOCUMENT NUMBER & TITLE

DWG ☑ SPEC ☐ OTHER ☑ EXPLAIN C-1490 REV. 2 C-1491 REV 2 FCR4215

10) NO.	11) DESCRIPTION (list serial numbers where applicable)
1	7/25/82 mdf. N.S. ~~REAC~~ REACTION ANGLE COULD NOT INST.
	WELD BOTTOM OF ANGLE. DUE TO GROUT COVERING
	WELD

12) ORIGINATED BY DATE	13) APPROVED BY DATE	14) RECEIPT ACKNOWLEDGED DATE
Melbourne Sergeant 7/25/82	Dale E. Perlas 7-26-82	Pam Glass 7/27/82

15) REMARKS:

Grout removed from weld

16) ACTION COMPLETED DATE	17) REINSPECTION COMPLETED DATE
Pam Glass 7-28-82	M.L. Dahl 7-29-82

Responsible Superintendent or Field Engineer

Page 1 Of 1

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IN PROCESS INSPECTION NOTICE

1) PROJECT NO. 7220	2) INSPECTION DOCUMENT NAME: EV-6.1 DMD-4W	4) NUMBER: EVP-69
	3) ACTIVITY OR TASK: 2.1a	5) MO DAY YR: 7-25-82

6) ITEM LOCATION AREA BLDG	7) DWG/PART NO.	REV	8) ITEM NAME
EL 634'-6" K-LINE 3' W. OF 4 AUX BLDG STARTUP SYSTEM NO. UNDERPINNING	C-1490 C-1491	2 2	N.S. REACTION ANGLE

9) INSPECTION CRITERIA DWG ☒ SPEC ☐ OTHER ☒ EXPLAIN — DOCUMENT NUMBER & TITLE: C-1490 REV. 2 C-1491 REV. 2 FLR4215

10) NO.	11) DESCRIPTION (list serial numbers where applicable)
1	N.S. REACTION ANGLE COULD NOT INST. BOTTOM WELD. DUE TO GROUT COVERING WELD

12) ORIGINATED BY DATE	13) APPROVED BY DATE	14) RECEIPT ACKNOWLEDGED DATE
Melbourne Lagunski 7/25/82	Dale S. Prulo 7-26-82	Pam Glass 7-27-82

15) REMARKS:

Grout removed from weld

16) ACTION COMPLETED DATE	17) REINSPECTION COMPLETED DATE
Pam Glass 7-28-82	W.L. Pabst 7-29-82

Responsible Superintendent or Field Engineer

FILE COPY

IN PROCESS INSPECTION NOTICE

1) PROJECT NO. 7220	2) INSPECTION DOCUMENT NAME: EUL.1DS3-2E	4) NUMBER: EUP-68
	3) ACTIVITY OR TASK: 2.1a	5) MO DAY YR: 7-25-82
6) ITEM LOCATION AREA BLDG: Tw"B BLDG EL.614 W.P.5 AT K-LINE STARTUP SYSTEM NO.: UNDERPINNING	7) DWG/PART NO. / REV: C-1490 / 2; C-1491 / 2	8) ITEM NAME: REACTION ANGLE

9) INSPECTION CRITERIA — DWG ☑ SPEC ☐ OTHER ☐ EXPLAIN — DOCUMENT NUMBER & TITLE: C-1490 REV. 2 C-1491 REV 2 FCR 4215

10) NO.	11) DESCRIPTION (list serial numbers where applicable)
1	E-W REACTION ANGLE CANNOT SEE WELD AT BOTTOM OF ANGLE. DUE TO GROUT COVERING WELD.

12) ORIGINATED BY DATE	13) APPROVED BY DATE	14) RECEIPT ACKNOWLEDGED DATE
Melbourne Lenguadia 7/25/82	Dale S. Rosin 7-26-82	Pam Glass 7/27/82

15) REMARKS:
Grout removed from weld

16) ACTION COMPLETED DATE	17) REINSPECTION COMPLETED DATE
Pam Glass 7-28-82	Melbourne Lenguadia 7/30/82

Responsible Superintendent or Field Engineer

R ___ Of ___ C ___

IN PROCESS INSPECTION NOTICE

2) INSPECTION DOCUMENT NAME: PACT/EU 6.1, REV 1

4) NUMBER: E.I.P-67

1) PROJECT NO. 7220

3) ACTIVITY OR TASK: 3.6

5) MO DAY YR: 7-25-82

6) ITEM LOCATION AREA BLDG: TURBINE BLDG EL 634', 7.13 AT K C
STARTUP SYSTEM NO.
UNDERPINNING INST.

7) DWG/PART NO.: C-1491 REV: 2

8) ITEM NAME: DMD-10

9) INSPECTION CRITERIA
DWG ☐ SPEC ☐ OTHER ☐ EXPLAIN

DOCUMENT NUMBER & TITLE

10) NO.	11) DESCRIPTION (list serial numbers where applicable)
1	E/W REACTION PLATE WELD COVERED W/GROUT
2	N/S REACTION PLATE NO WELDER ID ON BOTTOM WELD

12) ORIGINATED BY DATE: D.L. Pahl 7-25-82

13) APPROVED BY DATE: Dale S. Preslar 7-26-82

14) RECEIPT ACKNOWLEDGED DATE: Pam Glass 7/28/82

15) REMARKS:
Grout removed from weld. One welders ID per angle is all that is required

16) ACTION COMPLETED DATE: Pam Glass 7-28-82

17) REINSPECTION COMPLETED DATE: Melbourne Lenzuski 7/28/82

Responsible Superintendent or Field Engineer

IN PROCESS INSPECTION NOTICE

2) INSPECTION DOCUMENT NAME	4) NUMBER
PACT/EG 6.1 REV. 1	EUP-606
3) ACTIVITY OR TASK	**5) MO DAY YR**
2.1	7-24-82

1) PROJECT NO. 7220

6) ITEM LOCATION AREA BLDG	7) DWG/PART NO.	REV	8) ITEM NAME
AUX. BLDG EL 614'0" 3-3.5 S. OF K STARTUP SYSTEM NO. UNDERPINNING INST.	C1491	2	DSB-2W

9) INSPECTION CRITERIA DOCUMENT NUMBER & TITLE

DWG ☒ SPEC ☐ OTHER ☐ EXPLAIN C1491 REV. 2

10) NO.	11) DESCRIPTION (list serial numbers where applicable)
2.1	SUPPORT BRACKET NOT PER PRINT INCORRECT
	WELD. (SIDE INSTRUMENT MOUNTING PLATE 4YA 7-27-82)

12) ORIGINATED BY DATE	13) APPROVED BY DATE	14) RECEIPT ACKNOWLEDGED DATE
D.L. Ruhl 7-24-82	J.C. Miller 7-24-82	Pam Glass 7/27/82

15) REMARKS:

Weld repaired 7-29-82

See FCR-C-4291 8-3-82

16) ACTION COMPLETED DATE	17) REINSPECTION COMPLETED DATE
Pam Glass 7-29-82	J.C. Miller 8-3-82

REJECT WELD SYMBOL WRONG SIDE MOUNT INST. PLATE. mel 8-2-82

Pam Glass 8-3-82

Responsible Superintendent or Field Engineer

Linda Please trend B-4

IN PROCESS INSPECTION NOTICE

1) PROJECT NO. 7220	2) INSPECTION DOCUMENT NAME PQCI 7220 C-150	4) NUMBER EUP-65
	3) ACTIVITY OR TASK 5.1	5) MO DAY YR 7-25-82

6) ITEM LOCATION AREA BLDG ANX BLDG EL. 619' 3.3 AT C STARTUP SYSTEM NO. UNDERPINNING INST	7) DWG/PART NO. C1491 REV 2	8) ITEM NAME C1.50 E 4-DS32W

9) INSPECTION CRITERIA DOCUMENT NUMBER & TITLE
DWG ☐ SPEC ☐ OTHER ☐ EXPLAIN

10) NO.	11) DESCRIPTION (list serial numbers where applicable)
1	FLOOR PLATE / ANCHOR BOLT IS 3/8" DIAMETER.

12) ORIGINATED BY DATE	13) APPROVED BY DATE	14) RECEIPT ACKNOWLEDGED DATE
D.L. Dalal 7-25-82	Dale S. Rieske 7-26-82	

15) REMARKS:
FCR-C-4103 ALLOWS 3/8"Ø ANCHORS

16) ACTION COMPLETED DATE

17) REINSPECTION COMPLETED
J.W. Miller

Responsible Superintendent or Field Engineer

Job 7220-QA-Received
Log No. File No.
Response Req'd Date
QA Action Item No.
Route Initial Act. Comment
PQAE DATE
Resp. Engr.
Elect. (2)
Civil Mech
Insp.
Trn Coor.
Trend
Secty.

IN PROCESS INSPECTION NOTICE

"RECORD COPY"

1) PROJECT NO. 7220	2) INSPECTION DOCUMENT NAME PACI 7220-C150	4) NUMBER EUP-64
	3) ACTIVITY OR TASK 3.4	5) MO DAY YR 7-25-82

6) ITEM LOCATION AREA BLDG Aux Bldg EL 414' K 100 STARTUP SYSTEM NO. UNDERPINNING INST	7) DWG/PART NO. C305 REV 14	8) ITEM NAME DSB 2E

9) INSPECTION CRITERIA DOCUMENT NUMBER & TITLE

DWG ☐ SPEC ☐ OTHER ☐ EXPLAIN

10) NO.	11) DESCRIPTION (list serial numbers where applicable)
1	NORTH ANCHER BOLT ON N/S ~~E~~ DZA 7-25-82 REACTION ANGLE
	IS 4° OFF 90°

12) ORIGINATED BY DATE	13) APPROVED BY DATE	14) RECEIPT ACKNOWLEDGED DATE
W.L. Dahl 7-25-82	D.C.S. Purdy 7-26-82	Pam Glass 7/26/82

15) REMARKS:

Spherical washer installed

16) ACTION COMPLETED DATE	17) REINSPECTION COMPLETED	DATE
Pam Glass 7-28-82	J.F. Long	7-28-82
		7-28-82
		GFK 7-29-82

Responsible Superintendent or Field Engineer

IN PROCESS INSPECTION NOTICE

1) PROJECT NO. 7220	2) INSPECTION DOCUMENT C150 NAME EU- DSB-3E	4) NUMBER EUP-63
	3) ACTIVITY OR TASK	5) MO DAY YR 7-25-82

6) ITEM LOCATION AREA BLDG	7) DWG/PART NO.	REV	8) ITEM NAME
T/B 614	C-1490	2	REACTOR ANGLE
STARTUP SYSTEM NO. UNDERPINNING	C-1491	2	DSB-3E.

9) INSPECTION CRITERIA DWG ☐ SPEC ☑ OTHER ☐ EXPLAIN — DOCUMENT NUMBER & TITLE: C305 Rev 14.

10) NO.	11) DESCRIPTION (list serial numbers where applicable)
1	½' ANCHOR DOES NOT HAVE FULL NUT.
	THREAD ENGAGEMENT. ANGLE PLATE E-W.

12) ORIGINATED BY DATE	13) APPROVED BY DATE	14) RECEIPT ACKNOWLEDGED DATE
J.W. Miller 7-25-82	Dale S. Presler 7-26-82	Pam Glass 7/27/82

15) REMARKS:

Full nut engagement has been achieved.

16) ACTION COMPLETED DATE	17) REINSPECTION COMPLETED DATE
Pam Glass 7-28-82	W.Y. Pelt 7-29-82

Responsible Superintendent or Field Engineer

Page C ... OF ... DWG NT form 4-27-82

IN PROCESS INSPECTION NOTICE

1) PROJECT NO. 7220	2) INSPECTION DOCUMENT NAME EK. 6.1 - DMD-9 INST. LOC. DWG.	4) NUMBER EUP-62
	3) ACTIVITY OR TASK 2.1	5) MO DAY YR 7-24-82

6) ITEM LOCATION AREA BLDG AUX BLDG, EL. 634'6" 6.6-6 South OF Kc STARTUP SYSTEM NO. UNDERPINNING	7) DWG/PART NO. C-1491 REV 2	8) ITEM NAME MOUNTING BRACKET DMD-9

9) INSPECTION CRITERIA DWG ☑ SPEC ☐ OTHER ☐ EXPLAIN DOCUMENT NUMBER & TITLE C-1491 UNDERPINNING LOC. DWG.

10) NO.	11) DESCRIPTION (list serial numbers where applicable)
1	MOUNTING R STIFFNER R NOT INST.
2.	FCR C4075 SHOWS INST MOUNTING R 20" TO 23" LONG. ACTUAL LENGTH IS 16 1/4".

12) ORIGINATED BY DATE	13) APPROVED BY DATE	14) RECEIPT ACKNOWLEDGED DATE
J.G. Miller 7-27-82	Dale S. Preslar 7-27-82	Pam Glass 7/27/82

15) REMARKS:

Invalid IPIN - See FCR-C-4202 approved on 7-17-82.

16) ACTION COMPLETED DATE	17) REINSPECTION COMPLETED DATE
Pam Glass 7/28/82	Melbourne Lengyel 7/28/82

Responsible Superintendent or Field Engineer

IN PROCESS INSPECTION NOTICE

1) PROJECT NO. 7210	2) INSPECTION DOCUMENT NAME C-150 EU DSB-3E	4) NUMBER EUP-61
	3) ACTIVITY OR TASK 3.2.	5) MO DAY YR 7-24-82
6) ITEM LOCATION AREA BLDG 614 Unit Turbine & Attic. STARTUP SYSTEM NO. Under Pinning Sys.	7) DWG/PART NO. REV C-1491 2	8) ITEM NAME Wall Mounted Back Plate. DSB-3E

9) INSPECTION CRITERIA DWG ☐ SPEC ☒ OTHER ☐ EXPLAIN — DOCUMENT NUMBER & TITLE: C-305 Rev 14

10) NO.	11) DESCRIPTION (list serial numbers where applicable)
1.	Hold Tag installed 7-9-82 For lumpy Grout IN back of plate Does not permit inspection Anchors. As stated on Transmittal Form # 30769 Dated 7-22-82 NCR # M-01-H-20841 Signed D Puhalla

12) ORIGINATED BY DATE	13) APPROVED BY DATE	14) RECEIPT ACKNOWLEDGED DATE
J.J. Long 7-24-82	J.W. Miller 7-24-82	Pam Glass 7/27/82

15) REMARKS: Hold Tag did not effect Anchors being torque Tested.

16) ACTION COMPLETED DATE	17) REINSPECTION COMPLETED DATE
J.J. Long. 7-27-82	J.J. Long 7-27-82

Responsible Superintendent or Field Engineer

IN PROCESS INSPECTION NOTICE

1) PROJECT NO.	2) INSPECTION DOCUMENT NAME	4) NUMBER
7220	PQCI EU-C-1-0 DMD-3E.	EU P-60
	3) ACTIVITY OR TASK: 3.4	5) MO DAY YR: 7-24-82

6) ITEM LOCATION AREA BLDG	7) DWG/PART NO. REV	8) ITEM NAME
620' level Axx #2 wing wall		Plunger Reactor Angle
STARTUP SYSTEM NO. UNDERPINNING SYS	C-1491 2	DMD-3E

9) INSPECTION CRITERIA DWG ☐ SPEC ☑ OTHER ☐ EXPLAIN — DOCUMENT NUMBER & TITLE: SPEC C305 Rev 14.

10) NO.	11) DESCRIPTION (list serial numbers where applicable)
1	Plunger Reactor Angle Anchors NOT A Turned over for
	inspection on Transmittal Form # 30969 on
	7-22-82. Failed Test Torque of 30 ~~psi~~ ft lb.
	Anchors turned at 12, 13, 16, 19, ~~psi~~ ft lb.
2.	Grout on threads.

12) ORIGINATED BY DATE	13) APPROVED BY DATE	14) RECEIPT ACKNOWLEDGED DATE
[signature] 7-24-82	[signature] 7-24-82.	

15) REMARKS:

REACTOR ANGLE PLATES REWORKED & REDOCUMENTED

16) ACTION COMPLETED DATE	17) REINSPECTION COMPLETED DATE
	[signature] 7.27.82

Responsible Superintendent or Field Engineer

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Page 1 of 2 pgs 8-7-82

IN PROCESS INSPECTION NOTICE

1) PROJECT NO. 7220	2) INSPECTION DOCUMENT EM-6.0-52 NAME INST. OF INST. FOR UNDERPINNING	4) NUMBER EUP-59
	3) ACTIVITY OR TASK 2.14 & 3.7	5) MO DAY YR 7-23-82 Rev'd 7-23-82

6) ITEM LOCATION AREA BLDG	7) DWG/PART NO.	REV	8) ITEM NAME
AUX BLDG., Ex-HR, 7.8 EL. 657'6" STARTUP SYSTEM NO. UNDERPINNING 545	C198-6-1	NA	STRAIN GAUGE - S2
	OP-10	1	

9) INSPECTION CRITERIA DOCUMENT NUMBER & TITLE

DWG ☑ SPEC ☑ OTHER ☐ EXPLAIN STRAIN GAGES & INSTALLATION OF STRAIN GAGE

10) NO.	11) DESCRIPTION (list serial numbers where applicable)
1.	PROC. OP-10 REQUIRES A GROUND LEAKAGE TEST BE DONE
	USING A 500 VOLT MEGOHMMETER OR EQUIVALANT.
	TEST WAS DONE WITH LOW VOLTAGE OHMMETER.
2.	DWG C-198-6-1 GIVE NO DETAIL FOR MOUNTING 4"X4"
	EXT. RING FOR STRAIN GAGE PROTECTION.
	EXT RING IS SUPPORTED BY SET SCREW ONLY

12) ORIGINATED BY	13) APPROVED BY	14) RECEIPT ACKNOWLEDGED
J.C. Miller 7-23-82	J.C. Miller 7-23-82	[signature] 7/23/82

15) REMARKS:

① OP-10 has been revised - test to be done with a low voltage Ohm meter.

② C-198-6-1 has no detail for mounting the 4"X4" extension ring; therefore there is no violation of the drawing by not having the

16) ACTION COMPLETED	DATE	17) REINSPECTION COMPLETED	DATE
Pam Glass 8-7-82		J.C. Miller	9-7-82

Responsible Superintendent or Field Engineer

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15) Cont.

extension ring supported. Per Spec. C-198, W.J.E. has supervisory responsibilities of this installation and they agree that the extension ring is adequately supported by means of the conduit support near the extension ring; therefore no mounting detail is required. Ref. DCN # 4 to C-1490 R.2.

Item # 1 Superseded by NCR # 4495 JCM 9-7-82

IN PROCESS INSPECTION NOTICE

1) PROJECT NO. 7220	2) INSPECTION DOCUMENT NAME: EU 1.0	4) NUMBER: EUP-58
	3) ACTIVITY OR TASK: EX-1, 4, 6, 7, S1 — 3.10	5) MO DAY YR: 7-22-82

6) ITEM LOCATION AREA BLDG: 700' level Aux #1 side STARTUP SYSTEM NO.	7) DWG/PART NO. REV: NEC - 81	8) ITEM NAME: Conduit EX-1, 4 6 7, S1

9) INSPECTION CRITERIA DWG ☐ SPEC ☐ OTHER ☑ EXPLAIN — DOCUMENT NUMBER & TITLE: Art 351.8

10) NO.	11) DESCRIPTION (list serial numbers where applicable)
1.	Conduit NOT Supported within 1 Ft of Flex.
	Conduit

12) ORIGINATED BY DATE	13) APPROVED BY DATE	14) RECEIPT ACKNOWLEDGED DATE
M Long 7-22-82	J Miller 7-22-82	

15) REMARKS: REFER TO EXCEPTION #2. J Miller 7-28-82

16) ACTION COMPLETED DATE	17) REINSPECTION COMPLETED DATE
	J Miller 7-28-82

Responsible Superintendent or Field Engineer

IN PROCESS INSPECTION NOTICE

1) PROJECT NO. 7220	2) INSPECTION DOCUMENT NAME EU 1.0 DSB-1W-2W	4) NUMBER EUP-57
	3) ACTIVITY OR TASK 3.10	5) MO DAY YR 7-22-82

6) ITEM LOCATION AREA BLDG 685' level Aux #1 side wing wall STARTUP SYSTEM NO.	7) DWG/PART NO. REV NEC 51	8) ITEM NAME Conduit DSB-1W, 2W

9) INSPECTION CRITERIA DWG ☐ SPEC ☐ OTHER ☑ EXPLAIN — DOCUMENT NUMBER & TITLE: Art 351.8

10) NO.	11) DESCRIPTION (list serial numbers where applicable)
1	Conduit is not supported within 1 ft of top of flex. conn.

12) ORIGINATED BY DATE	13) APPROVED BY DATE	14) RECEIPT ACKNOWLEDGED DATE
J. Long 7-22-82	J.W. Miller 7-22-82	

15) REMARKS:
Refer to Exception #2. J.W. Miller 7-28-82

16) ACTION COMPLETED DATE	17) REINSPECTION COMPLETED DATE
	J.W. Miller 7-28-82

Responsible Superintendent or Field Engineer

IN PROCESS INSPECTION NOTICE

1) PROJECT NO. 7220	2) INSPECTION DOCUMENT NAME EU 1.0 EX 7	4) NUMBER EUP-56
	3) ACTIVITY OR TASK 3.3C	5) MO DAY YR 7-22-82

6) ITEM LOCATION AREA BLDG 654' Ave A4X #1 Side Wing Wall STARTUP SYSTEM NO. Under Pinning	7) DWG/PART NO. REV NEC 81	8) ITEM NAME Conduit EX. 7

9) INSPECTION CRITERIA DWG ☐ SPEC ☐ OTHER ☐ EXPLAIN — DOCUMENT NUMBER & TITLE ArT 348.12

10) NO.	11) DESCRIPTION (list serial numbers where applicable)
1.	Conduit NOT Securely Fastened. Above dB.
2	Conduit is Mounted rigid From Containment Wall To Aux Bldg.

12) ORIGINATED BY DATE	13) APPROVED BY DATE	14) RECEIPT ACKNOWLEDGED DATE
J.J. Long 7-22-82	J.W. Miller 7-22-82	

15) REMARKS:

1) Conduit Support has been added.

2) Bend in Conduit will allow Movement on Thin Wall Conduit due to expansion & Contraction

16) ACTION COMPLETED DATE	17) REINSPECTION COMPLETED DATE
	J.J. Long 8-2-82

Responsible Superintendent or Field Engineer

IN PROCESS INSPECTION NOTICE

1) PROJECT NO. 7220	2) INSPECTION DOCUMENT NAME EU 1.0 DMD-3,4,5W	4) NUMBER EUP-55
	3) ACTIVITY OR TASK 3.10	5) MO DAY YR 7-22-82

6) ITEM LOCATION AREA BLDG 685' level Aux. #1 S.I.& wing wall STARTUP SYSTEM NO.	7) DWG/PART NO. REV NEC-81	8) ITEM NAME Conduit DMD-3,4,5,W

9) INSPECTION CRITERIA DWG ☐ SPEC ☐ OTHER ☐ EXPLAIN — DOCUMENT NUMBER & TITLE: Art 351.8

10) NO.	11) DESCRIPTION (list serial numbers where applicable)
1.	Conduit not supported within 1 ft of top of f/t X

12) ORIGINATED BY DATE	13) APPROVED BY DATE	14) RECEIPT ACKNOWLEDGED DATE
J. Long 7-22-82	J.W. Miller 7-22-82	

15) REMARKS:

Refer to Exception #2. J.W. Miller 7-28-82

16) ACTION COMPLETED DATE	17) REINSPECTION COMPLETED DATE
	J.W. Miller 7-28-82

Responsible Superintendent or Field Engineer

IN PROCESS INSPECTION NOTICE

2) INSPECTION DOCUMENT NAME	4) NUMBER
Eu 1.0 DSB-AS-2&4 TC	EUP-54
3) ACTIVITY OR TASK	**5) MO DAY YR**
3.10	7-22-82

1) PROJECT NO. 7220

6) ITEM LOCATION AREA BLDG	7) DWG/PART NO. REV	8) ITEM NAME
645 AUX #2 Side wing wall STARTUP SYSTEM NO.	NEC-81	Conduit DSB-AS-2&4 TC

9) INSPECTION CRITERIA
DWG ☐ SPEC ☐ OTHER ☐ EXPLAIN
DOCUMENT NUMBER & TITLE: Art 351.8

10) NO.	11) DESCRIPTION (list serial numbers where applicable)
1.	Conduit NOT supported within 1Ft of Flex Conn.
2	Conduit is Mounted Rigid from Containment Wall To. Roof of Aux Bldg. at 700' level

12) ORIGINATED BY DATE	13) APPROVED BY DATE	14) RECEIPT ACKNOWLEDGED DATE
J. Long 7.22-82	J.W. Miller 7.22-82	

15) REMARKS:
1 Refer to Exception #1
2. Conduit Bend to accomodate thermal expansion. Building differential movement not addressed in code book. J.W. Miller 7.28 SR

16) ACTION COMPLETED DATE	17) REINSPECTION COMPLETED DATE
	J.W. Miller 7.28.82

Responsible Superintendent or Field Engineer

IN PROCESS INSPECTION NOTICE

1) PROJECT NO. 7220	2) INSPECTION DOCUMENT NAME EU1.0 DSB AS-204 3E, DMD-9 & 10 5E	4) NUMBER EUP-53
	3) ACTIVITY OR TASK 3.10	5) MO DAY YR 7-22-82

6) ITEM LOCATION AREA BLDG 645 Aux Bldg. N. 2 side wing wall STARTUP SYSTEM NO.	7) DWG/PART NO. REV NEC 81	8) ITEM NAME Conduit DSB-2, 4, 3E DMD-9, 10, 5E

9) INSPECTION CRITERIA DWG ☐ SPEC ☐ OTHER ☐ EXPLAIN — DOCUMENT NUMBER & TITLE: Art 351.8

10) NO.	11) DESCRIPTION (list serial numbers where applicable)
1.	Conduit not supported within 1 ft of flex Conn.
2.	Conduit is mounted rigid from wall of containment Bldg to roof of Aux Bldg. At 700' level

12) ORIGINATED BY DATE	13) APPROVED BY DATE	14) RECEIPT ACKNOWLEDGED DATE
J.J. Long 7-22-82	J.W. Miller 7-22-82	

15) REMARKS:

1. Refer to Exception #2
2. Conduit bend to accomodate thermal expansion. Buildings differtial movement not addressed in NEC.

J.W. Miller 7-28-82

16) ACTION COMPLETED DATE	17) REINSPECTION COMPLETED DATE
	J.W. Miller 7-28-82

Responsible Superintendent or Field Engineer

IN PROCESS INSPECTION NOTICE

1) PROJECT NO. 7220	2) INSPECTION DOCUMENT NAME: EU 5.0 EX 3-1-2	4) NUMBER: EUP-52
	3) ACTIVITY OR TASK: 3.12	5) MO DAY YR: 7/21/82

6) ITEM LOCATION AREA BLDG: AUX BLDG. BETWEEN 7.9 & 7.8 AND G & H ELE. 584'0 STARTUP SYSTEM NO.: UNDER PINNING D/A/S	7) DWG/PART NO. REV: ~~1/21/82 mod f 6 to 4~~ C-1495 - 0 C-198-11-6	8) ITEM NAME: CABLE EX-3

9) INSPECTION CRITERIA — DOCUMENT NUMBER & TITLE

DWG ☒ SPEC ☐ OTHER ☐ EXPLAIN C-1495-REV.0

10) NO.	11) DESCRIPTION (list serial numbers where applicable)
1	CABLE #1253 WAS HANGING OUT OF J-BOX AT INST. LOCATION, AND WAS EXCEEDING THE BEND RADIUS OF 8 TIMES THE OD.

12) ORIGINATED BY DATE	13) APPROVED BY DATE	14) RECEIPT ACKNOWLEDGED DATE
Melbourne Lenczuski 7/21/82	J.W. Miller 7-21-82	Richard Black 7/22/82

15) REMARKS:

PERFORMED A MEGGER CHECK PER BECHTEL FPE-2.000 AND OBTAINED ACCEPTABLE RESISTANCE READINGS [SEE ATTACHED SHEET]. ALL WIRES PASSED A CONTINUITY CHECK ALSO. USE CABLE AS IS. WIRES WERE LIFTED AND RETERMINATED IN DATA ROOM.

16) ACTION COMPLETED DATE	17) REINSPECTION COMPLETED DATE
Gregory J. Burke 7/28/82	Melbourne Lenczuski 8/7/82

Responsible Superintendent or Field Engineer

IN PROCESS INSPECTION NOTICE

1) PROJECT NO. 7220	2) INSPECTION DOCUMENT NAME: EU-1.0	4) NUMBER: EUP-51
	3) ACTIVITY OR TASK: DMD-5E 3.10	5) MO DAY YR: 7/21/82

6) ITEM LOCATION AREA BLDG: 628, #2 SIDE-AUX STARTUP SYSTEM NO.: UNDERPINNING D.A.3	7) DWG/PART NO. REV: NEC 81	8) ITEM NAME: INSTRMNT CONDUIT DMD-5E

9) INSPECTION CRITERIA — DOCUMENT NUMBER & TITLE

DWG ☐ SPEC ☐ OTHER ☒ EXPLAIN NEC-81, art-351.8

10) NO.	11) DESCRIPTION (list serial numbers where applicable)
1	CONDUIT NOT SUPPORTED PER NEC-81, 351.8 AT INSTRUMENT,
	NOT SUPPORTED WITHIN 12" FROM FLEX

12) ORIGINATED BY DATE: [signature] 7/21/82	13) APPROVED BY DATE: J.W. Miller 7.21.82	14) RECEIPT ACKNOWLEDGED DATE

15) REMARKS:

REFER TO EXCEPTION # 2. J.W. Miller 7.28.82

16) ACTION COMPLETED DATE	17) REINSPECTION COMPLETED DATE: J.W. Miller 7.28.82

Responsible Superintendent or Field Engineer

IN PROCESS INSPECTION NOTICE

2) INSPECTION DOCUMENT NAME	4) NUMBER
EU-1.0	EUP-50
3) ACTIVITY OR TASK	5) MO DAY YR
DSB-1E/2E/3E 3.10	7/21/82

1) PROJECT NO. 7220

6) ITEM LOCATION AREA BLDG	7) DWG/PART NO. REV	8) ITEM NAME
628, AUX #2	E-42A 54	CONDUIT
STARTUP SYSTEM NO. UNDERPINNING D.A.S.		DSB-1E/2E/3E

9) INSPECTION CRITERIA DWG [X] SPEC [ ] OTHER [X] EXPLAIN DOCUMENT NUMBER & TITLE E-42A, 54, CONDUIT & TRAY CRITERIA

10) NO.	11) DESCRIPTION (list serial numbers where applicable)
1	CABLE NOT PROTECTED FROM DAMAGE IN TRAY "2AKA14," CONDUIT SUPPORT BOLTS FOR DSB-1E/2E/3E, ETC ARE PROTRUDING INTO TRAY FROM BELOW AND NOT CUSHIONED

12) ORIGINATED BY DATE	13) APPROVED BY DATE	14) RECEIPT ACKNOWLEDGED DATE
D. Long 7/21/82	J W Miller 7-21-82	Pam Glass 7-28-82

15) REMARKS:

PLASTIC PROTECTIVE CAPS HAVE BEEN PLACED OVER PROTRUDING BOLTS.

16) ACTION COMPLETED DATE	17) REINSPECTION COMPLETED DATE
Gregory J. Burke 7/27/82	J Long 8-4-82

Responsible Superintendent or Field Engineer

IN PROCESS INSPECTION NOTICE

1) PROJECT NO.	2) INSPECTION DOCUMENT NAME	4) NUMBER
7220	EU-1.0	EUP-49
	3) ACTIVITY OR TASK: DSB-1E/2E 3.10	5) MO DAY YR: 7/21/82

6) ITEM LOCATION AREA BLDG / STARTUP SYSTEM NO.	7) DWG/PART NO. REV	8) ITEM NAME
634, TURB, #2 "K" WALL / UNDERPINNING D.A.S.	NEC 81	INSTRUMENT CONDUIT DSB-1E/2E

9) INSPECTION CRITERIA — DWG ☐ SPEC ☐ OTHER ☒ EXPLAIN — DOCUMENT NUMBER & TITLE: NEC-81, ~~art 351~~ 348.12

10) NO.	11) DESCRIPTION (list serial numbers where applicable)
1	CONDUIT NOT SUPPORTED PER NEC-81, ART ~~351.8~~ 348.12 ON AUX BLDG SIDE OF "LB" AT AUX BLDG ENTRANCE (~~FROM~~ FROM LB)

12) ORIGINATED BY / DATE	13) APPROVED BY / DATE	14) RECEIPT ACKNOWLEDGED / DATE
J. Long 7/21/82	J.W. Miller 7.21.82	

15) REMARKS:

Conduit supported by same support used to support DSB--1E, 2E, 3E, Therm.

16) ACTION COMPLETED / DATE	17) REINSPECTION COMPLETED / DATE
	J. Long 8-2-82

Responsible Superintendent or Field Engineer

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IN PROCESS INSPECTION NOTICE

1) PROJECT NO. 7220	2) INSPECTION DOCUMENT NAME: EU-1.0	4) NUMBER: EUP-48
	3) ACTIVITY OR TASK: DSB-1E/2E/3E-T/C 3.10	5) MO DAY YR: 7/21/82

6) ITEM LOCATION AREA BLDG: 634, TURB, "K" WALL #2 STARTUP SYSTEM NO.: UNDERPINNING D.A.S.	7) DWG/PART NO. REV: NEC 81	8) ITEM NAME: THERMOCOUPLE CONDUIT DSB-1E/2E/3E-T/C

9) INSPECTION CRITERIA DWG ☐ SPEC ☐ OTHER ☒ EXPLAIN — DOCUMENT NUMBER & TITLE: NEC-81, "art ~~351~~ 348.12 ? ?

10) NO.	11) DESCRIPTION (list serial numbers where applicable)
1	CONDUIT NOT SUPPORTED PER NEC-81, art ~~351~~ 348.12
	ON EITHER SIDE OF "LB" AT ENTRANCE TO AUX BLDG.
	(WITHIN 3' ~~6"~~ OF LB) ?

12) ORIGINATED BY / DATE	13) APPROVED BY / DATE	14) RECEIPT ACKNOWLEDGED / DATE
J.J. Long 7/21/82	J.W. Miller 7-21-82	Pam Glass 7-28-82

15) REMARKS: Conduit supported

16) ACTION COMPLETED / DATE	17) REINSPECTION COMPLETED / DATE
Pam Glass 7-29-82	J.J. Long 8-2-82

Responsible Superintendent or Field Engineer

IN PROCESS INSPECTION NOTICE

1) PROJECT NO.	2) INSPECTION DOCUMENT NAME	4) NUMBER
7220	EU-1.0	EUP-47
	3) ACTIVITY OR TASK: DSB-3E 3.10	5) MO DAY YR: 7/21/82

6) ITEM LOCATION AREA BLDG	7) DWG/PART NO.	REV	8) ITEM NAME
614, TURB, #2 "K" WALL STARTUP SYSTEM NO. UNDERPINNING D.A.S.	NEC	81	INSTRUMENT CONDUIT DSB-3E

9) INSPECTION CRITERIA DWG ☐ SPEC ☐ OTHER ☒ EXPLAIN — DOCUMENT NUMBER & TITLE: NEC-81, art 351

10) NO.	11) DESCRIPTION (list serial numbers where applicable)
1	CONDUIT NOT SUPPORTED PER "NEC-81," art-351.8
	AT INSTRUMENT, NOT SUPPORTED WITHIN 12" OF FLEX.
2	CONDUIT NOT SUPPORTED CORRECTLY ON COLUMN
	NEAR INSTRUMENT

12) ORIGINATED BY DATE	13) APPROVED BY DATE	14) RECEIPT ACKNOWLEDGED DATE
[signature] 7/21/82	J.W. Miller 7-21-82	

15) REMARKS:

1. REFER TO EXCEPTION #2. J.W. Miller 7.28.82
2. CONDUIT SUPPORT RELOCATED. J.W. Miller 7.28.82

16) ACTION COMPLETED DATE	17) REINSPECTION COMPLETED DATE
	J.W. Miller 7.28.82

Responsible Superintendent or Field Engineer

IN PROCESS INSPECTION NOTICE

1) PROJECT NO. 7220	2) INSPECTION DOCUMENT NAME EU-1.0	4) NUMBER EUP-46
	3) ACTIVITY OR TASK DSB-3E-T/C 3.10	5) MO DAY YR 7/21/82

6) ITEM LOCATION AREA BLDG 614-634, TURB, #2 "K" WALL STARTUP SYSTEM NO. UNDERPINNING D.A.S.	7) DWG/PART NO. NEC REV 81	8) ITEM NAME THERMO COUPLE CONDUIT DSB-3E-T/C

9) INSPECTION CRITERIA DWG ☐ SPEC ☐ OTHER ☒ EXPLAIN — DOCUMENT NUMBER & TITLE: NEC-81, art 351

10) NO.	11) DESCRIPTION (list serial numbers where applicable)
1	CONDUIT NOT SUPPORTED PER "NEC-81", art. 351.8
	AT INSTRUMENT ON 614'. 12" FROM FLEX.
2	CONDUIT NOT SUPPORTED PER "NEC-81", art 351.8
	ON COLUMN NEAR INSTRUMENT ON 614'.
3	CONDUIT NOT SUPPORTED PER "NEC-81," art 351.8
	AT EITHER END OF FLEXIBLE SECTION ON 634'.

12) ORIGINATED BY DATE	13) APPROVED BY DATE	14) RECEIPT ACKNOWLEDGED DATE
[signature] 7/21/82	J.W. Miller 7-21-82	

15) REMARKS:
1 & 3 REFER TO EXCEPTION #2
'2. CONDUIT SUPPORT RELOCATED J.W. Miller 7-28-82

16) ACTION COMPLETED DATE	17) REINSPECTION COMPLETED DATE
	J.W. Miller 7-28-82

Responsible Superintendent or Field Engineer

IN PROCESS INSPECTION NOTICE

2) INSPECTION DOCUMENT NAME	4) NUMBER
DSB-1E ~~1C~~ 7/21/82 EU-1.0	EUP-45
3) ACTIVITY OR TASK	5) MO DAY YR
3.11	7/21/82

1) PROJECT NO. 7220

6) ITEM LOCATION AREA BLDG	7) DWG/PART NO. REV	8) ITEM NAME
634, TURB, #2 SIDE STARTUP SYSTEM NO. UNDERPINNING D/A/S	NEC 81	INST'MNT CONDUIT DSB-1E

9) INSPECTION CRITERIA DWG ☐ SPEC ☐ OTHER ☒ EXPLAIN — DOCUMENT NUMBER & TITLE: NEC-81, art 300-76

10) NO.	11) DESCRIPTION (list serial numbers where applicable)
1	NO PROVISIONS FOR EXPANSION & CONTRACTION
	IN CONDUIT BETWEEN TURB. BLDG. AND F.I.V.P. #2

12) ORIGINATED BY DATE	13) APPROVED BY DATE	14) RECEIPT ACKNOWLEDGED DATE
J. Long 7/21/82	J.W. Miller 7-21-82	

15) REMARKS

REFER TO EXCEPTION #2. J.W. Miller 7.28.82

16) ACTION COMPLETED DATE	17) REINSPECTION COMPLETED DATE
	J.W. Miller 7.28.82

Responsible Superintendent or Field Engineer

IN PROCESS INSPECTION NOTICE

1) PROJECT NO. 7220	2) INSPECTION DOCUMENT NAME DSB-1E-T/C EU-1.0	4) NUMBER EUP-44
	3) ACTIVITY OR TASK 3.11	5) MO DAY YR 7/21/82

6) ITEM LOCATION AREA BLDG 634, TURB, #2 SIDE STARTUP SYSTEM NO. UNDERPINNING D/A/S	7) DWG/PART NO. NEC 81 REV	8) ITEM NAME T/C CONDUIT DSB-1E-T/C

9) INSPECTION CRITERIA DWG ☐ SPEC ☐ OTHER ☒ EXPLAIN DOCUMENT NUMBER & TITLE NEC-81, art 300-7b

10) NO.	11) DESCRIPTION (list serial numbers where applicable)
1	NO PROVISIONS FOR EXPANSION & CONTRACTION
	IN CONDUIT BETWEEN TURB. BLDG. AND F.I.V.P. #2

12) ORIGINATED BY	13) APPROVED BY	14) RECEIPT ACKNOWLEDGED
[signature] 7/21/82	J.W. Miller 7-21-82	

15) REMARKS:

NOT ADDRESSED IN NEC. J.W. Miller 7-28-82

16) ACTION COMPLETED	DATE	17) REINSPECTION COMPLETED	DATE
		J.W. Miller	7-28-82

Responsible Superintendent or Field Engineer

IN PROCESS INSPECTION NOTICE

1) PROJECT NO. 7220	2) INSPECTION DOCUMENT NAME DMD-3W EU-1.0	4) NUMBER EUP-43
	3) ACTIVITY OR TASK 3.10	5) MO DAY YR 7/21/82
6) ITEM LOCATION AREA BLDG 628, AUX, #1 SIDE STARTUP SYSTEM NO. UNDERPINNING D/A/S	7) DWG/PART NO. REV NEC - 81	8) ITEM NAME INSTRUMENT CONDUIT DMD-3W

9) INSPECTION CRITERIA DWG ☐ SPEC ☐ OTHER ☒ EXPLAIN — DOCUMENT NUMBER & TITLE: NEC-81, art 351

10) NO.	11) DESCRIPTION (list serial numbers where applicable)
1	NOT SUPORTED PER NEC-81, art 351.8, NOT SUPPORTED WITHIN 12" OF FLEX.

12) ORIGINATED BY DATE	13) APPROVED BY DATE	14) RECEIPT ACKNOWLEDGED DATE
J. Long 7/21/82	J.W. Miller 7-21-82	

15) REMARKS:

REF EXCEPTION #2. J.W. Miller 7-28-82

16) ACTION COMPLETED DATE	17) REINSPECTION COMPLETED DATE
	J.W. Miller 7-28-82

Responsible Superintendent or Field Engineer

IN PROCESS INSPECTION NOTICE

1) PROJECT NO.	2) INSPECTION DOCUMENT NAME	3) ACTIVITY OR TASK	4) NUMBER	5) MO DAY YR
7220	DMD-3E EU-1.0	3.10	EUP-42	7/21/82

6) ITEM LOCATION AREA BLDG	7) DWG/PART NO.	REV	8) ITEM NAME
628, #2 SIDE AUX STARTUP SYSTEM NO. UNDERPINNING D/A/S	NEC	81	INSTRUMENT CONDUIT DMD-3E

9) INSPECTION CRITERIA
DWG ☐ SPEC ☐ OTHER ☒ EXPLAIN NEC-81, art 351.8
DOCUMENT NUMBER & TITLE

10) NO.	11) DESCRIPTION (list serial numbers where applicable)
1	NOT SUPPORTED PER NEC-81, art 351.8, 12" FROM FLEX.

12) ORIGINATED BY DATE	13) APPROVED BY DATE	14) RECEIPT ACKNOWLEDGED DATE
J. Long 7-21-82	J.W. Miller 7-21-82	

15) REMARKS:

REF: EXCEPTION #2 J.W. Miller 7-28-82

16) ACTION COMPLETED DATE	17) REINSPECTION COMPLETED DATE
	J.W. Miller 7-28-82

Responsible Superintendent or Field Engineer

IN PROCESS INSPECTION NOTICE

1) PROJECT NO.	2) INSPECTION DOCUMENT NAME	3) ACTIVITY OR TASK	4) NUMBER	5) MO DAY YR
T220	DMD-4E EV-1.0	3.10	EVP-41	7/21/82

6) ITEM LOCATION AREA BLDG	7) DWG/PART NO. REV	8) ITEM NAME
628, AUX-#2 SIDE STARTUP SYSTEM NO. UNDERPINNING D/A/8	NEC 81	INSTRUMENT CONDUIT DMD-4E

9) INSPECTION CRITERIA DOCUMENT NUMBER & TITLE

DWG ☐ SPEC ☐ OTHER ☒ EXPLAIN NEC-81, art 351

10) NO.	11) DESCRIPTION (list serial numbers where applicable)
1	NOT SUPPORTED PER NEC-81, art 351.8, 12" FROM FLEX.

12) ORIGINATED BY DATE	13) APPROVED BY DATE	14) RECEIPT ACKNOWLEDGED DATE
7-21-82	J.W. Miller 7-21-82	

15) REMARKS:

REF: EXCEPTION #2 J.W. Miller 7.28.82

16) ACTION COMPLETED DATE	17) REINSPECTION COMPLETED DATE
	J.W. Miller 7.28.82

Responsible Superintendent or Field Engineer

IN PROCESS INSPECTION NOTICE

2) INSPECTION DOCUMENT NAME	4) NUMBER
DSB-AS1/AS3-T/C EU-1.0	EUP-40
3) ACTIVITY OR TASK	**5) MO DAY YR**
3.10	7/21/82

1) PROJECT NO. 7220

6) ITEM LOCATION AREA BLDG	7) DWG/PART NO. REV	8) ITEM NAME
642, AUX, #1 SIDE @ H STARTUP SYSTEM NO. UNDERPINNING D/A/S	NEC 81	T/C CONDUIT DSB-AS1, AS3-T/C

9) INSPECTION CRITERIA DOCUMENT NUMBER & TITLE
DWG ☐ SPEC ☐ OTHER ☒ EXPLAIN NEC-81, art 351.8

10) NO.	11) DESCRIPTION (list serial numbers where applicable)
1	NOT SUPPORTED PER NEC-81, art 351.8, 12" FROM FLEX.

12) ORIGINATED BY DATE	13) APPROVED BY DATE	14) RECEIPT ACKNOWLEDGED DATE
7-21-82	J.W. Miller 7-21-82	

15) REMARKS

REFER TO EXCEPTION # 2

16) ACTION COMPLETED DATE	17) REINSPECTION COMPLETED DATE
	J.W. Miller 7-28-82

Responsible Superintendent or Field Engineer

IN PROCESS INSPECTION NOTICE

1) PROJECT NO. 7220	2) INSPECTION DOCUMENT NAME DSB-AS1, AS3-INST EU-1.0	4) NUMBER EUP-39
	3) ACTIVITY OR TASK 3.10	5) MO DAY YR 7/21/82

6) ITEM LOCATION AREA BLDG 642, AUX #1 SIDE @ H STARTUP SYSTEM NO. UNDERPINNING D/A/S	7) DWG/PART NO. NEC 81 REV	8) ITEM NAME INSTRUMENT CONDUIT DSB AS1, AS3

9) INSPECTION CRITERIA DOCUMENT NUMBER & TITLE
DWG ☐ SPEC ☐ OTHER ☒ EXPLAIN NEC-81, art 351.8

10) NO.	11) DESCRIPTION (list serial numbers where applicable)
1	NOT SUPPORTED PER NEC-81, art 351.8, 12" FROM FLEX.

12) ORIGINATED BY DATE	13) APPROVED BY DATE	14) RECEIPT ACKNOWLEDGED DATE
7-21-82	J W Miller 7-21-82	

15) REMARKS:

REFER TO EXCEPTION # 2. J W Miller 7.28.82

16) ACTION COMPLETED DATE	17) REINSPECTION COMPLETED DATE
	J W Miller 7-28-82

Responsible Superintendent or Field Engineer

IN PROCESS INSPECTION NOTICE

1) PROJECT NO. 7220	2) INSPECTION DOCUMENT NAME: DSB-1W EV-1.0	4) NUMBER: EUP-38
	3) ACTIVITY OR TASK: 3.10	5) MO DAY YR: 7/21/81

6) ITEM LOCATION AREA BLDG: 634, TURB-#1 SIDE STARTUP SYSTEM NO.: UNDER PINNING D/A/S	7) DWG/PART NO. REV: NEC 81	8) ITEM NAME: INSTRUMENT CONDUIT DSB-1W

9) INSPECTION CRITERIA DOCUMENT NUMBER & TITLE

DWG ☐ SPEC ☐ OTHER ☒ EXPLAIN NEC-81, art 351

10) NO.	11) DESCRIPTION (list serial numbers where applicable)
1	NOT SUPPORTED PER NEC-81, art 351.8, 12"
	FROM FLEX.

12) ORIGINATED BY DATE	13) APPROVED BY DATE	14) RECEIPT ACKNOWLEDGED DATE
J. Long 7-21-82	J.W. Miller 7-21-82	

15) REMARKS

REFER TO EXCEPTION #2 J.W. Miller 7-28-82

16) ACTION COMPLETED DATE	17) REINSPECTION COMPLETED DATE
	J.W. Miller 7-28-82

Responsible Superintendent or Field Engineer

IN PROCESS INSPECTION NOTICE

2) INSPECTION DOCUMENT NAME	4) NUMBER
DSB-1W-T/C EU-1.0	EUP-37
3) ACTIVITY OR TASK	**5) MO DAY YR**
3.10	7/21/82

1) PROJECT NO. 7220

6) ITEM LOCATION AREA BLDG	7) DWG/PART NO. REV	8) ITEM NAME
634, TURB-#1 SIDE STARTUP SYSTEM NO. UNDERPINNING D/A/S	NEC 81	T/C CONDUIT DSB-1W-T/C

9) INSPECTION CRITERIA DOCUMENT NUMBER & TITLE
DWG ☐ SPEC ☐ OTHER ☒ EXPLAIN NEC-81, 351.8

10) NO.	11) DESCRIPTION (list serial numbers where applicable)
1	NOT SUPPORTED PER NEC-81, art 351.8, 12" FROM FLEX.

12) ORIGINATED BY DATE	13) APPROVED BY DATE	14) RECEIPT ACKNOWLEDGED DATE
J Long 7-21-82	J W Miller 7-21-82	

15) REMARKS:

REFER TO EXCEPTION # 2. J W Miller 7-28-82

16) ACTION COMPLETED DATE	17) REINSPECTION COMPLETED DATE
	J W Miller 7-28-82

Responsible Superintendent or Field Engineer

IN PROCESS INSPECTION NOTICE

2) INSPECTION DOCUMENT NAME: EU-6.1 DMD-1E

4) NUMBER: EUP-36 ~~E2096~~ sed 7/29/8

1) PROJECT NO. 7220

3) ACTIVITY OR TASK: SEE BELOW

5) MO DAY YR: 6&7.12.82, 7&8-12-82

6) ITEM LOCATION AREA BLDG: D2 F IVP DMD-1E

STARTUP SYSTEM NO.: UNDERPINNING INST

7) DWG/PART NO. / REV: C1490 / 2; C1491 / 1; FCR24075, FCR24144, FCR24103

8) ITEM NAME: DIAL GUAGE

9) INSPECTION CRITERIA: DWG ☒ SPEC ☐ OTHER ☐ EXPLAIN — DOCUMENT NUMBER & TITLE: SEE BLOCK 7 ABOVE

10) NO.	11) DESCRIPTION (list serial numbers where applicable)
1	2.1 REACTION ANGLES NOT PER PRINT.
2	2.1 WELDS ON REACTION ANGLES NOT PER PRINT.
~~3~~	~~2.1 STAINLESS STEEL PLATE DRAGGED~~ NCR 2 ITEM WAS 7-12-82
4 ✓	3.7 DIAL GUAGE JAMED INTO MOUNTING ANGLE

12) ORIGINATED BY DATE: H.L. Baker 7-12-82

13) APPROVED BY DATE: J.W. Miller 7-12-82

14) RECEIPT ACKNOWLEDGED DATE: Rick Black 7-13-82

15) REMARKS:

(1) FCR CA215 (2) FCR CA215 (4) PROBLEM RESOLVED WJS item

1&2 - See FCR-C-4299

~~3~~ (4) - Problem Resolved WJE item 8/6/82

16) ACTION COMPLETED DATE: 7/25/82

17) REINSPECTION COMPLETED DATE: Melbourne Lenczewski 8/7/82

Pam Glass 8/6/82

Responsible Superintendent or Field Engineer

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IN PROCESS INSPECTION NOTICE

1) PROJECT NO. 7220	2) INSPECTION DOCUMENT NAME C.150 EU DMOIE INSTALLATION AND TESTING OF EXPANSION ANCHORS	4) NUMBER EUP-35 E-2094 Used 12/1
	3) ACTIVITY OR TASK 3.4	5) MO DAY YR 7-10-82

6) ITEM LOCATION AREA BLDG	7) DWG/PART NO.	REV	8) ITEM NAME
A4X BLDG EL ~~634~~ 642' K AT 10.5 LINES DOE 7-10-82 STARTUP SYSTEM NO. UNDERPINNING INST.	C 305	14	ANCHOR BOLT SPACING & ANCHOR ANGLE
	C-1490	2	

9) INSPECTION CRITERIA DOCUMENT NUMBER & TITLE

DWG ☒ SPEC ☐ OTHER ☐ EXPLAIN See Work 7 above

10) NO.	11) DESCRIPTION (list serial numbers where applicable)
1	IN Accordance with TABLE 4.1 OF C.305, The minimum C/C spacing For A 1/4" Anchor bolt IS 3". The minimum C/C spacing For the 1/4" Anchor bolts installed ON the stainless PLATE IS 2 1/2" For DMOIE.
2.	The Angle OF the 1/4" Anchor bolt AT the North end of the stainless PLATE IS more than 3°. NO SPERICAL WASHER WAS INSTALLED.

12) ORIGINATED BY DATE	13) APPROVED BY DATE	14) RECEIPT ACKNOWLEDGED DATE
Dennis D Du 7-10-82	J W Miller 7-12-82	Rick Black 7-13-82

15) REMARKS:

① FCR-C-4194 ② Spherical washer installed

16) ACTION COMPLETED DATE	17) REINSPECTION COMPLETED DATE
Pam Glass 7-26-82	W.L. Patel 8-7-82

Responsible Superintendent or Field Engineer

IN PROCESS INSPECTION NOTICE

2) INSPECTION DOCUMENT NAME: PQCI / EU-G.1, Rev 1

4) NUMBER: EUP-3 E-4071

1) PROJECT NO.: 7220

3) ACTIVITY OR TASK: - 2.1

5) MO DAY YR: 7-8-82

6) ITEM LOCATION AREA BLDG: TURBINE BLDG. EL. 634', 7.13 at KC
STARTUP SYSTEM NO.
UNDERPINNING INSTRUMENTATION

7) DWG/PART NO.: C-1490 REV: 2

8) ITEM NAME: DMD-10

9) INSPECTION CRITERIA: DWG ☒ SPEC ☐ OTHER ☐ EXPLAIN
DOCUMENT NUMBER & TITLE: C-1491, Rev 1 AND FCR No C-4075

10) NO.	11) DESCRIPTION (list serial numbers where applicable)
1	BOLT HOLES OF E-W PLUNGER REACTION ANGLE ARE 2 7/8" CENTER TO CENTER NOT 3" AS SHOWN ON FCR C-4075.

12) ORIGINATED BY DATE: Harley Tuttle 7-8-82

13) APPROVED BY DATE: Dale S. Preslar 7-9-82

14) RECEIPT ACKNOWLEDGED DATE: Jim Gloor 7/8-82

15) REMARKS:
See FCR-C4270

16) ACTION COMPLETED DATE: J. Gloor 7/25/82

17) REINSPECTION COMPLETED DATE: W. Dahl 7-25-82

Responsible Superintendent or Field Engineer

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IN PROCESS INSPECTION NOTICE

1) PROJECT NO. 7220	2) INSPECTION DOCUMENT NAME PQCI/EU-6.1, REV 1	4) NUMBER EUP-33 ~~E2075~~ used 7/21/82
	3) ACTIVITY OR TASK 3.6	5) MO DAY YR 7-8-82

6) ITEM LOCATION AREA BLDG' TURBINE BLDG. EL. 614' STARTUP SYSTEM NO. UNDERPINNING & INSTRUMENTATION	7) DWG/PART NO. C-1491 REV 1	8) ITEM NAME DSB-2W

9) INSPECTION CRITERIA DWG ☒ SPEC ☐ OTHER ☐ EXPLAIN DOCUMENT NUMBER & TITLE C-1491, REV 1 & FCR No. C-4075

10) NO.	11) DESCRIPTION (list serial numbers where applicable)
1.	N-S & E-W REACTION PLUNGER ANGLES WELDS ARE
.	UNDERSIZED NOT 1/4" FILLET AS SHOWN ON FCR No. C-4075

12) ORIGINATED BY DATE	13) APPROVED BY DATE	14) RECEIPT ACKNOWLEDGED DATE
Harley Tuttle 7-8-82	Dale S. Preslar 7-9-82	Pam Bass 7/8/82

15) REMARKS:

See attached FCR # C4151.

16) ACTION COMPLETED	DATE	17) REINSPECTION COMPLETED	DATE
[signature]	7/25/82	[signature]	7-25-82

Responsible Superintendent or Field Engineer

IN PROCESS INSPECTION NOTICE

1) PROJECT NO. 7220	2) INSPECTION DOCUMENT NAME C1.50 INSTALLATION AND TESTING OF EXPANSION ANCHORS	4) NUMBER EUP-32 ~~E 2055~~
	3) ACTIVITY OR TASK 3.4	5) MO DAY YR 7-1-82

6) ITEM LOCATION AREA BLDG	7) DWG/PART NO.	REV	8) ITEM NAME
2'E/5.0 2'S/K EL. 634'6" Aux. BLD. STARTUP SYSTEM NO. NON-TESTABLE	C1491	1	ANCHOR BOLT C1.50-EU-DMD-6W

9) INSPECTION CRITERIA DOCUMENT NUMBER & TITLE

DWG ☐ SPEC ☒ OTHER ☐ EXPLAIN C-305 Δ4 SECT. 5.2 PAGE 5

10) NO.	11) DESCRIPTION (list serial numbers where applicable)
1	LENGTH CODE ON 1/4" ANCHOR (HOLDING DOWN FLOOR PLATE) IS ILLEGIBLE. ULTRASONIC MEASUREMENT INDETERMINATE DUE TO 1/4" SIZE.

12) ORIGINATED BY DATE	13) APPROVED BY DATE	14) RECEIPT ACKNOWLEDGED DATE
Kelly McLaughlin 7-1-82	Dale E. Treales 7-1-82	Pam Glass 7-1-82

15) REMARKS:

Anchor bolt has been replaced.

16) ACTION COMPLETED DATE	17) REINSPECTION COMPLETED	DATE
Pam Glass 7-26-82	J. C. Miller	7-29-82 ~~7-22-82~~

Responsible Superintendent or Field Engineer

IN PROCESS INSPECTION NOTICE

1) PROJECT NO.	2) INSPECTION DOCUMENT NAME	3) ACTIVITY OR TASK	4) NUMBER	5) MO DAY YR
7220	EU-1.0	DSB-AS3 3.10	EUP-31	7/21/82

6) ITEM LOCATION AREA BLDG / STARTUP SYSTEM NO.	7) DWG/PART NO.	REV	8) ITEM NAME
584, AUX, #1-W/WALL / UNDERPINNING DATA	NEC	81	INST Conduit DSB-AS3

9) INSPECTION CRITERIA DWG ☐ SPEC ☐ OTHER ☒ EXPLAIN NEC-81, art-351 DOCUMENT NUMBER & TITLE

10) NO.	11) DESCRIPTION (list serial numbers where applicable)
1	CONDUIT NOT SUPPORTED PER "NEC-81," art-351.8, ON EITHER END OF SECTION MOUNTED ON FLOOR.

12) ORIGINATED BY DATE	13) APPROVED BY DATE	14) RECEIPT ACKNOWLEDGED DATE
M Long 7/21/82	J W Miller 7-21-82	Pam Glass 7-21-82

15) REMARKS:
Use as is; see exception No. 2 of article 351.8.

16) ACTION COMPLETED DATE	17) REINSPECTION COMPLETED DATE
Pam Glass 7-28-82	J W Miller 7-28-82

Responsible Superintendent or Field Engineer

IN PROCESS INSPECTION NOTICE

2) INSPECTION DOCUMENT NAME	4) NUMBER
EU-1.0	EUP-30
3) ACTIVITY OR TASK	5) MO DAY YR
DSB-3W 3.10	7/21/82

1) PROJECT NO. 7220

6) ITEM LOCATION AREA BLDG	7) DWG/PART NO.	REV	8) ITEM NAME
684, TURB, #1-K/WALL STARTUP SYSTEM NO. UNDERPINNING D.A.S.	NEC	81	INST. Conduit DSB-3W

9) INSPECTION CRITERIA DWG ☐ SPEC ☐ OTHER ☒ EXPLAIN — DOCUMENT NUMBER & TITLE: NEC-81, art-351

10) NO.	11) DESCRIPTION (list serial numbers where applicable)
1	CONDUIT NOT SUPPORTED PER, "NEC-81," art-351.8
	AT INSTRUMENT.

12) ORIGINATED BY DATE	13) APPROVED BY DATE	14) RECEIPT ACKNOWLEDGED DATE
[signature] 7/21/82	J W Miller 7-21-82	Pam Glass 7-21-82

15) REMARKS:

Use as is; see exception No 2 of article 351.8.

16) ACTION COMPLETED DATE	17) REINSPECTION COMPLETED DATE
Pam Glass 7-28-82	J W Miller 7-28-82

Responsible Superintendent or Field Engineer

IN PROCESS INSPECTION NOTICE

1) PROJECT NO.	2) INSPECTION DOCUMENT NAME	4) NUMBER
7220	EU-1.0	EUP-29
	3) ACTIVITY OR TASK: DSB-AS3, T/C 3.10	5) MO DAY YR: 7/21/82

6) ITEM LOCATION AREA BLDG	7) DWG/PART NO.	REV	8) ITEM NAME
584, AUX, #1-W/WALL STARTUP SYSTEM NO. UNDERPINNING DATA	NEC	81	THERMOCOUPLE CONDUIT DSB-AS3, T/C

9) INSPECTION CRITERIA — DOCUMENT NUMBER & TITLE

DWG ☐ SPEC ☐ OTHER ☒ EXPLAIN NEC-81, art 351

10) NO.	11) DESCRIPTION (list serial numbers where applicable)
1	CONDUIT NOT SUPPORTED PER, "NEC-81," art 351.8, ON EITHER END OF SECTION MOUNTED ON FLOOR.

12) ORIGINATED BY	DATE	13) APPROVED BY	DATE	14) RECEIPT ACKNOWLEDGED	DATE
[signature]	7/21/82	J W Miller	7-21-82	Pam Glass	7-21-82

15) REMARKS:

Use as is; See Exception # 2 of article 351.8.

16) ACTION COMPLETED	DATE	17) REINSPECTION COMPLETED	DATE
Pam Glass	7-28-82	J W Miller	7-28-82

Responsible Superintendent or Field Engineer

IN PROCESS INSPECTION NOTICE

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1) PROJECT NO. 7220	2) INSPECTION DOCUMENT NAME: EU-1.0
3) ACTIVITY OR TASK: DSB-3W-T/C 3.4	4) NUMBER: EUP-28
	5) MO DAY YR: 7/21/82
6) ITEM LOCATION AREA BLDG: 614, TURB, #1-K/WALL STARTUP SYSTEM NO.: UNDERPINNING D.A.S.	7) DWG/PART NO. REV: NEC 81
	8) ITEM NAME: THERMO COUPLE COND'IIT DSB-3W-T/C

9) INSPECTION CRITERIA DWG ☐ SPEC ☐ OTHER ☒ EXPLAIN — DOCUMENT NUMBER & TITLE: NEC-81, art 348-12

10) NO.	11) DESCRIPTION (list serial numbers where applicable)
1	BOTTOM CONDUIT CLAMP ON "K" WALL IS NOT TIGHT

12) ORIGINATED BY DATE	13) APPROVED BY DATE	14) RECEIPT ACKNOWLEDGED DATE
J.J. Long 7/21/82	J.W. Miller 7-21-82	Pam Glass 7-21-82

15) REMARKS:

CLAMPS ON THERMOCOUPLE CONDUIT DSB-3W ARE SECURED.

16) ACTION COMPLETED DATE	17) REINSPECTION COMPLETED DATE
Gregory J. Burke 7/27/82	J.J. Long 8-2-82

Responsible Superintendent or Field Engineer

IN PROCESS INSPECTION NOTICE

1) PROJECT NO. 7220	2) INSPECTION DOCUMENT NAME PQCI EU. 1.0 DSB-AS-2 & 4 (INST)	4) NUMBER EUP-27
	3) ACTIVITY OR TASK 3.10	5) MO DAY YR 7-21-82

6) ITEM LOCATION AREA BLDG D2 Wing Wall. Aux. STARTUP SYSTEM NO.	7) DWG/PART NO. NEC REV 81	8) ITEM NAME 1" Conduit Instrument DSB AS.-2 & 4

9) INSPECTION CRITERIA DWG ☐ SPEC ☐ OTHER ☒ EXPLAIN DOCUMENT NUMBER & TITLE NEC 81 - Art. 351.8

10) NO.	11) DESCRIPTION (list serial numbers where applicable)
1.	Conduit not supported within 1 Ft. of start of Flex as stated. Article 351.8 NEC. 81 at 584 level and 645.

12) ORIGINATED BY DATE	13) APPROVED BY DATE	14) RECEIPT ACKNOWLEDGED DATE
J. Long. 7-21-82	J.W. Mills 7-21-82	Pam Glass 7-21-82

15) REMARKS:
Use as is; See exception No. 2 of article 351.8

16) ACTION COMPLETED DATE	17) REINSPECTION COMPLETED DATE
Pam Glass 7-28-82	J.W. Mills 7-28-82

Responsible Superintendent or Field Engineer

IN PROCESS INSPECTION NOTICE

2) INSPECTION DOCUMENT NAME: DSB AS-2 & 4 (Thermo) PQCI EU1.0

4) NUMBER: QUP-26

1) PROJECT NO. 7220

3) ACTIVITY OR TASK: 3.10

5) MO DAY YR: 7 21-82

6) ITEM LOCATION AREA BLDG: #2 wing wall AUX

STARTUP SYSTEM NO.

7) DWG/PART NO. REV: NEC 81

8) ITEM NAME: 1" Conduit Thermo couple. DSB AS-2 & 4

9) INSPECTION CRITERIA DWG ☐ SPEC ☐ OTHER ☒ EXPLAIN

DOCUMENT NUMBER & TITLE: NEC 81 Art. 351.8

10) NO.	11) DESCRIPTION (list serial numbers where applicable)
1	Conduit Not supported within 1 ft of start of flex As stated Article 351.8 of NEC 81. At 584 and 645 level

12) ORIGINATED BY DATE: J Long 7-21-82

13) APPROVED BY DATE: J W Miller 7-21-82

14) RECEIPT ACKNOWLEDGED DATE: Pam Glass 7-21-82

15) REMARKS:

Use as is; See exception No. 2 of article 351.8.

16) ACTION COMPLETED DATE: Pam Glass 7-28-82

17) REINSPECTION COMPLETED DATE: J W Miller 7-28-82

Responsible Superintendent or Field Engineer

IN PROCESS INSPECTION NOTICE

2) INSPECTION DOCUMENT NAME	4) NUMBER
DSB AS-1 (INST) PQCI EU 1.0	EUP-25
3) ACTIVITY OR TASK	**5) MO DAY YR**
3.10	

1) PROJECT NO. 7220

6) ITEM LOCATION AREA BLDG	7) DWG/PART NO. REV	8) ITEM NAME
584 Level Aux STARTUP SYSTEM NO.	NEC- 81	1" Instrument Conduit DSB AS-1

9) INSPECTION CRITERIA DOCUMENT NUMBER & TITLE
DWG ☐ SPEC ☐ OTHER ☒ EXPLAIN NEC-81 Art 351.8

10) NO.	11) DESCRIPTION (list serial numbers where applicable)
1.	Conduit Not Installed IAW NEC 81 Art. 351.8

12) ORIGINATED BY DATE	13) APPROVED BY DATE	14) RECEIPT ACKNOWLEDGED DATE
J. Long 7-21-82	J.W. Miller 7-21-82	Pam Glass 7-21-82

15) REMARKS:
Use as is; See exception No. 2 of article ~~350~~ Pg 7-28-82 351.8.

16) ACTION COMPLETED DATE	17) REINSPECTION COMPLETED DATE
Pam Glass 7-28-82	J.W. Miller 7-28-82

Responsible Superintendent or Field Engineer

IN PROCESS INSPECTION NOTICE

1) PROJECT NO. 7220	2) INSPECTION DOCUMENT NAME (Thermo) DSB AS-1 IDCI EU/.0	4) NUMBER EUP-24
	3) ACTIVITY OR TASK 3.10	5) MO DAY YR 7 21-82

6) ITEM LOCATION AREA BLDG 584 Loue Aux. STARTUP SYSTEM NO.	7) DWG/PART NO. REV NEC 81	8) ITEM NAME 1" Conduit (Thermocouple) DSB-AS-1

9) INSPECTION CRITERIA DOCUMENT NUMBER & TITLE

DWG ☐ SPEC ☐ OTHER ☐ EXPLAIN

10) NO.	11) DESCRIPTION (list serial numbers where applicable)
1.	Conduit not installed IAW. NEC 81 Art 351.8.

12) ORIGINATED BY DATE	13) APPROVED BY DATE	14) RECEIPT ACKNOWLEDGED DATE
J. Tony 7-21-82	J. Miller 7-21-82	Pam Glass 7-21-82

15) REMARKS:

Use as is; Exception No. 2 of article 351.8.

16) ACTION COMPLETED DATE

Pam Glass 7-28-82

17) REINSPECTION COMPLETED DATE

J. Miller 7-28-82

Responsible Superintendent or Field Engineer

IN PROCESS INSPECTION NOTICE

2) INSPECTION DOCUMENT NAME	4) NUMBER
DSB AS-2 (Thermo) PQCI Ev. 1.0	EUP-23
3) ACTIVITY OR TASK	**5) MO DAY YR**
3.10	7-21-82

1) PROJECT NO. 7220

6) ITEM LOCATION AREA BLDG	7) DWG/PART NO. REV	8) ITEM NAME
Wing Wall 584 Iour AUX STARTUP SYSTEM NO.	NEC 81	1" Conduit Thermocouple DSB-AS-2

9) INSPECTION CRITERIA DOCUMENT NUMBER & TITLE
DWG ☐ SPEC ☐ OTHER ☒ EXPLAIN NEC-81

10) NO.	11) DESCRIPTION (list serial numbers where applicable)
1.	Conduit NOT supported within 1 ft of start of flex As stated NEC 81 Art. 351.8 (584 level)

12) ORIGINATED BY DATE	13) APPROVED BY DATE	14) RECEIPT ACKNOWLEDGED DATE
J. Long 7-21-82	J. Miller 7-21-82	Pam Glass 7-21-82

15) REMARKS:
Use as is; See exception No 2 of article 351.8.

Pam Glass

16) ACTION COMPLETED DATE	17) REINSPECTION COMPLETED DATE
Pam Glass 7-28-82	J. Miller 7-28-82

Responsible Superintendent or Field Engineer

IN PROCESS INSPECTION NOTICE

2) INSPECTION DOCUMENT NAME: DSB AS-2 (INST) PQCI EU1.0

4) NUMBER: EUP-22

1) PROJECT NO.: 7220

3) ACTIVITY OR TASK: 3.10

5) MO DAY YR: 7 21-82

6) ITEM LOCATION AREA BLDG: Wing Wall 584 Inc Aux

STARTUP SYSTEM NO.:

7) DWG/PART NO. REV: NEC 81

8) ITEM NAME: 1" Conduit Instrument DSB AS-2.

9) INSPECTION CRITERIA DWG ☐ SPEC ☐ OTHER ☒ EXPLAIN — DOCUMENT NUMBER & TITLE: NEC 81 Art 351.8

10) NO.	11) DESCRIPTION (list serial numbers where applicable)
1	Conduit not supported within 1 ft of start of flex. As stated NEC 81 Art 351.8 (584 level)

12) ORIGINATED BY DATE: J. Long 7-21-82

13) APPROVED BY DATE: J.W. Miller 7-21-82

14) RECEIPT ACKNOWLEDGED DATE: Pam Glass 7-21-82

15) REMARKS:

Use as is; see exception No 2 of article 351.8.

16) ACTION COMPLETED DATE: Pam Glass 7-28-82

17) REINSPECTION COMPLETED DATE: J.W. Miller 7-28-82

Responsible Superintendent or Field Engineer

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Pg 4 8-7-82

IN PROCESS INSPECTION NOTICE

2) INSPECTION DOCUMENT	4) NUMBER
EU-6.0-S1 NAME INST. OF INST. FOR UNDERPINNING.	EUP-21
3) ACTIVITY OR TASK	5) MO DAY YR
2.14 & 3.7	7-19-82

1) PROJECT NO. 7220

6) ITEM LOCATION AREA BLDG	7) DWG/PART NO.	REV	8) ITEM NAME
AUX BLDG EL 657'6" Fx to HKE 5.3	C-198-G-1	NA	STRAIN GAGE - S.I
STARTUP SYSTEM NO.	OP-10	1	
UNDERPINING INST.			

9) INSPECTION CRITERIA DWG ☑ SPEC ☑ OTHER ☐ EXPLAIN — DOCUMENT NUMBER & TITLE: STRAIN GAGES & INST. OF STRAIN GAGES

10) NO.	11) DESCRIPTION (list serial numbers where applicable)
1.	PROC. OP-10 REQUIRES A GROUND LEAKAGE TEST BE DONE
	USING A 500 VOLT MEGOHMMETER OR EQUIVALANT.
	TEST WAS DONE WITH LOW VOLTAGE OHMMETER.
2.	DWG. C-198-G-1 GIVES NO DETAIL FOR MOUNTING 4"X4"
	EXT. RING FOR STRAIN GAGE. PROTECTION.
	EXT RING IS SUPPORTED WITH SET SCREW ONLY.

12) ORIGINATED BY DATE	13) APPROVED BY DATE	14) RECEIPT ACKNOWLEDGED DATE
J.C. Miller 7-19-82	J.C. Miller 7-19-82	Pam Glass 7-20-82

15) REMARKS:

① OP-10m has been revised - test to be done with a low voltage Ohm meter.

② C-198-G-1 has no detail for mounting the 4"X4" extension ring, therefore there is no violation of the drawing by not having the (cont. pg. 3)

16) ACTION COMPLETED DATE	17) REINSPECTION COMPLETED DATE
Pam Glass 8-7-82	J.C. Miller 8-7-82

Responsible Superintendent or Field Engineer

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15) cont.

extension ring supported. Per Spec. C-198, W.J.E. has supervisory responsibilities of this installation, and they agree that the extension ring is adequately supported by means of the conduit support near the extension ring; therefore no mounting detail is required. Ref. DCN# 4 to C-1490 R.2.

Item #1 superceded by NCR #4495 dtd 9-7-82.

1

IN PROCESS INSPECTION NOTICE

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1) PROJECT NO. 7220	2) INSPECTION DOCUMENT NAME DMD QCIR-EULO-11,12,13	4) NUMBER EUP-20
	3) ACTIVITY OR TASK 3.3c 3.5	5) MO DAY YR 7-16-82
6) ITEM LOCATION AREA BLDG Data Rm & Upper Turbine Room ? STARTUP SYSTEM NO. ?	7) DWG/PART NO. N/A REV	8) ITEM NAME Conduit DMD -11,12,13

9) INSPECTION CRITERIA DWG ☐ SPEC ☐ OTHER ☐ EXPLAIN — DOCUMENT NUMBER & TITLE ~~7~~ NEC-81

10) NO.	11) DESCRIPTION (list serial numbers where applicable)
①	Conduit DMD-11,12,13 (end) not Supported in Data Rm.
②	Conduit DMD-11,12,13 runs S from Data Rm thru wall of Turbine Room and turns up by a way of ? to an LB to an JB — No Cover on LB. or Junction Box
③	Conduit Not Sealed

12) ORIGINATED BY DATE	13) APPROVED BY DATE	14) RECEIPT ACKNOWLEDGED DATE
C.R. Barrios Lerner 7-16-82	J.M. Keller 7-16-82	Richard Black 7/17/82

15) REMARKS:

CONDUIT DMD-11,12,13 SECURED AND SEALED IN THE DATA ROOM.
COVERS INSTALLED ON JUNCTION BOX AND LB.

16) ACTION COMPLETED DATE	17) REINSPECTION COMPLETED DATE
Gregory J. Burke 7/27/82	J.J. Long 8-2-82

Responsible Superintendent or Field Engineer

IN PROCESS INSPECTION NOTICE

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1) PROJECT NO. 7220	2) INSPECTION DOCUMENT NAME QCIR-EU1.0 DMD 12, 13	4) NUMBER EUP-19
	3) ACTIVITY OR TASK 3.8 3.5	5) MO DAY YR 7-16-82 Conduit DMD 12, 13

6) ITEM LOCATION AREA BLDG. Turbine Room under ceiling S. of Data Rm. STARTUP SYSTEM NO.	7) DWG/PART NO. N/A REV	8) ITEM NAME DMD Conduit 12, 13

9) INSPECTION CRITERIA DWG ☐ SPEC ☐ OTHER ☐ EXPLAIN — DOCUMENT NUMBER & TITLE NEC-81

10) NO.	11) DESCRIPTION (list serial numbers where applicable)
1	Conduit DMD 12, 13 leaving JB DMD 11, 12, 13 is marked DMD ~~12~~ 13 (12 omitted) Cld 7-16-82
2	Fittings on ~~Dt~~ Conduit DMD 12-13 have 5 or more missing Covers
3	Large Pulley (Used for cable Pull) Tied to EMT Conduit DMD 12, 13

12) ORIGINATED BY DATE	13) APPROVED BY DATE	14) RECEIPT ACKNOWLEDGED DATE
C R Barnett 7-12-82	J C Miller 7-16-82	Richard Black 7/17/82

15) REMARKS:

THE CONDUIT CONTAINING DMD-12 AND DMD-13 IS NOW MARKED APPROPRIATELY.
ALL FITTINGS ON CONDUITS DMD-12 AND DMD-13 HAVE COVERS INSTALLED.
THE PULLEY HAS BEEN UNTIED FROM CONDUIT DMD-12 AND DMD-13.

16) ACTION COMPLETED DATE	17) REINSPECTION COMPLETED DATE
Gregory J. Burke 7/27/82	J. J. Long 8-2-82

Responsible Superintendent or Field Engineer

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IN PROCESS INSPECTION NOTICE

1) PROJECT NO. 7220	2) INSPECTION DOCUMENT NAME: EU-6.0-DSB-AS4
	4) NUMBER: EUP-18
	3) ACTIVITY OR TASK: 2.18
	5) MO DAY YR: 7-16-82

6) ITEM LOCATION AREA BLDG: AUX. BLDG. EL. 584' 2'S OF FA AND 4' W OF 7.8. STARTUP SYSTEM NO.: UNDERPINNING INST.	7) DWG/PART NO.: C-198-11-6; OP-38 — REV: NONE; 1	8) ITEM NAME: THERMOCOUPLE DSB-AS4

9) INSPECTION CRITERIA: DWG ☑ SPEC ☐ OTHER ☑ EXPLAIN — DOCUMENT NUMBER & TITLE: C-198-11-6, OP-38 REV. 1

10) NO.	11) DESCRIPTION (list serial numbers where applicable)
1	THERMOCOUPLE AT DSB-AS4 DOES NOT AGREE WITH DWG. C-198-11-6 NOTE #1 AND #2

12) ORIGINATED BY / DATE	13) APPROVED BY / DATE	14) RECEIPT ACKNOWLEDGED / DATE
Melbourne Lenyushi 7/16/82	J W Miller 7-16-82	Pam Glass 7-16-82

15) REMARKS:

① Cable to be repaired per ECR-C-4267

16) ACTION COMPLETED / DATE	17) REINSPECTION COMPLETED / DATE
Pam Glass 8-7-82	Melbourne Lenyushi 8-8-82

Responsible Superintendent or Field Engineer

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IN PROCESS INSPECTION NOTICE

2) INSPECTION DOCUMENT NAME	4) NUMBER
EU 6.0 DSB-2W	C-UP-17
3) ACTIVITY OR TASK	5) MO DAY YR
3.6	7-14-82

1) PROJECT NO. 7220

6) ITEM LOCATION AREA BLDG	7) DWG/PART NO. REV	8) ITEM NAME
AUX. BLDG. EL. 114 5'W OF 3.5 AND 3'0 S. OF K STARTUP SYSTEM NO. UNDERPINNING INST.	PROC-OP-38 1 DWG C-1491 1	THERMO COUPLE DSB-2W-T3

9) INSPECTION CRITERIA DOCUMENT NUMBER & TITLE

DWG ☑ SPEC ☐ OTHER ☑ EXPLAIN PROC OP-38-1 DWG C 1491 REV 1

10) NO.	11) DESCRIPTION (list serial numbers where applicable) —
1	7/14/82 mel J. ~~THERMO~~ THERMOCOUPLE OUTER COVER DAMAGED ON
	DSB-2W-T3 15' DOWN FROM TOP OF PIPE.

12) ORIGINATED BY DATE	13) APPROVED BY DATE	14) RECEIPT ACKNOWLEDGED DATE
Melbourne Lengyuski 7/14/82	J.W. Mella 7-14-82	R.S. Toomey 7/15/82

15) REMARKS:

REPAIR CABLE USING RAYCHEM WCSF-115/350 TYPE N HEAT SHRINK.

RETERMINATE THERMOCOUPLE WIRES.

16) ACTION COMPLETED DATE	17) REINSPECTION COMPLETED DATE
Gregory J. Burke 7/15/82	Melbourne Lengyuski 7/15/82

Responsible Superintendent or Field Engineer

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IN PROCESS INSPECTION NOTICE

1) PROJECT NO. 7220	2) INSPECTION DOCUMENT NAME PDCI C-1500. FCR C-4075	4) NUMBER EUP-16 7-21-82. ~~E-2110~~
	3) ACTIVITY OR TASK 3.4	5) MO DAY YR 7 10. 82

6) ITEM LOCATION AREA BLDG #2 F/VP STARTUP SYSTEM NO.	7) DWG/PART NO. REV C-1491 FCN C 4075	8) ITEM NAME DSB-1E IR C150-EU. DSB-1E

9) INSPECTION CRITERIA DWG ☐ SPEC ☑ OTHER ☐ EXPLAIN DOCUMENT NUMBER & TITLE ~~C304~~ C305 Rev 14

10) NO.	11) DESCRIPTION (list serial numbers where applicable)
1	The Two. Top. Anchor Do not Meet Minimum Embedment on Wall Mount. Left 3 1/2" Right 3 5/8" Not 3 3/4" As. stated. on Table 4.1 of C-305 Rev 13 5/8" ∅ ANCHORS,

12) ORIGINATED BY DATE	13) APPROVED BY DATE	14) RECEIPT ACKNOWLEDGED DATE
J.J. Long 7-10-82	J.W. Mills 7-13-82	Lee Black 7-13-82

15) REMARKS:

Project approval acquired on FCR-C-4205 to use minimum embedment of 5/8" bolt as stated in table 4.1 of C-305 Rev 13; which is 2 1/2". Use as is.

Ron Glass 7-21-82

16) ACTION COMPLETED DATE	17) REINSPECTION COMPLETED	DATE
J.J. Long 7-26-82	W.L. Pahl	7-26-82

Responsible Superintendent or Field Engineer

JL-7-2

IN PROCESS INSPECTION NOTICE

2) INSPECTION DOCUMENT NAME C-150 EU OMO-4E INSTALLATION AND TESTING OF EXPANSION ANCHORS

4) NUMBER EUP-15 E 2097

1) PROJECT NO. 7220

3) ACTIVITY OR TASK 3.4

5) MO DAY YR 7-10-82

6) ITEM LOCATION AREA BLDG
Aux BLDG. El 628'-6"
9,15 & J Line
STARTUP SYSTEM NO.
UNDER PINNING INST.

7) DWG/PART NO. REV
C-305 14
C 1490 2

8) ITEM NAME
Anchor bolt SPACING

9) INSPECTION CRITERIA
DWG [X] SPEC [ ] OTHER [ ] EXPLAIN See Block 7 Above
DOCUMENT NUMBER & TITLE

10) NO.	11) DESCRIPTION (list serial numbers where applicable)
1.	In accordance with Table 4.1 of C-305, the minimum C/C spacing for a 1/4" Anchor bolt is 3". The minimum C/C spacing for the 1/4" Anchor bolts installed on the stainless plate is 2 1/2" for DMD-4E.

12) ORIGINATED BY DATE
Dennis D Jones 7-10-82

13) APPROVED BY DATE
J W Miller 7-12-82

14) RECEIPT ACKNOWLEDGED DATE
Rick Blank 7-13-82

15) REMARKS:
Project approval acquired on FCR-C-4194 to allow 2 1/2" ℄ to ℄ on 1/4" bolts. Use as is.

16) ACTION COMPLETED DATE
Ron Glass 7-22-82

17) REINSPECTION COMPLETED DATE
W Baker 7-26-82
~~D Z Baker~~ DZB 7-26-82

~~ANCHORS ARE 3/8" DIA~~ DZB 7-26-82
~~NOT ACCEPTABLE~~ ~~DZB 7-25-82~~
EXCEPTABLE

LOCATION HAS 3/8" ANCHORS INSTALLED
DZB 7-26-82

Responsible Superintendent or Field Engineer

IN PROCESS INSPECTION NOTICE

1) PROJECT NO. 7220	2) INSPECTION DOCUMENT NAME: EU-GO DMD-1E	4) NUMBER EUP-14 ~~E 7096~~
	3) ACTIVITY OR TASK: SEE BELOW	5) MO DAY YR: 6-12-82

6) ITEM LOCATION AREA BLDG	7) DWG/PART NO. / REV	8) ITEM NAME
2FI-P DMD-1E, EL 642' AT TURBINE BLDG	C1490 REV 2; C1491 REV 1; FCR4575, FCR6644, FCR4103	DIAL GUAGE
STARTUP SYSTEM NO.: UNDERTIMING INST		

9) INSPECTION CRITERIA DWG ☒ SPEC ☐ OTHER ☐ EXPLAIN — DOCUMENT NUMBER & TITLE: SEE BLOCK 7 ABOVE

10) NO.	11) DESCRIPTION (list serial numbers where applicable)
1	2.1 REACTION ANGLES NOT PER PRINT.
2	2.1 NUTS ON REACTION ANGLES NOT PER PRINT.
~~3~~	~~2.1 STAINLESS STEEL BOLT DAMAGED~~ VOID ITEM JS 7-12-82
4	3.7 DIAL GUAGE TAPPED INTO MOUNTING ANGLE

12) ORIGINATED BY / DATE	13) APPROVED BY / DATE	14) RECEIPT ACKNOWLEDGED / DATE
[signature] 7-12-82	JWMiller 7-12-82	[signature] 7-13-82

15) REMARKS: SAME AS IPIN EUP-35 JWMiller 7-28-82

16) ACTION COMPLETED / DATE	17) REINSPECTION COMPLETED / DATE
	JWMiller 7-28-82

IPIN LOG

E-4P-13 JM 7-21-82

IN PROCESS INSPECTION NOTICE

1) PROJECT NO. 7220	2) INSPECTION DOCUMENT NAME: ENG.1 DMD-48	4) NUMBER E-2095 E-2094 CR-728
	3) ACTIVITY OR TASK: SEE BELOW	5) MO DAY YR: 7-12-82

6) ITEM LOCATION AREA BLDG	7) DWG/PART NO.	REV	8) ITEM NAME
DMD-48 AUX BLDG EL 428'6" STARTUP SYSTEM NO. UNDER PINNING INST.	C1490	2	DIAL GUAGES
	C1491	1	LVDTS
	FCRC4075, FCRC 4044, FCRC4103		

9) INSPECTION CRITERIA DOCUMENT NUMBER & TITLE

DWG ☐ SPEC ☐ OTHER ☐ EXPLAIN

10) NO.	11) DESCRIPTION (list serial numbers where applicable)
1	2.1 REACTION ANGLES NOT PER PRINT.
2	2.1 REACTION ANGLE WELDS NOT PER PRINT
3	3.7 E/W DIAL GAUGE MOVEMENT RANGE.

12) ORIGINATED BY DATE	13) APPROVED BY DATE	14) RECEIPT ACKNOWLEDGED DATE
M.J. Dahl 7-12-82	J.C. Miller 7-12-82	Rich Black 7-13-82

15) REMARKS:

(1) SEE FCRs C4151, C4215 per FCR-C 4151 Item (2) Repaired (3) Wire Jenny

16) ACTION COMPLETED DATE	17) REINSPECTION COMPLETED DATE
7/25/82	J.C. Miller 7-29-82

EAST/WEST A ~~REACTION~~ REACTION ANGLE ~~7-16-82~~ WELD COVERING GROUT, N/S REACTION ANGLE HAS UNDER SIZE WELD - REJECT PIN OK'D 7-25-82

Responsible Superintendent or Field Engineer

IN PROCESS INSPECTION NOTICE

1) PROJECT NO. 7320

2) INSPECTION DOCUMENT NAME C.3.5-20 DMDIE INSTALLATION AND TESTING OF EXPANSION ANCHORS

4) NUMBER E-UP-1-35

3) ACTIVITY OR TASK 3.4

5) MO DAY YR 7-10-82

6) ITEM LOCATION AREA BLDG K 2353 C42 7-10-82

STARTUP SYSTEM NO. UNDERPINNING INST.

7) DWG/PART NO. C 3.5 -20 REV 14 2

8) ITEM NAME ANCHOR 1 SPACING 2 ANCHOR BOLTS

9) INSPECTION CRITERIA DWG ☒ SPEC ☐ OTHER ☐ EXPLAIN SEE ITEM 7 ABOVE

DOCUMENT NUMBER & TITLE

10) NO.	11) DESCRIPTION (list serial numbers where applicable)
1.	IN ACCORDANCE WITH TABLE A.1 OF C 3.5, THE MINIMUM C/C
	SPACING FOR A 1/4 ANCHOR BOLT IS 3". THE MINIMUM C/C SPACING
	FOR THE 1/4 ANCH. BOLTS INSTALLED IN THE STAINLESS PLATE IS
	2½" FOR DMDIE.
2.	THE ANCH. FOR 1/4 ANCHOR BOLT AT THE NORTH END OF THE STAINLESS
	PLATE IS APPROXIMATELY 3". NO STAINLESS WASHER WAS INSTALLED.

12) ORIGINATED BY DATE Lina T. Do 7-13-82

13) APPROVED BY DATE J.W. Mills 7-12-82

14) RECEIPT ACKNOWLEDGED DATE Jack Black 7-13-82

15) REMARKS: IDENTICAL AS IPIN E-UP-35 J.W. Mills 7-28-82

16) ACTION COMPLETED DATE

17) REINSPECTION COMPLETED DATE J.W. Mills 7-28-82

Jan 7-2

IN PROCESS INSPECTION NOTICE

2) INSPECTION DOCUMENT NAME: EU-6.1 DMD-3E

4) NUMBER: EUP-11 E2092

3) ACTIVITY OR TASK: SEE BELOW

5) MO DAY YR: 7-9-82

1) PROJECT NO. 7220

6) ITEM LOCATION AREA BLDG: AUX BLDG 6286" D.M.D-3E
9.97-5
STARTUP SYSTEM NO.
UNDERPINNING INST.

7) DWG/PART NO. REV:
C304 9
C1491 1
FCR4675 FCR4644

8) ITEM NAME:
LVDT
DIAL GUAGE
MOUNTING

9) INSPECTION CRITERIA: DWG ☒ SPEC ☐ OTHER ☐ EXPLAIN
DOCUMENT NUMBER & TITLE: SEE BLOCK 7 ABOVE

10) NO.	11) DESCRIPTION (list serial numbers where applicable)
1	2.1 PLUNGER REACTION ANGLE ANCHOR BOLT CENTERED
	CENTER INCORRECT.
2	3.5 1/4" FILLET WELDS INCORRECT
3	3.4 NO FLAT WASHERS INSTALLED ON THROUGH BOLT HEADS
	ON PLEXIGLASS ATTACHMENT BLOCKS.
4	3.8 E/W LVDT THREADS DAMAGED
5	3.8 N/S LVDT DAMAGED

12) ORIGINATED BY DATE: D.L. Dodd 7-9-82

13) APPROVED BY DATE: J.C. Miller 7-12-82

14) RECEIPT ACKNOWLEDGED DATE: Bill Black 7-13-82

15) REMARKS:
(1) FCR-C-4215 allows 2½" ℄ to ℄
(2) FCR-C-4151 Changes weld symbol. Insufficient Welds have been repaired
(345) Wire Jumper Item

16) ACTION COMPLETED DATE: 7/25/82

17) REINSPECTION COMPLETED DATE: J.C. Miller 7-29-82

Responsible Superintendent or Field Engineer

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Page ____ Of ____

EHP-10 Jm 7.21.8

IN PROCESS INSPECTION NOTICE

1) PROJECT NO. 7220	2) INSPECTION DOCUMENT NAME: EH-6.1-DMDG	4) NUMBER: E 2891
	3) ACTIVITY OR TASK: SEE BELOW	5) MO DAY YR: 7-9-82

6) ITEM LOCATION AREA BLDG	7) DWG/PART NO.	REV	8) ITEM NAME
AUX. B.DG. DMDG EL634 RC AT 6.4 STARTUP SYSTEM NO. UNDER PINNING INST	C1491 FCR C4075, FCR C4044	1	3 EA LVDT 3 DIAL GAUGES MEASURING
	C304	9	

9) INSPECTION CRITERIA — DWG ☒ SPEC ☐ OTHER ☐ EXPLAIN — DOCUMENT NUMBER & TITLE: SEE BLOCK 7 ABOVE

10) NO.	11) DESCRIPTION (list serial numbers where applicable)
1	3.4- NO FLAT WASHERS INSTALLED ON HEAD OF
	THROUGH BOLTS - PLEXIGLASS ATTACHMENT BLOCKS.
2	3.8 NORTH SOUTH LVDT DAMAGED
3	3.6 ¼" FILLET WELDS INCORRECT
4	2.1 N/S PLUNGE REACTION ANGLES CENTER TO CENTER ANCHOR
	BOLT SPACING INCORRECT
5	2.1 REACTION ANGLES ⅛" TOO SHORT

12) ORIGINATED BY	DATE	13) APPROVED BY	DATE	14) RECEIPT ACKNOWLEDGED	DATE
M.L. Dodd	7-9-82	J.W. Miller	7-12-82	Lee Black	7-13-82

15) REMARKS:

(1) ~~INSTALL~~ LA 7/15 W.I.E. Item (2) W.I.E. Item (3) REPAIRED PER FCR C4151

(4) FCR C4240

(5) FCR C4151

16) ACTION COMPLETED	DATE	17) REINSPECTION COMPLETED	DATE
Pam Glass	7-26-82	Melbourne Longenecker	7/28/82

Responsible Superintendent or Field Engineer

Jul 7 21 82

IN PROCESS INSPECTION NOTICE

1) PROJECT NO. 7220	2) INSPECTION DOCUMENT NAME: EU-6.1-DMD9	4) NUMBER: EUP-9 ~~E 2090~~
	3) ACTIVITY OR TASK: 2.1	5) MO DAY YR: 7-9-82

6) ITEM LOCATION AREA BLDG	7) DWG/PART NO. REV	8) ITEM NAME
AUX BLDG DMD9 EL 114 K6 AT 6.6 STARTUP SYSTEM NO. UNDERPINNING INST.	C1491 1 FCRC4075 FCRC4064 C304 9	LVDT's DIAL GUAGES

9) INSPECTION CRITERIA DOCUMENT NUMBER & TITLE

DWG ☐ SPEC ☐ OTHER ☐ EXPLAIN

10) NO.	11) DESCRIPTION (list serial numbers where applicable)
1	STAINLESS STEEL PLATE FINISH INCORRECT

12) ORIGINATED BY DATE	13) APPROVED BY DATE	14) RECEIPT ACKNOWLEDGED DATE
D.Y. Dalal 7-9-82	J.W. Miller 7-12-82	Rick Black 7-13-82

15) REMARKS:

NON Q ITEM

16) ACTION COMPLETED DATE	17) REINSPECTION COMPLETED DATE
7/25/82	D.Y. Dalal ~~7-12-82~~ 7-25-82 DYD 7-25-82

Responsible Superintendent or Field Engineer

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JL-7-2

IN PROCESS INSPECTION NOTICE

2) INSPECTION DOCUMENT NAME: PQCI/EU-6.1, Rev 1 DSB-1E

4) NUMBER: EUP-E E-2089

3) ACTIVITY OR TASK: 2.1, 3.5, 3.6

5) MO DAY YR: 7-10-1982

1) PROJECT NO. 7220

6) ITEM LOCATION AREA BLDG: Unit #2 F.W.P., EL. 634'

STARTUP SYSTEM NO.: Underpinning INSTRUMENTATION

7) DWG/PART NO. C-1490 REV 2

8) ITEM NAME: DSB-1E

9) INSPECTION CRITERIA DWG ☒ SPEC ☐ OTHER ☐ EXPLAIN DOCUMENT NUMBER & TITLE: C-1491, Rev 1, ~~Rev C~~ FCR C-4044, FCR C-4075 7/10/82 mel J.

10) NO.	11) DESCRIPTION (list serial numbers where applicable)
1	Act. 2.1 Mounting plate on EAST SIDE of BRACKET is 5/8" above top instead of 1/2" (FCR C-4075, PAGE 4)
	16 5/8" length of additional RIB instead of 16 1/4" (FCR C-4075, page 4)
2.	Act. 2.1 E-W Reaction angle: 3 1/16" cent to cent hole space instead of 3" NORTH BOLT is 5/8" from edge instead of 3/4". (FCR C-4075)
3.	Act. 2.1 N-S REACTION ANGLE: "2 15/16" CENT. to CENT. HOLE space instead of 3" and 3/4" from FRONT EDGE instead of 2". (FCR C-4075)
4.	Act. 3.3 FRONT CUBE HOLES cent to cent. space is 2 1/16" instead of 2" (FCR C-4075)
5.	Act. 3.6 Mounting plate on EAST SIDE OF BRACKET IS NOT WELDED ALL AROUND. (FCR C-4075, page 4)
6.	Act. 3.6 E-W & N-S Reaction ANGLE welds ARE ~~UNDERSIZED~~ INCORRECT 7/10/82 mel J.

12) ORIGINATED BY DATE: Melbourne Lenguski 7/10/82

13) APPROVED BY DATE: J W Miller 7-12-82

14) RECEIPT ACKNOWLEDGED DATE: Bill Blake 7-13-82

15) REMARKS:

① FCR C4075 shows 5/8 dimension ② FCR C4240 ③ FCR C4240 ④ FCR C4240 ⑤ Has been repaired ⑥ repaired (inspected by welding engr.)

16) ACTION COMPLETED DATE: (W) Grom 7/25/82

17) REINSPECTION COMPLETED DATE: Melbourne Lenguski 7/25/82

Responsible Superintendent or Field Engineer

IN PROCESS INSPECTION NOTICE

1) PROJECT NO. 7220	2) INSPECTION DOCUMENT NAME EV.-6.1-DSB-1W	4) NUMBER EV-7 E-2088
	3) ACTIVITY OR TASK 2.1 3.3 3.6	5) MO DAY YR 7-10-82

6) ITEM LOCATION AREA BLDG	7) DWG/PART NO. REV	8) ITEM NAME
UNIT #1 - F.I.V.P. EL. 642 30'W OF E.L AND HR-LINE STARTUP SYSTEM NO. UNDERPINNING INST.	C-1490 2 FCR-C-4075 FCR-C-4044	DSB-1W

9) INSPECTION CRITERIA DWG ☑ SPEC ☐ OTHER ☐ EXPLAIN — DOCUMENT NUMBER & TITLE: C-1490 REV 1, FCR C-4044 AND C-4075

10) NO.	11) DESCRIPTION (list serial numbers where applicable)
1	WEST END PLATE ON 12x4x4 NOT WELDED ALL AROUND FCR-C-4075 PAGE 5 OF 5.
2	WEST END PLATE BACK SUBPORT WELDED UNCORRECT FCR-C-4075.
3	EAST-WEST REACTION ANGLES - 2 7/8 CENT TO CENT. HOLE SPACE 1 7/8 CENT TO FRONT EDGE. BOTTOM PART OF ANGLE IS 3 7/8 - TOP WELD UNCORRENT.
	BOTTOM WELD HAS NO I.D. NUMBER.
4	NORTH-SOUTH REACTION ANGLE TOP WELD UNCORRECT
	BOTTOM WELD HAS NO ID NUMBER.
5	FRONT CUBE (ADS) 2 1/16 CENT. TO CENT.

12) ORIGINATED BY DATE	13) APPROVED BY DATE	14) RECEIPT ACKNOWLEDGED DATE
Melbourne Lenguski 7/10/82	J.W. Miller 7-12-82	Bill Blank 7-13-82

15) REMARKS:

① FCR-C-4198 ② FCR-C-4243 ③ FCR-C-4240 and FCR-C-4215 ④ FCR-C-4151. ⑤ FCR-C-4241

16) ACTION COMPLETED DATE	17) REINSPECTION COMPLETED DATE
Pam Glass 7-26-82	Melbourne Lenguski 7/30/82

Responsible Superintendent or Field Engineer

JL-7-U

IN PROCESS INSPECTION NOTICE

2) INSPECTION DOCUMENT NAME: PQCI/EU-6.1, Rev 1 EU-6.1-DSB-2E

4) NUMBER E-UP-6 ~~E-2087~~

1) PROJECT NO. 7220

3) ACTIVITY OR TASK: 2.1, 3.4, 3.6

5) MO DAY YR: 7-9-1982

6) ITEM LOCATION AREA BLDG, TURB. BLDG, EL. 614' B/W 9.5 & 10 at K line
STARTUP SYSTEM NO. Underpinning INSTRUMENTATION

7) DWG/PART NO. C-1491 REV 1

8) ITEM NAME: DSB-2E

9) INSPECTION CRITERIA DWG ☒ SPEC ☐ OTHER ☐ EXPLAIN — DOCUMENT NUMBER & TITLE: C-1491, Rev 1, FCR E4044, FCR C-4075

10) NO.	11) DESCRIPTION (list serial numbers where applicable)
1. ✓	ACT. 2.1 Back plate of BRACKET IS undersized (9" x 9" instead of 13" x 13" AS SHOWN ON FCR C-40YY FOR over 2' HUNGERS)
2. ✓	ACT. 2.1 Welded plate N-S Reaction angle HAS 5 7/8" HEIGHT instead OF 6" as SHOWN ON FCR C-4075
3. ✓	ACT. 2.1 N.S. AND E.W. REACTION ANGLE BOLT HOLES DO NOT MEET FCR C-4075.
4. ✓	ACT. 3.4 NO FULL NUT THREAD ENGAGEMENT at the E-W CUBE MOUNTING BOLTS.
5 ✓	ACT. 3.6 Top welds of N-S & E-W Reaction angles ARE ~~undersized~~ UNCORRECT 7/10/82 (FCR C-4075)

12) ORIGINATED BY DATE: Melbourne Lenczewski 7/10/82

13) APPROVED BY DATE: J.W. Miller 7-12-82

14) RECEIPT ACKNOWLEDGED DATE: Rick Black 7-13-82

15) REMARKS:

① FCR C-4200 ② FCR-CA240 ③ FCR 4240

④ BOLTS REPLACED ⑤ FCR CA242

16) ACTION COMPLETED DATE: 7/25/82

17) REINSPECTION COMPLETED DATE: Melbourne Lenczewski 7/25/82

Responsible Superintendent or Field Engineer

IN PROCESS INSPECTION NOTICE

7/13/82 mel.s. EU-6.1-DSB-3E DSB-3W

1) PROJECT NO.	2) INSPECTION DOCUMENT NAME	4) NUMBER
7220	PQCI/EU-6.1, REV 1	~~E 2080~~ EUP-5 Jun 7-21-82
	3) ACTIVITY OR TASK: 2.1 ; 3.3	5) MO DAY YR: 7-9-1982

6) ITEM LOCATION AREA BLDG	7) DWG/PART NO.	REV	8) ITEM NAME
TUR. BLDG, EL. 614' at 5.5 15'S of K STARTUP SYSTEM NO. UNDERPINNING INSTRUMENTATION	C-1491	1	DSB-3W

9) INSPECTION CRITERIA DWG ☒ SPEC ☐ OTHER ☐ EXPLAIN — DOCUMENT NUMBER & TITLE: C-1491, REV. 1, FCR No. C-4044

10) NO.	11) DESCRIPTION (list serial numbers where applicable)
1	ACT. 2.1. Back plate of bracket is oversized. ✓
2	ACT. 2.1 The bracket is off center of back plate ✓
3.	ACT. 2.1 Over 2' hanger mounting holes are not as shown on FCR No. C-4044. ✓
4.	ACT. 2.1. Incorrect center to center space on front mounting plate (2 3/16" instead 2") ✓
5.	~~ACT. 3.3. INCORRECT SIZE of the front cube 4 1/8 x 4 x 4 insted of 4" x 4" x 4".~~ 7/12/82 mel.s.

12) ORIGINATED BY DATE	13) APPROVED BY DATE	14) RECEIPT ACKNOWLEDGED DATE
Melbourne Lenguski 7/10/82	J.W. Miller 7-12-82	Rick Black 7-13-82

15) REMARKS:

① FCR-C-4203 ② FCR C-4203 ③ FCR C-4203 ④ FCR C4240

⑥ Problem resolved ⑦ FCR C4240

16) ACTION COMPLETED	DATE	17) REINSPECTION COMPLETED	DATE
[signature]	7/25/82	Melbourne Lenguski	7/25/82

Responsible Superintendent or Field Engineer

E-UP-4 Jm 7.21-82

IN PROCESS INSPECTION NOTICE

2) INSPECTION DOCUMENT C1.50 NAME INSTALLATION AND TESTING OF EXPANSION ANCHORS

4) NUMBER ~~E2085~~

1) PROJECT NO. 7220

3) ACTIVITY OR TASK 3.4

5) MO DAY YR 7-9-82

6) ITEM LOCATION AREA BLDG 634 LEVEL TURBIN OFFICE 5.4 @ K6
STARTUP SYSTEM NO. NON-TESTABLE

7) DWG/PART NO. C-1490 REV 2

8) ITEM NAME EXPANSION ANCHORS C-150-ELL-DMD-9

9) INSPECTION CRITERIA DWG ☐ SPEC ☒ OTHER ☐ EXPLAIN DOCUMENT NUMBER & TITLE C-305 pc-14 (TABLE 4.3) / D-5 SEC. 5.2

10) NO.	11) DESCRIPTION (list serial numbers where applicable)
1	TOP LEFT ANCHOR CODE ILLEGIBLE (WALL PLATE)
2	CENTER-TO-CENTER DISTANCE VIOLATION (NORTH-SOUTH ANGLE) BETWEEN 1/2" ANCHOR IN ANGLE AND NEARBY (4 3/4") ABANDONED 1/2" ANCHOR

12) ORIGINATED BY Kelly Mikulin

13) APPROVED BY Dale S. Pursley 7-10-82

14) RECEIPT ACKNOWLEDGED Rick Blake 7-13-82

15) REMARKS:
① Bolt was ultrasonic tested by QC. and found to be satisfactory. (see attached sheet)
② Field to remove abandoned anchor.
~~Grout grout hole~~

16) ACTION COMPLETED DATE
Pam Olson 7-23-82

17) REINSPECTION COMPLETED DATE
JJ Long 7-28-82

Responsible Superintendent or Field Engineer

Jun 7-21-82

IN PROCESS INSPECTION NOTICE

2) INSPECTION DOCUMENT NAME: PQCI C-150 FCR 4044

4) NUMBER: EUP-3 ~~E-2084~~

3) ACTIVITY OR TASK: 3.1

5) MO DAY YR: 7-9-82

1) PROJECT NO.: 7220

6) ITEM LOCATION AREA BLDG: G14 level 15'5 of K. At 5.5
STARTUP SYSTEM NO.:

7) DWG/PART NO. REV: FCR. C-4044
C-1491 Rev 1

8) ITEM NAME: DSB-3W

9) INSPECTION CRITERIA DWG ☒ SPEC ☐ OTHER ☐ EXPLAIN — DOCUMENT NUMBER & TITLE: C1491 REV1, FCR C-4044

10) NO.	11) DESCRIPTION (list serial numbers where applicable)
1.	5/8" Expansion Anchors are used instead of 3/4" as shown on FCR 4044 for long hangers over 2' on Wall Support
2.	Three Expansion Anchors bolts 7-9-82 ~~7-7-82~~ ~~NOT~~ do not meet Minimum embedment of 3 3/4" on Wall Support
3.	Can not read end Code of anchors.

12) ORIGINATED BY DATE: J. J. Long 7-9-82

13) APPROVED BY DATE: D. E. Presler 7-12-82

14) RECEIPT ACKNOWLEDGED DATE: Rich Hack 7-13-82

15) REMARKS:
① FCR-C-4205 allows use of 5/8" anchors.
② FCR-C-4205 allows 2 1/2" Minimum embedment ③ Bolts were ultrasonic tested by QC. & found to be coded "J" 6" long. (see attached sheet)

16) ACTION COMPLETED DATE: Pam Glass 7-23-82

17) REINSPECTION COMPLETED DATE: J. J. Long 7-24-82

Responsible Superintendent or Field Engineer

Pg. 26 of 47

"RECORD COPY"

Jun 7.21 82

IN PROCESS INSPECTION NOTICE

1) PROJECT NO. 7220	2) INSPECTION DOCUMENT NAME FQCI/EU-G.1, REV 1 OSB-3E	4) NUMBER E-UP-2 ~~E-2083~~
	3) ACTIVITY OR TASK 2.1, 3.2, 3.3, 3.6, 3.8	5) MO DAY YR 7-9-1982

6) ITEM LOCATION AREA BLDG	7) DWG/PART NO.	REV	8) ITEM NAME
TURB. BLDG, EL. 614' E/W 7.2 & 7.8 at Kc line STARTUP SYSTEM NO. UNDERPINNING INSTRUMENTATION	C-1491	1	DSB-3E

9) INSPECTION CRITERIA DWG ☒ SPEC ☐ OTHER ☐ EXPLAIN — DOCUMENT NUMBER & TITLE: C-1491, REV 1, FCR C-4044

10) NO.	11) DESCRIPTION (list serial numbers where applicable)
1. ✓	ACT. 2.1 BACK PLATE OF BRACKET IS OVERSIZED (16"x16" INSTEAD OF 13"x13" AS SHOWN ON FCR C-4044 FOR OVER 2' HUNGER)
2. ✓	ACT. 2.1 E-W REACTION ANGLE CENTER TO CENTER SPACE IS 3 1/8" INSTEAD OF 3" AS SHOWN ON FCR C-4075.
✓	SOUTH BOLT IS 5/8" FROM ANGLE EDGE INSTEAD OF 3/4" TOP DIMENSION OF ANGLE IS 4 1/2", BOTTOM ONE - 4 5/8" (FCR C-4075)
3. ✓	ACT. 3.2 ABS. DIAL GAGE HAS WRONG ID NUMBER NOT DONE mel 7/25/82
4. ✓	ACT. 3.6 WELD ON WALL MOUNTED PLATE IS PAINTED AND CAN NOT BE INSPECTED NO WELDER ID IN IT.
5. ✓	ACT. 3.8 E-W DIAL GAGE SHOULD BE CLEANED.
6.	~~ACT. 3.3 INCORRECT SIZE OF CURE: 4 1/8" x 4" x 4" INSTEAD OF 4" x 4" x 4"~~ 7/12/82 Mel Z.

12) ORIGINATED BY DATE	13) APPROVED BY DATE	14) RECEIPT ACKNOWLEDGED DATE
Mellouna Lenzyuski 7/10/82	Dale S. Preszler 7-10-82	Rich Black 7-13-82

15) REMARKS:

7/25/82 mel Z — 7/25/82 Mel Z

(1) SEE FCR C4201 (2) SEE FCR C4240

(3) PROBLEM RESOLVED (4) CRAFT TO BE SUPPLIED TO ASSIST FOR REINSP.

(5) PROBLEM RESOLVED

16) ACTION COMPLETED DATE	17) REINSPECTION COMPLETED DATE
[signature] 7/25/82	Mellouna Lenzyuski 7/25/82

ACTIVE 3 — IS DONE LATER IN THE AFTERNOON mel Z 7/25/82

Responsible Superintendent or Field Engineer

Jun 7-21-82

IN PROCESS INSPECTION NOTICE

1) PROJECT NO. 7220	2) INSPECTION DOCUMENT NAME C.150 INSTALLATION & TESTING of EXPANSION ANCHORS	4) NUMBER E4P-1 ~~E-2082~~
	3) ACTIVITY OR TASK 3.4	5) MO DAY YR 7-9-82

6) ITEM LOCATION AREA BLDG 628 6" Aux Bldg. Rm 441B STARTUP SYSTEM NO. NON TESTABLE	7) DWG/PART NO. C-1490 REV 2	8) ITEM NAME C-150-ELUMOZE EXPANSION ANCHORS

9) INSPECTION CRITERIA DWG ☐ SPEC ☒ OTHER ☐ EXPLAIN — DOCUMENT NUMBER & TITLE: C-305 P.5 SEC. 5.2

10) NO.	11) DESCRIPTION (list serial numbers where applicable)
1	FLOOR PLATE 1/4" ANCHOR - CODE ILLEGIBLE.
	(SOUTH ANCHOR)

12) ORIGINATED BY	13) APPROVED BY	14) RECEIPT ACKNOWLEDGED
Kelly McLendon	Dale S. Parker 7-10-82	Rick Black 7-13-82

15) REMARKS:
ANCHOR IDENTIFIED AS CODE 'D'
J.W. Miller 7.29.82

16) ACTION COMPLETED	DATE	17) REINSPECTION COMPLETED	DATE
		J.W. Miller	7.29.82

Responsible Superintendent or Field Engineer

RECORD COPY Page ____ Of ____

IN PROCESS INSPECTION NOTICE

1) PROJECT NO. 7220	2) INSPECTION DOCUMENT NAME: EU 6.0 DSB-2W	4) NUMBER: ~~E-2058~~
	3) ACTIVITY OR TASK: 3.6	5) MO DAY YR: 7/1/82

6) ITEM LOCATION AREA BLDG	7) DWG/PART NO.	REV	8) ITEM NAME
AUX. BLDG EL 614 5'W OF 3.5 AND 3' OF K STARTUP SYSTEM NO.	PROC. OP-38 DWG C-1491	1 1	THERMOCOUPLE DSB-2W-T3

9) INSPECTION CRITERIA DWG ☑ SPEC ☐ OTHER ☑ EXPLAIN — DOCUMENT NUMBER & TITLE: PROC. OP-38-1 DWG C-1491-1 REV.

10) NO.	11) DESCRIPTION (list serial numbers where applicable)
1	THERMOCOUPLE OUTER COUVER DAMAGED ON DSB-2W-T3
	3" FROM TOP OF PIPE.

12) ORIGINATED BY DATE	13) APPROVED BY DATE	14) RECEIPT ACKNOWLEDGED DATE
Melbourne Lencyusha 7/1/82	Dale S. Rueda 7-1-82	Pam Glass 7-1-82

15) REMARKS:

REPAIR CABLE USING RAYCHEM WCSF-115/350 TYPE N HEAT SHRINK.

RETERMINATE THERMOCOUPLE WIRES.

16) ACTION COMPLETED DATE	17) REINSPECTION COMPLETED DATE
Gregory J Bush 7/15/82	Melbourne Lencyusha 7/15/82

Responsible Superintendent or Field Engineer

S. Fischer

OPEN IPIN'S/DR'S CIVIL-UNDERPINNING May 12, 1982

IPIN/DR NO.	DATE ISSUED	SUBJECT	LOCATION	ACTION			REMARKS
				ENG.	CONST.	QC	
IPIN C-UP-1	2-12-82	C-1.02-UP-3 to be permanently backfilled in accordance with Spec C-211.	Yard Zone II				
C-UP-2	2-12-82	C-1.02-UP-1 to be permanently backfilled in accordance with Spec C-211.	Yard Zone IV				
C-UP-3	2-26-82	C-1.02-UP-4 light pole hole will be backfilled in accordance with Spec C-211.	Yard Zone I				
C-UP-4	3-2-82	C-1.02-UP-5 to be permanently backfilled in accordance with Spec C-211.	Yard Zone IV				
C-UP-5	3-2-82	C-1.02-UP-1 to be permanently backfilled in accordance with Spec C-211.	Yard Zone IV				
C-UP-6	3-3-82	C-1.02-UP-5 to be permanently backfilled in accordance with Spec C-211.	Yard Zone IV				
C-UP-7	3-3-82	C-1.02-UP-6 to be permanently backfilled in accordance with Spec C-211.	Yard Zone II				

IPIN/DR NO.	DATE ISSUED	SUBJECT	LOCATION	ACTION			REMARKS
				ENG.	CONST.	QC	
C-UP-9	3-10-82	C-1.02-UP-2 to be permanently backfilled in accordance with Spec C-211.	Yard Zone III				
C-UP-10	3-10-82	C-1.02-UP-1 to be permanently backfilled in accordance with Spec C-211.	Yard Zone IV				
C-UP-11	3-10-82	C-1.02-UP-1 to be permanently backfilled in accordance with Spec C-211.	Yard Zone IV				
C-UP-12	3-11-82	C-1.02-UP-1 to be permanently backfilled in accordance with Spec C-211.	Yard Zone IV				
C-UP-14	3-30-82	C-1.02-UP-2 to be permanently backfilled in accordance with Spec. C-211.	Yard Zone III				
C-UP-15	3-30-82	C-1.02-UP-5 to be permanently backfilled in accordance with Spec. C-211.	Yard Zone IV				
C-UP-16	4-2-82	C-2.05-UP-15 TH 23 was drilled in wrong location due to surbeyers mistake.	Yard Zone IV				

IPIN/DR NO.	DATE ISSUED	SUBJECT	LOCATION	ACTION			REMARKS
				ENG.	CONST.	QC	
C-UP-17	4-22-82	C-1.02-UP-5 to be permanently backfilled in accordance with Spec. C-211.	Yard Zone IV				
C-UP-18	4-22-82	C-1.02-UP-5 to be permanently backfilled in accordance with Spec. C-211.	Yard Zone IV				
C-UP-19	4-22-82	C-1.02-UP-7 to be permanently backfilled in accordance with Spec. C-211.	Yard Zone IV				
C-UP-20	4-22-82	C-1.02-UP-5 to be permanently backfilled in accordance with Spec. C-211.	Yard Zone IV				
C-UP-21	4-23-82	C-1.02-UP-5 to be permanently backfilled in accordance with Spec. C-211.	Yard Zone IV				
C-UP-22	4-23-82	C-1.02-UP-7 to be permanently backfilled in accordance with Spec. C-211.	Yard Zone IV				
C-UP-23	4-29-82	FIR-MCP-37-1 timber lagging not installed per "alternate lagging plan".	Yard Zone IV				

OPEN IPIN'S/DR'S

CIVIL-UNDERPINNING

May 12, 1982

IPIN/DR NO.	DATE ISSUED	SUBJECT	LOCATION	ACTION			REMARKS
				ENG.	CONST.	QC	
C-UP-24	5-04-82	C-1.02-UP-1 to be permanently backfilled in accordance with Spec. C-211	Yard Zone IV				
C-UP-25	5-04-82	C-1.02-UP-8 to be permanently backfilled in accordance with Spec. C-211.	Yard Zone II				
C-UP-26	5-10-82	FIR-MCP-36-1 improper size bolts in surcharge support steel.	Yard Zone III				

DNT

IN PROCESS INSPECTION NOTICE

1) PROJECT NO. 7220	2) INSPECTION DOCUMENT NAME E.U.S.O DMD-10-2-2
3) ACTIVITY OR TASK 3.4	4) NUMBER E2071
	5) MO DAY YR 7-8-82
6) ITEM LOCATION AREA BLDG AUX. BLDG. EL. 634', 1' S. OF ℄ & 8' E. OF 7.0 STARTUP SYSTEM NO. N/A	7) DWG/PART NO. C-198-11-6 REV NONE
8) ITEM NAME CABLE FOR N.S. L.V.D.T.	

9) INSPECTION CRITERIA DWG ☑ SPEC ☐ OTHER ☐ EXPLAIN — DOCUMENT NUMBER & TITLE C-198-11-6

10) NO.	11) DESCRIPTION (list serial numbers where applicable)
1	CABLE IS DAMAGED 12" FROM END OF FLEX.
	CONDUIT AT DMD-10

12) ORIGINATED BY DATE	13) APPROVED BY DATE	14) RECEIPT ACKNOWLEDGED DATE
M. Laurence Longenecker 7/8/82	Dale S. Peake 7-9-82	Pam Gross 7/8/82

15) REMARKS:

MEGGERED WIRES AS PER FPE 2.000 OBTAINING INFINITE RESISTANCE READINGS. USE CABLE AS IS - NO DAMAGE TO OUTSIDE INSULATION.

16) ACTION COMPLETED	DATE	17) REINSPECTION COMPLETED	DATE
Gregory J. Briska	7/21/82	Mellonie Longenecker	7/21/82

Responsible Superintendent or Field Engineer

File No. ____
Response Rec'd ____ Date ____
QA Action Item No. ____

Route	Info	Act	Comment
TQAE			
Elect (1)			
Elect (2)			

DNT

IN PROCESS INSPECTION NOTICE

1) PROJECT NO. 7220	2) INSPECTION DOCUMENT NAME EQ-5.0 DMD-10-1-2
3) ACTIVITY OR TASK 3.4	4) NUMBER E2078
5) MO DAY YR 7-8-82	

6) ITEM LOCATION AREA BLDG AUX. BLDG. EL. 639'1" S. OF K6 & E. OF 7.0 STARTUP SYSTEM NO. N/A	7) DWG/PART NO. C-198-11-6 REV NONE	8) ITEM NAME CABLE FOR Rel. L.V.D.T.

9) INSPECTION CRITERIA DWG ☑ SPEC ☐ OTHER ☐ EXPLAIN — DOCUMENT NUMBER & TITLE C-198-11-6

10) NO.	11) DESCRIPTION (list serial numbers where applicable)
1	CABLE IS DAMAGED 12" FROM END OF FLEX CONDUIT. AT DMD-10

12) ORIGINATED BY DATE	13) APPROVED BY DATE	14) RECEIPT ACKNOWLEDGED DATE
Melbourne Longworth 7/8/82	DMD D.C. Parker 7-9-82	Pam Glass 7/9/82

15) REMARKS:

MEGGERED WIRES AS PER FPE 2.000 OBTAINING INFINITE RESISTANCE READINGS. NO DAMAGE TO OUTSIDE INSULATION - USE AS IS

7220-QA-Received ____
Log No. ____ File No. ____
Response Rec'd ____ Date ____
QA Action Item No. ____

Route	Info	Act	Comment
PQAE			
Resp. Cor.			DATE
Elect (1)			
Elect (2)			7/21/82
Civil/Mech			
Piping/Weld			
Instr.			
Tm Ovr			
Trend			
Sect.			

16) ACTION COMPLETED DATE — 17) REINSPECTION COMPLETED

Gregory J. Burke 7/21/82 Melbourne Longworth

Responsible Superintendent or Field Engineer

DNT

IN PROCESS INSPECTION NOTICE

2) INSPECTION DOCUMENT NAME: EU5.0 DMD-10-3-2

4) NUMBER: E2079

1) PROJECT NO.: 7220

3) ACTIVITY OR TASK: 3.4

5) MO DAY YR: 7-8-82

6) ITEM LOCATION AREA BLDG: AUX. BLDG. EL. 639.' 1'SCFK 8'E. OF 7.0
STARTUP SYSTEM NO.: N/A

7) DWG/PART NO.: C-198-11-6 REV: NONE

8) ITEM NAME: CABLE FOR E. W, L. V, D.T.

9) INSPECTION CRITERIA
DWG ☒ SPEC ☐ OTHER ☐ EXPLAIN
DOCUMENT NUMBER & TITLE: C-198-11-6

10) NO.	11) DESCRIPTION (list serial numbers where applicable).
1	CABLE IS DAMAGE 12" FROM END OF FLEX
	CONDUIT. AT DMD-10

12) ORIGINATED BY DATE: Melbourne Lenguki 7/8/82

13) APPROVED BY DATE: Dale S. Pruden 7-9-82

14) RECEIPT ACKNOWLEDGED DATE: Pam Glass 7/8/82

15) REMARKS:
MEGGERED WIRES AS PER FPE 2,000 OBTAINING INFINITE RESISTANCE READINGS. NO DAMAGE TO OUTSIDE INSULATION — USE AS IS

16) ACTION COMPLETED DATE: Gregory J. Burke 7/21/82

17) REINSPECTION COMPLETED: Melbourne Lenguki 7/21/82

Job 7220-QA-RECEIVE
Log No. ____ File No. ____
Response Rec'd ____ Date ____
QA Action Item No.

Route	Info	Act	Comment
FQAE	DATE		
Resp. Cor.			
Elect (1)	7/21/82		
Elect (2)			
Civil/Stn			
Pipe/Weld			
Inst.			
Insp Over			
Hold			
Docs.			

Responsible Superintendent or Field Engineer

Advance Copy

Bechtel Power Corporation
777 East Eisenhower Parkway
Ann Arbor, Michigan
Mail Address: P.O. Box 1000, Ann Arbor, Michigan 48106

BLC-

Consumers Power Company
1945 West Parnall Road
Jackson, Michigan 49201

Attention: Mr. D.B. Miller
Site Manager

Subject: Midland Plant Units 1 and 2
Consumers Power Company
Bechtel Job 7220
CONSTRUCTION COMPLETION
PROGRAM

References: A) Bechtel IOM, J.A. Rutgers to L.E. Davis, 12/1/82 (Com 096250)
B) Bechtel IOM, J.A. Rutgers to L.H. Curtis/L.E. Davis, 12/15/82 (Com 098027)

Attached for your information and use, as appropriate, are copies of two internal Bechtel memoranda associated with the construction completion program. Reference A directed an immediate manpower reduction associated with Construction Completion Plan Zone 1 (reinspection preparation) as well as Zone 8 (on-going activities).

Reference B provides guidance regarding those Bechtel Power Corporation engineering activities continuing in Construction Completion Plan Zone 8 (on-going activities).

Very truly yours,

John A. Rutgers
Project Manager

JAR/ksc

Attachments: 1. Bechtel IOM, J.A. Rutgers to L.E. Davis, 12/1/82 (Com 096250)
2. Bechtel IOM, J.A. Rutgers to L.H. Curtis/L.E. Davis, 12/15/82 (Com 098027) (With References B and C only)

cc: J.W. Cook w/a

Written Response Requested: No

Reference A to
BLC-

096250

Bechtel Power Corporation

Inter-office Memorandum

To L.E. Davis

Subject Job 7220 Midland Project
REDUCTION IN MANUAL FORCE

Copies to P.K. Hansen (AA)
R.K. Vassar (AA)
W.G. Henry (AA)

Date December 1, 1982

From J.A. Rutgers

Of Project Management

At Ann Arbor, Michigan

This will confirm direction received from Consumers Power Company this morning and confirmed by me to institute an immediate reduction in manual force consistent with continuing:

1. All Non-Q work available
2. All B&W construction work
3. All Zack construction work available
4. All Standish shop work
5. All GSO work as released

Non-manual labor force will remain as currently planned.

Further direction will be given as issues such as receipt inspection are clarified.

Reduction should begin effective with the end of second shift, December 1, 1982, and be concluded over a time frame consistent with clearing the safety related structures and placing equipment in lay-up.

John A. Rutgers
Project Manager

JAR/jrm

P.S. At approximately 10:30 a.m., December 1, 1982, you advised me that this reduction would amount to approximately 1,100 people over the next two days. We confirmed this number with Jim Cook and Don Miller and re-confirmed their intent to continue this immediate reduction during the time frame indicated.

Reference B to
BLC-

098027

Bechtel Power Corporation

Inter-office Memorandum

To L.H. Curtis/
L.E. Davis (Site)

Date December 15, 1982

Subject Midland Plant Units 1 and 2
Bechtel Job 7220
DESIGN ENGINEERING
ON-GOING ACTIVITIES

From J.A. Rutgers

Of Project Management

At Ann Arbor

Copies to A.J. Boos w/a
M.A. Dietrich w/a
J. Milandin w/a
E.J. Reinsch w/a
J.A. Rutgers w/a

References: A) IOM, L.H. Curtis to J.A. Rutgers, 12/8/82 (Com 097303)
B) IOM, P.J. Corcoran to Distribution, 12/6/82 (Com 096763)
C) IOM, P.J. Corcoran to Distribution, 12/7/82 (Com 096919)

This is a partial response to Reference A and provides project direction regarding origination and processing of Field Change Notices (FCNs), Field Change Requests (FCRs) and field marked-up work prints (redlines). This direction is effective 7:00 a.m. Monday, December 20, 1982, is interim in nature, and may be modified as Construction Completion Plan detailing continues. This direction when effective, supercedes References B and C, and constitutes a limited restriction to on-going Bechtel engineering shown as Activity No. 90100 in the Construction Completion Plan presented to the NRC on December 2, 1982.

The direction is as follows:

1) Construction may prepare but shall not forward for engineering approval any redlines, FCRs or FCNs for "Q" work except those related to:

   a) Remedial soils
   b) HVAC
   c) Work being performed by B&W construction
   d) Work being performed by Construction General Services Organization

2) Project engineering shall process all redlines, FCRs and FCNs received from construction.

3) Except for those areas permitted by References B and C to be processed, redlines, FCRs and FCNs received by project engineering and dated by field engineering December 6, 1982, through December 19, 1982, shall be dispositioned as not approved, and specific reference shall be made to this memorandum as the basis for not approving the document. This will allow project engineering and field engineering to process the documents in accordance with existing procedures and will provide a "flag" for field engineering for future reference when listing to-go work.

4) Preparation and processing of FCRs and FCNs related to "non-Q" work may continue.

If you have any questions regarding this direction please bring them to my attention immediately.

John A. Rutgers

JAR/ksc

Attachments: 1. IOM, L.H. Curtis to J.A. Rutgers, 12/8/82 (Com 097303)
2. IOM, P.J. Corcoran to Distribution, 12/6/82 (Com 096763)
3. IOM, P.J. Corcoran to Distribution, 12/7/82 (Com 096919)

Written Response Requested: No

Com Use: Partial Response to Com 097303

Attachment 2

U96763

PJC-82-699

98027

Bechtel Associates Professional Corporation

Inter-office Memorandum

To: Distribution

Subject: Midland Plant Units 1 & 2
Job 7220
PROCESSING OF REDLINES,
FCRs/FCNs

Copies to: Copy Distribution

Date: December 6, 1982

From: P. J. Corcoran

Of: Resident Engineering

At: Midland Jobsite

Effective 7:00 a.m. Monday, December 6, 1982 you are not to process any redlines which you may receive for "Q" work. If you do receive any, they should be returned to field engineering. I will advise you when the processing of redlines can recommence.

Any FCRs or FCNs received on or after December 6, 1982 should be held, except those related to HVAC, B & W construction, or remedial soils, until further directions are received in regards to how these are to be processed.

If you have any questions on the subject, let me know.

P. J. Corcoran

PJC/sll

Distribution:

D. Hanekamp
T. Lui
B. Murray
K. Nagar
D. Riat/B. McCall
B. Senn
G. Warner

Copy Distribution:

D. Anderson
J. Blanchard
L.H. Curtis
E. Cvikl
L.E. Davis
E. Hughes
B. Kappel
P. McCue
J. Rutgers
T. Supplee
W. Wells

Written Response Requested: No
Com Use: NA

Attachment 3

096919

PJC-82-704

Bechtel Associates Professional Corporation

Inter-office Memorandum

98027

To Distribution

Date December 7, 1982

Subject Midland Plant Units 1 & 2
Job 7220
PROCESSING OF REDLINES,
FCRs/FCNs

From P. J. Corcoran

Of Resident Engineering

At Midland Jobsite

Copies to
Copy Distribution

Attached

Reference: ICM, P.J. Corcoran to Distribution dated 12/6/82; Com. 096763
Subject: Same

The following is in addition to the directions which were identified in the above referenced memorandum.

1. You are to continue processing redlines associated with "Q" work being performed by B & W construction.

2. You are to continue to process FCRs/FCNs for non-"Q" work.

If you have any questions on the subject, let me know.

P. Corcoran

P. J. Corcoran

PJC/sll

Distribution:

D. Hanekamp
T. Lui
B. Murray
K. Nagar
D. Riat/B. McCall
B. Senn
G. Warner
File: 0290

Copy Distribution:

D. Anderson
J. Blanchard
L.H. Curtis
E. Cvikl
L.E. Davis
E. Hughes
B. Kappel
P. McCue
J. Rutgers
T. Supplee
W. Wells

Written Response Requested: No
Com Use: NA

To Distribution List

From JWCook, P-26-336 gwc

Date December 9, 1982

Subject REGULATORY INTERFACE -
CONSTRUCTION COMPLETION PROGRAM

Consumers Power Company

INTERNAL CORRESPONDENCE

CC

The Midland Project has made a major commitment in undertaking the Construction Completion Plan. One of the objectives of this plan is to improve our regulatory performance and respond to a number of ongoing NRC concerns. As such, our plan has incorporated several prior commitments to the NRC and certain other aspects of the plan imply potential new commitments. A great deal of short-term planning will be required to fully implement this plan. Those of us involved in carrying out this planning will endeavor to document and communicate our decisions as fully as possible.

Because of the broad nature of the plan and the number of key personnel involved in the plan, there is an immediate and obvious need to properly coordinate our presentation of various aspects of this plan to the NRC. It is imperative that we ensure that all information given to the NRC is correct information and that no erroneous commitments are made. Therefore, until such time as the construction completion program has been planned to the level of detail that will avoid misunderstandings or miscommunications, any project team member, Consumers Power or Bechtel, who needs to communicate some aspect of this plan to the NRC, is required to review that presentation with me prior to his discussion with the NRC. This is necessary in order to assure that our communications to the NRC represent the correct project information and policy regarding this new program.

Also, since the evolution of the program planning will be rapid and complex, communication to the NRC regarding the plan will initially be required to include either myself, Roy Wells, Don Miller or John Rutgers. We will, of course, utilize whatever project personnel are required to make the specific presentation, but to ensure proper project coordination, I am requesting the direct participation of one of the senior project management team. Inquiries from the NRC to any other project members about the plan should be referred to one of the above with the comment that we request that initial discussion of the plan be limited to these individuals in order to minimize the communication difficulties that can arise during a change of this magnitude and complexity.

DBM Copy

Bechtel Power Corporation

Post Office Box 2167
Midland, Michigan 48640

December 29, 1982

Consumers Power Company
P. O. Box 1963
Midland, MI 48640

Attention: D. B. Miller
Site Manager

Job 7220 Midland Project
CONSTRUCTION COMPLETION PROGRAM
BCCC-7626

Dear Mr. Miller:

Reference: J. A. Rutgers from D. B. Miller, dated December 15, 1982, Construction Completion Program, Serial: CSC-6466

This letter is confirmation of R. M. Rice (CPCo Technical Department) direction to E. J. Reinsch (CGSO Project Superintendent) to revise December 15, 1982 "Ground Rules", Item 20 b) (ii), such that CGSO implements Non-Q DCP's with no Q interface in the AB, CB1, CB2, SWPS or D/G. This work may proceed only after receipt of a CWR approved by R. E. McCue (PCO Technical Superintendent).

Very truly yours,

for L. E. Davis
Site Manager

LED/BDR/lgt

Written Response Requested: No

Attachment: CGSO Work Control Form

cc: B. McCue (CPCo)
B. Peck (CPCo)
R. Wells (MPQAD)

0655

S/U SYSTEM_____ BLDG._____

above CWR may proceed. In approving this work, the following points have been
consideration:

cope of work is: a) B & W ___ b) Zack ___ c) Field Soils ___ d) Other ___
er is a, b or c, disregard questions 2 through 7)

s work involve a DCP in one of the following buildings? YES NO

liary Building
ainment Buildings
c. Service Water Building
d. Diesel Generator Building

any possible Q interface? This includes such items as: YES NO

-Q terminations in a Q cabinet.
ching a Non-Q hanger to a Q wall or Q steel.
sure testing against a Q valve.
orary support from an existing Q installation.
ring of an existing Q component.
ving coating from an existing Q component.
other work activity that could revise an existing Q component
ender it inaccessible for inspection.

ctual component to be worked on Q? YES NO

alysis required for Q components only:

gs	S/U System T/O Date	Drawing Rev. at T/O	Current Drawing Rev.
___	_____	_____	_____
___	_____	_____	_____
___	_____	_____	_____
___	_____	_____	_____

urrent drawing rev. different than the drawing rev. at turnover? YES NO

current drawing rev. change the design configuration from the rev. at turnover for the specific commodity being worked? YES NO

alysis is to be performed by CPCo Test Engineer:

of the Turnover Exception List, does this work impact an open Inspection Record? YES NO

the above answers are NO, work may proceed without comment or ion.
swers to questions two (2) and three (3) are YES, work may NOT

swer to question six (6) is YES, work may NOT proceed.
other combination of answers, work may only proceed after careful nd is subject to the comments and restrictions as follows:

Restrictions:_____

_____

_____

_____

inator	Date	Lead CGSO Supervisor	Date
st Engineer	Date	CPCo Technical Superintendent (or CPCo Section Head)	Date

TEST PROGRAM CONTINUATION

PURPOSE

To allow continuation of Q-turnover exceptions and non Q-turnover exceptions with Q interfaces. Q work for equipment preservation and maintenance ongoing with the control process described below.

REASON

To continue initial phases of test program checkout, flush, etc, enabling CPCo to continue test program problem identification and resolution.

CONTROL

1. GSO dedicated organization reporting to BPCo Project Manager.

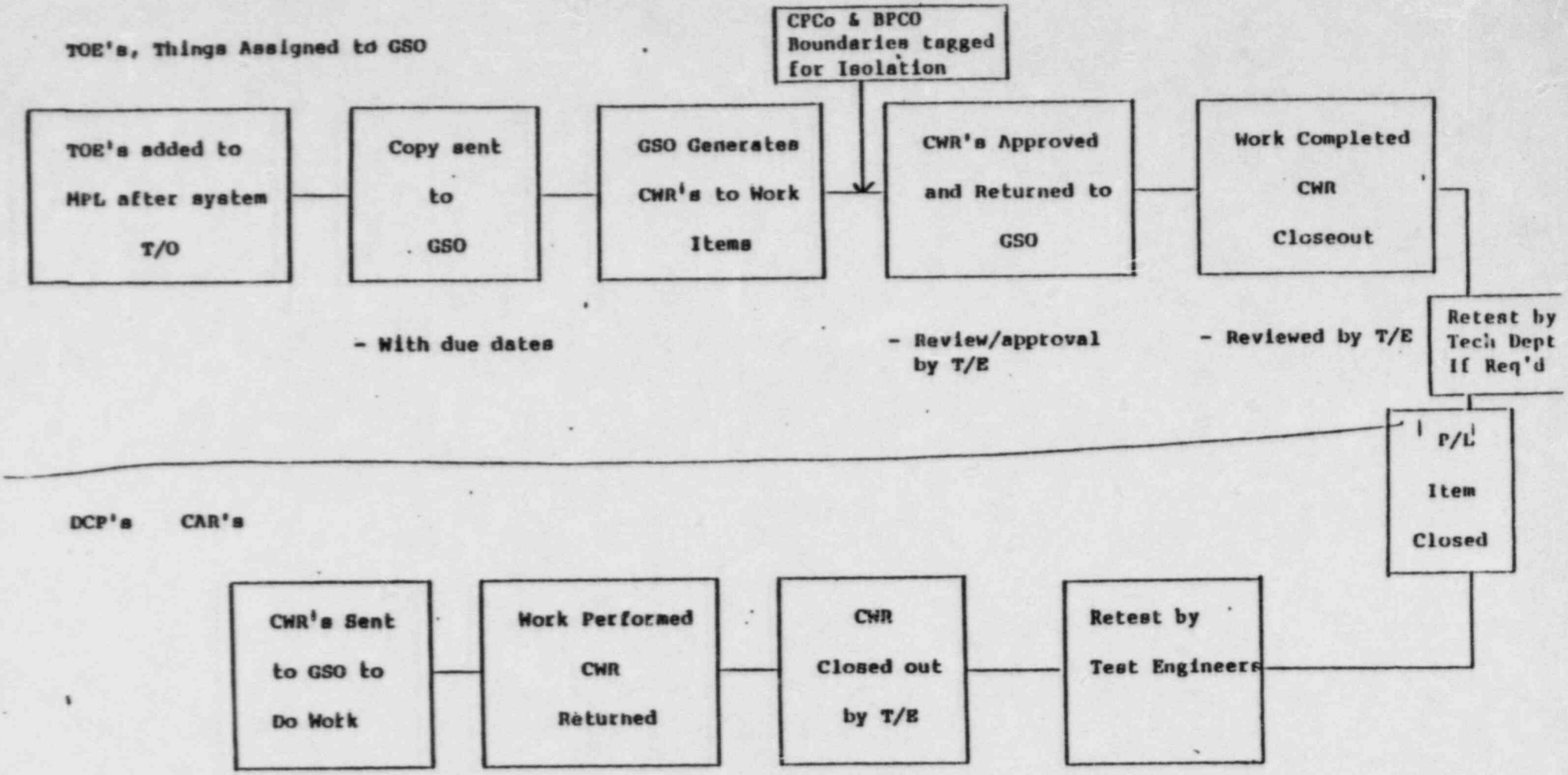
2. Dedicated QC inspectors. MPQAD providing a monitoring function.

3. No Q-Design Change Packages to be released in interim.

4. Work Request Control System.

5. CRW process - a "Q" procedure.

R F McCue
12/9/82



Note: MPL has listed the required due dates for each item GSO is being tasked with meeting those dates.

CPCo Maintenance Work Release

Midland Plant
Technical Department

Form 40 # _____

I. Q [ ] or Non-Q component interfacing with Q component [ ]

Work on the above Form 40 is hereby released. In releasing this work, the following points have been taken into consideration:

1. Work does not involve close-out of turnover exception (TOE)
2. Work does not involve implementation of a design change package (DCP)
3. Outstanding NCR's or QC open items (i.e. IPIN's) against the component have been evaluated and dispositioned (Note: Depending upon NCR, QA release may be necessary).

COMMENT/EXECPTION: _____

_____

_____

_____

_____

_____ _____

TEST ENGINEER / DATE TECH SUP'T OR DESIGNEE / DATE

II. Non-Q [] (check if applicable)

CHECK ONE BLOCK

UNIT 1 RX BLDG**	[]	SERVICE WTR BLDG**	[]
UNIT 2 RX BLDG**	[]	OTHER*	[]
AUX BLDG**	[]		
D.G. BLDG**	[]	_____ (SPECIFY)	

* Only Test Engr release is req'd
** Discipline Sup. or Section Head Release Required

Work on the above Form 40 is hereby released. In releasing this work, the following points have been taken into consideration:

1. Work does not involve TOE or DCP.
2. Actual components to be worked on are Non-Q.
3. There is no Q interface with this work. This includes such items as:

   a. Non-Q terminations in a Q cabinet.
   b. Attaching a Non-Q hanger to a Q wall or Q steel.
   c. Pressure testing against a Q valve.
   d. Temporary support from an existing Q installation.
   e. Covering of an existing Q component.
   f. Removing coating from an existing Q component.
   g. Any other work activity that could revise an existing Q component or render inaccessible for inspection.

_____ _____

* TEST ENGR / DATE ** DISCIPLINE SUPERVISOR OR SECTION HEAD/DATE

CGSO WORK CONTROL

CWR_____ BLDG._____

Work on the above CWR may proceed. In approving this work, the following points have been taken into consideration:

1) Does this work involve a DCP in one of the following buildings:

   a. Auxiliary Building
   b. Containment Building
   c. Service Water Building
   d. Diesel Generator Building

   YES NO (Circle One)

2) Is the actual component to be worked on Q?

   YES NO (Circle One)

3) Is there any possible Q interface?

   YES NO (Circle One)

   This includes such items as:

   a. Non-Q terminations in a Q cabinet.
   b. Attaching a Non-Q hanger to a Q wall or Q steel.
   c. Pressure testing against a Q valve.
   d. Temporary support from an existing Q installation
   e. Covering of an existing Q component.
   f. Removing coating from an existing Q component.
   g. Any other work activity that could revise an existing Q component or render it inaccessible for inspection.

- If all of the above answers are NO, work may proceed without comment or restriction.

- If the answer to both questions one (1) and two (2) is YES, work may not proceed.

- For any other combination of answers, work may only proceed after careful review, and is subject to the comments and restrictions as follows:

Comments and Restrictions:_____

_____

_____

_____

_____

_____

Field Engineer	Date	CGSO Supervisor	Date
CPCo Test Engineer	Date	CPCo Technical Superint.	Date

CONSUMERS POWER CO.
RECEIVED

DEC 03 1982

Site Mgr.
Midland Project

Consumers Power Company

INTERNAL CORRESPONDENCE

REM 631-82

To Section Heads

FROM REMCue

DATE December 2, 1982

SUBJECT MIDLAND TECHNICAL DEPARTMENT - Q-WORK

CC [redacted] GTPollard
GBSlade
BHPeck
ADKowalczuk

Effective December 3, 1982 authorization in my behalf for Q (CWR) release and closeout requires my signature or my designee's if I am off site. This is to insure that no Bechtel Power Company Q work proceeds without proper authorization. The major concern that needs to be addressed is that any new work does not cover up past problems. In order to meet this objective no Q Turnover Exceptions should be assigned to Consumers Power Company Maintenance for close-out, again, without my signature.

At the present time we are working with the NRC to allow the release of GSO work. Therefore be it TOEs, DCPs etc, until this item is resolved all work to be released will require my signature if it is on Q equipment.

To REMcCue
All Section Heads

From ALMercado (for)

Date December 8, 1982

Subject MIDLAND TECHNICAL DEPARTMENT
WORK RELEASE FORM

Consumers Power Company

INTERNAL CORRESPONDENCE

ALM 171-82
1js

cc

To J Payton
cc back to me

Attached is a Draft Release Form that can be used to release work to Maintenance and GSO. Please review and provide comments to J Payton by noon Wednesday 12-8-82 so that pending work can be released ASAP.

NOTE that there is a separate form for GSO and Maintenance.

No comments
Thanks for
Quick Turnaround
Forms look
good.
BA

I

CPCo Maintenance Work Release

Midland Plant
Technical Department

Form 40 #_____

I. Q [ ] —or NON-Q component interfacing with Q component [ ]

Work on the above Form 40 is hereby released. In releasing this work, the following points have been taken into consideration:

1. Work does not involve close-out of turnover exception (TOE)
2. Work does not involve implementation of a design change package (DCP)
3. Outstanding NCR's or QC open items (i.e. IPIN's) against the component have been evaluated and dispositioned.

TEST ENGINEER / DATE

TECH SUP'T OR DESIGNEE / DATE

II. NON-Q [] (check if applicable)

CHECK ONE BLOCK

UNIT 1 RX BLDG	[]
UNIT 2 RX BLDG	[]
AUX BLDG	[]
D.G. BLDG	[]
SERVICE WTR BLDG	[]
OTHER*	[]

_____
(SPECIFY)

* If "other" is checked only Test Engr release is req'd

Work on the above Form 40 is hereby released. In releasing this work, the following points have been taken into consideration:

1) Work does not involve TOE or DCP.
2) Actual components to be worked on are Non-Q.
3) There is no Q interface with this work. This includes such items as:

a. Non-Q terminations in a Q cabinet.
b. Attaching a Non-Q hanger to a Q wall or Q steel.
c. Pressure testing against a Q valve.
d. Temporary support from an existing Q installation.
e. Covering of an existing Q component.
f. Removing coating from an existing Q component.
g. Any other work activity that could revise an existing Q component or render inaccessible for inspection.

TEST ENGR / DATE

DISCIPLINE SUPERVISOR OR SECTION HEAD/DATE

CGSO WORK RELEASE

CWR - _____ BLDG. _____

Work on the above CWR is hereby released for work. In releasing this work, the following points have been taken into consideration:

1) Actual components to be worked on are Non-Q.

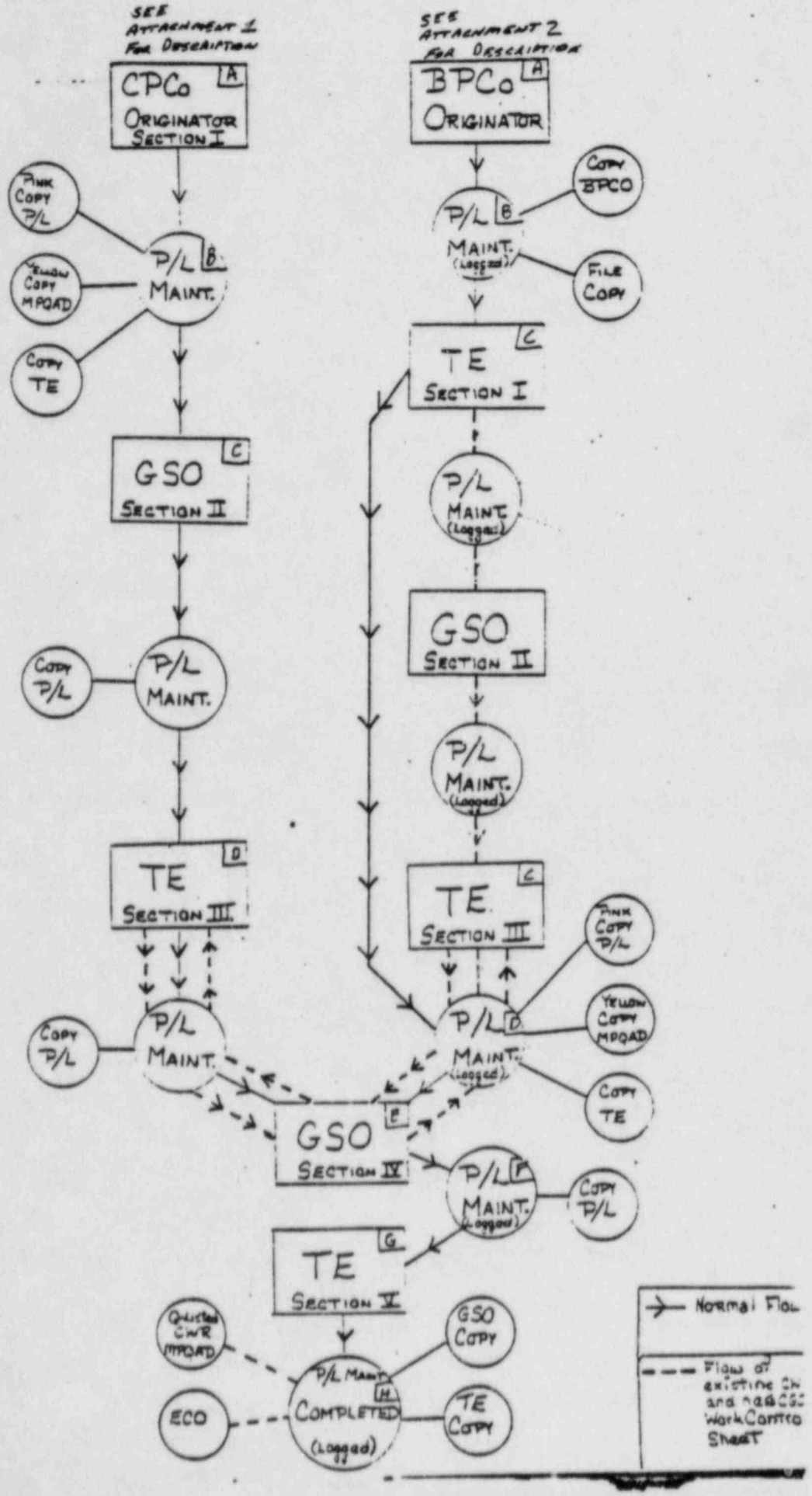
2) There is no Q interface with this work. This includes such items as:

   a. Non-Q terminations in a Q cabinet.
   b. Attaching a Non-Q hanger to a Q wall or Q steel.
   c. Pressure testing against a Q valve.
   d. Temporary support from an existing Q installation.
   e. Covering of an existing Q component.
   f. Removing coating from an existing Q component.
   g. Any other work activity that could revise an existing Q component or render it inaccessible for inspection.

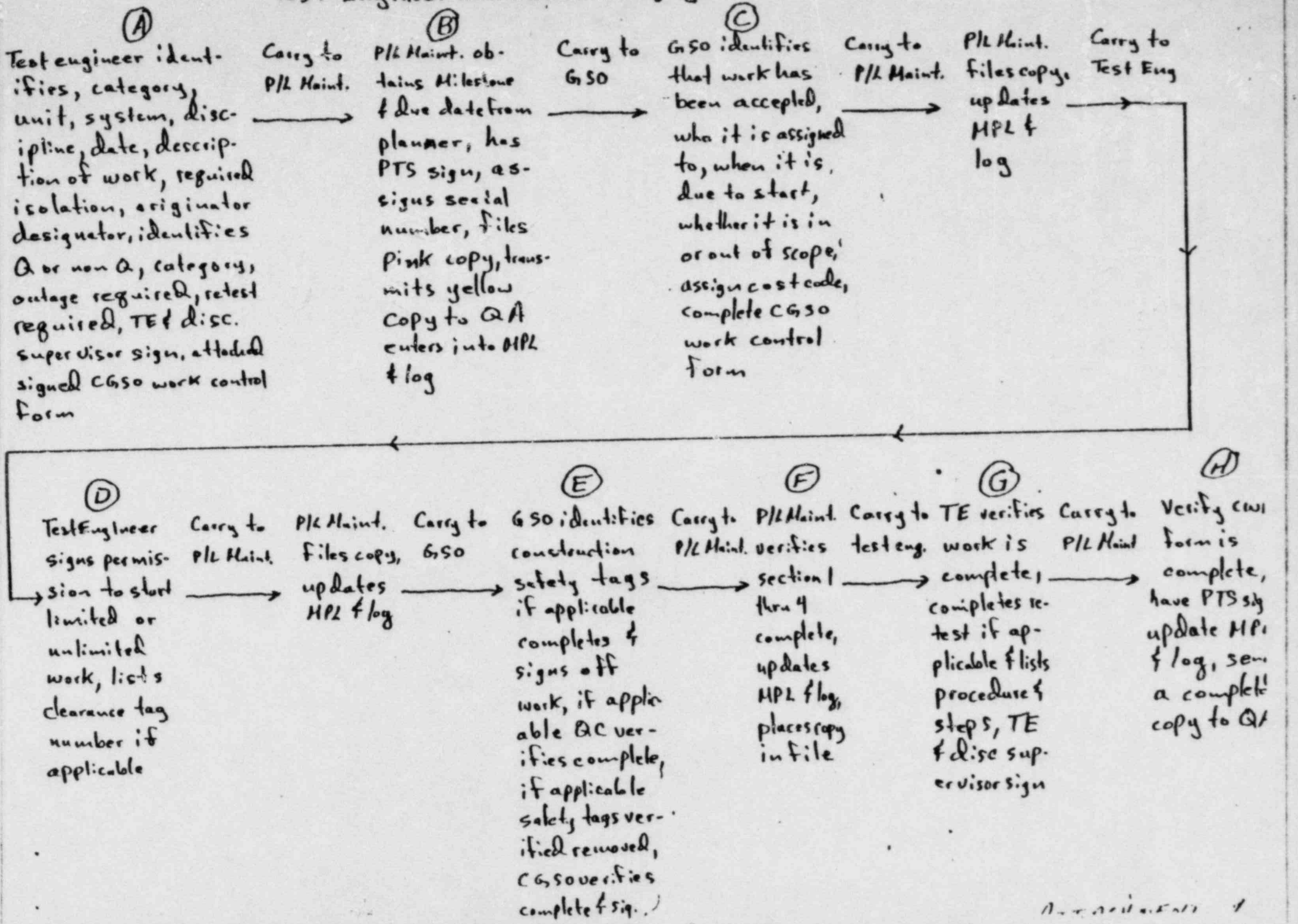
_____	_____	_____
Field Engineer	CGSO Supervisor	Date

Comments and Restrictions: _____

CONTRACTORS WORK REQUEST
CWR



Test Engineer Initiated Category II CWR Flow Chart



Contractor Initiated Category II CWR Flow Chart

(A) Contractor identifies category, system, unit, discipline, date, description of work, required isolation, originator designator, & then signs, attaches CGSO work control form with CGSO supervisors signature identifies that work has been accepted, who it is assigned to, when it is due to start, in or out of scope and cost code

Carry to P/L Maint. →

(B) Assign Serial Number, log, file copy

Carry to Test Eng →

(C) Test engineer identifies Q or non Q, category, outage required, retest required, he & disc. supervisor sign section I. Then signs permission to start limited or unlimited work, lists clearance tag number if applicable Completes CGSO work control form

Carry to P/L Maint →

(D) P/L Maint. obtains Milestone & due date from planner, has PTS sign, files pink copy, transmits yellow copy to QA enters into log & MPL

Carry to GSO →

(E) GSO identifies construction safety tags if applicable completes & signs off wor If applicable QC verifies complete, if applicable safety tag verified remove CGSO verifies complete & signs

↓

(F) Carry to P/L Maint. → P/L Maint verifies section I thru 4 completed, update MPL & log, places copy in file

Carry to test eng. →

(G) TE verifies work is complete, completes retest if applicable & lists procedure & steps, TE & disc. supervisor sign

Carry to P/L Maint. →

(H) Verify CWR form is complete, have PTS sign, update MPL & log, send a completed copy to QA IF Q-LISTED

To All Test Engineers

From REMcCue for pmk

CONSUMERS POWER CO.
RECEIVED
DEC 03 1982
Site Mgr.
Midland Project

Date December 3, 1982

Subject MIDLAND TECHNICAL DEPARTMENT
GSO RELATED WORK

Consumers Power Company

INTERNAL CORRESPONDENCE

REM 635-82
* ALM 170-82 a lm
smr

CC DBMiller
GBSlade

GSO RELATED WORK

1. All Q-CWR work stopped.

2. Non-Q work

   a. All Non-Q Category II CWR work stopped pending walk-down for possible interaction with Q-system/equipment in the following buildings:

      4 Reactor Building
      Auxiliary Building
      Diesel Generator Building
      Service Water

   b. DCP on turned over systems Non-Q for locations in (a) above stopped until further notice.

EFFECTIVE IMMEDIATELY

DBM
GBS
JMB
WMB
TAB
RFK
ADK
REM
ALM
EJP
NJS

CGSO ACTIONS AND QUESTIONS ON "Q" WORK

1. Receipt of "Q" material to do GSO work on post T/O work.

2. CategoryIII CWR's that have a "Q" interface...Is this work going to continue and, if yes, who will do this work?

3. Work that requires special non-manual talent...Can we get people from Cosntruction and not bring them on our payroll, or do we have to have them on our payroll. Also, what type of training program will be involved if they do not come on our payroll?

4. Once MPQAD designates QC inspectors, how do you want GSO to contact those people and who serves as supervisor interface for those inspectors?

5. Will we continue to have IPIN or just NCR?

6. Interface with subcontractors other than Zack and B & W. What effect does release of GSO have on "Q" work that will be interfaced with a subcontractor (ie. Owens Corning, U.S. Testing, GEO, etc.)?

7. Can we have "Q" receiving and fabrication in Standish now that we have a release for "Q" work?

8. Will Resident and Project Engineering be able to process our FCR's, FCN's, etc. or do they have any limitation on "Q" work?

9. If Construction finds a "Q" interface, how will they process that CWR back to CGSO to complete work?

10. An audit of Construction CWR packages to assure that our work control forms are attached.

11. How are we going to handle the penetration sealing TOE?

12. How are we going to handle the anode installation (ie. FSO, GSO, or Construction)?

13. How do we handle transfer of crafts to do work in GSO?

14. How do we interface with Construction Document Control?

Administrative Guideline

CGSO

Rev. 0

CGSO Work Control Form

The intent of this guideline is to establish the method of review to be used by CGSO prior to releasing work packages to the Field via CWR

The primary vehicle to effect this review is the CGSO Work Control Form attached to this guideline. This form is not intended to be a release, but rather a formal acknowledgement that the persons signing the form have considered certain specific points prior to sending a work package to the field.

It is expected that the form will require periodic revisions as new directions are recieved from Consumers Power.

Implementation

The originator of the CWR will Fill out the Form, sign, and attach it to the CWR when Filling out Section I of the CWR.

All persons signing the form are responsible for the accuracy of the information on the form.

CGSO must perform all work that is Q or has Q interface.

CGSO must fill out the form prior to assigning the CWR to FCO.

CGSO WORK CONTROL

CWR_____ BLDG._____

Work on the above CWR may proceed. In approving this work, the following points have been taken into consideration:

1) Does this work involve a DCP in one of the following buildings:

   a. Auxiliary Building
   b. Containment Building
   c. Service Water Building
   d. Diesel Generator Building

   YES NO (Circle One)

2) Is the actual component to be worked on Q?

   YES NO (Circle One)

3) Is there any possible Q interface?

   YES NO (Circle One)

   This includes such items as:

   a. Non-Q terminations in a Q cabinet.
   b. Attaching a Non-Q hanger to a Q wall or Q steel.
   c. Pressure testing against a Q valve.
   d. Temporary support from an existing Q installation
   e. Covering of an existing Q component.
   f. Removing coating from an existing Q component.
   g. Any other work activity that could revise an existing Q component or render it inaccessible for inspection.

- If all of the above answers are NO, work may proceed without comment or restriction.

- If the answer to both questions one (1) and two (2) is YES, work may <u>not</u> proceed.

- For any other combination of answers, work may only proceed after careful review, and is subject to the comments and restrictions as follows:

Comments and Restrictions:_____

_____

_____

_____

_____

_____

Field Engineer	Date	CGSO Supervisor	Date
CPCo Test Engineer	Date	CPCo Technical Superint.	Date

CONTRACTORS WORK REQUEST

JOB 7220

MIDLAND UNIT 1 & 2

CATEGORY ☐ | UNIT ☐ | SYSTEM ☐ | DISC ☐ | SERIAL NO. ☐ | *DATE _____

*SECTION I - DESCRIPTION OF WORK *CPCo Reference _____

*Required Isolation (Note applicable valves and/or breaker nos. and position) References

ORIGINATOR: CPCo ☐ BECHTEL ☐ | Q PROGRAM: Q-LIST ☐ NON-Q ☐ | CATEGORY ☐☐ | MILESTONE ☐☐ | OUTAGE REQUIRED: YES ☐ NO ☐ | RETEST REQUIRED: YES ☐ NO ☐

*Originator _____ Date _____ *CWR Due Date _____

*TE/FE _____ Disc. Supv. _____ Date _____ *PS/PTS _____ Date _____

SECTION II - ACCEPTANCE OF WORK Bechtel "Q" Program Q-LIST ☐ NON-Q ☐

Work Request Accepted By _____ Date _____

Work Assigned To _____ BPC QC Engineer _____

If Not Accepted, Reason _____

Work Scheduled To Start, Date _____ EtC. _____

☐ In-Scope ☐ Out-of-scope Cost Code _____

SECTION III - AUTHORIZATION TO START WORK

1. Permission to start limited work _____

CPCo Representative _____ Date _____

2. Safety Tags Placed System out-of-service

CPCo Representative Date *Tag/Clearance Order

SECTION IV - CONSTRUCTION Safety Tags Installed _____ Date _____

Attachments

Construction QC Complete _____ Date _____

Construction Complete _____ Date _____

Construction Complete _____ Date _____

Safety Tags Removed _____ Date _____

GSO - CWR Coordinator _____ Date _____

*SECTION V - COMPLETION REVIEW Work completed satisfactorily and accepted/safety tags cleared DISC. SUPV.

Retest Complete TE: _____ Date _____ Completion Review Signature

Procedure No. & Steps: _____ TE/FE: _____ Date _____

PS/PTS _____ Date _____

NOTE: For Category 1 - Originating organization shall fill in only items designated by an asterisk (*).

TO RAWells, Midland
FWBuckman, P14-113A
DBMiller, Midland

FROM JWCook, P26-336B JWC

DATE February 7, 1983

SUBJECT CCP ZONE 6 QA PROGRAM QUESTIONS

Consumers Power Company

INTERNAL CORRESPONDENCE

CC JARutgers, Bechtel Ann Arbor
RLee, MAC
BWMarguglio, JSC-220A

As a result of our January 31, 1983 discussion of the CCP status at the Project Quality Meeting, I felt a need to review the project direction and assignments in this area. My expectations on and understanding of these issues follow. If those who are involved have differing views, they should be brought to my attention immediately; otherwise, this memorandum represents project direction.

Five issues involving QA program questions were raised during the NRC's Diesel-Generator Building inspection last fall. The specific issues as we understand them are documented in Bruce Peck's followup list. The NRC has yet to formally document those items via their inspection report, which is expected shortly. In the meantime we need to pursue these topics both specifically and generally and to conclude them with the NRC as soon as possible. It is also our project need not to have these issues unnecessarily impede our ability to proceed with various aspects of the CCP. Where there are currently unrecognized, specific, logical ties to the CCP we should identify them and abide by them; otherwise the resolution of these programmatic issues should proceed in parallel with the balance of the CCP. And when and if QA program changes result, the downstream work will be done under the revised program.

There appear to be three levels of programmatic review work associated with these Zone 6 issues. First, does the specific NRC inspection question require a program change. Second, if the NRC issue is a valid finding, does this finding have a broader, generic implication to our QA program. In my view these two areas of review require immediate attention in order to reach satisfactory resolution with the NRC staff. Work should currently be proceeding even though we don't have the NRC inspection report in our hands. The third level of review is that, while we are pursuing levels one and two, we would be prudent to briefly reconfirm the overall adequacy of our QA program in the general areas being questioned. This is not to imply a need to undertake lengthy studies on QA program optimization or state-of-the-art QA practices, but is rather an exercise to assure that the NRC approved Project QA program is, in fact, being translated and implemented properly in these topical areas.

The individuals or groups responsible for carrying out the work associated with these five programmatic areas have not been fully defined. The overall assignments as currently understood by me are:

Design Control/Document Control - MPQAD QA is addressing the generic program aspects. MPQAD in conjunction with other project managers needs to identify the specific individuals in the various project groups who have the task of providing a recommended project corrective action based on the specific NRC issues. This recommendation should be able to be confirmed and implemented as soon as the NRC report is received and reviewed.

Material Traceability - MPQAD is again in a similar situation as above. A specific project coordinated group is required to prepare a recommended project position. Ben Marguglio and John Rutgers have been asked to provide research on industry practices on this issue.

"Q"-ness - Fred Buckman is assigned overall responsibility for this issue as the generic question may require interaction with NRR. He is requested to coordinate the specific aspects of this issue with Don Miller, Bechtel, and MPQAD.

Receipt Inspection/Source Inspection - The task force set up to resolve MCAR-66 appears to form the basis for resolving this question. This is true providing we properly identify the project actions and assignments required to close the specific NCR's written as part of the over-inspections that identified the problem originally. MPQAD and the task force should determine how the specific NCR's will be handled.

The addressees of this memo are requested to respond on the specific assignments, plans and schedules for resolving these issues. This can be done with me directly or as part of Don Miller's assignment to develop an overall, detailed CCP schedule and task assignment list. This should be done as soon as possible.

Consumers Power Company

INTERNAL CORRESPONDENCE

To JWCook, P26-336B

From RAWells, Midland

Date February 11, 1983

Subject MIDLAND PROJECT - CCP ZONE 6 QA PROGRAM QUESTIONS
SERIAL: 21272

cc FWBuckman, P26213A
MLCurland, Midland
BLee, Midland
BWMarguglio, JSC-220A
DBMiller, Midland
JARutgers, AA0-7220
LEZwissler, Midland

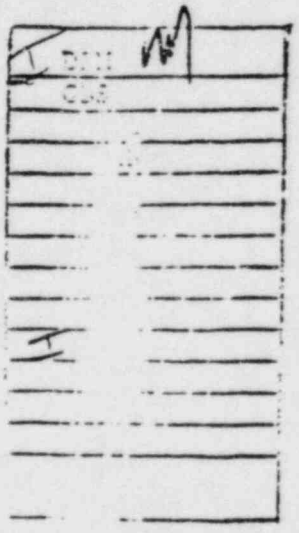
I have reviewed your memo dated February 7, 1983, regarding the above subject. In general I agree with the points covered by your memo and believe that we are proceeding on a course of action consistent with your understanding. There are, however, two specific areas where further definition of the issues are required and clarification of responsibility assignments may be necessary.

These are:

1) Design Control/Document Control - MPQAD is reviewing the document control issue with a particular focus on those systems dealing with document revisions and changes which include design documents. MPQAD is not at this time reviewing the process for design change control itself and it appears that this would be a project engineering responsibility.

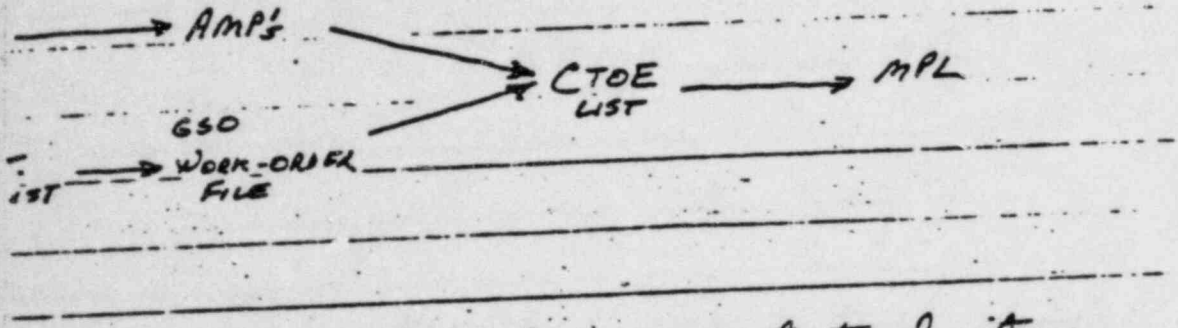
2) Receipt Inspection/Source Inspection - The task force for MCAR 66 has not included receipt inspection in their charter based upon my understanding of their charter as described in BLC-15931 dated February 3, 1983. MPQAD has a significant effort underway addressing the receipt inspection issue. We would plan to complete that assignment and will advise the MCAR 66 task force of our efforts.

RAW/crq



PRIOR TO T/O

ems to the MPL.



engineering control document to track items
. Only Bldg-Eng. can input to this document.
he there is a manual update & transfer of RWS.
. Not everything on RWS will appear on AMP's
versa. Examples of things on RWS but not AMP's
, ANALYSIS, and CALCULATIONS in short things
? be internal to engineering and do not
gild: Examples of items on AMP's but not on
UNORDERED & UNDELIVERED PARTS in short thing
ering has no control over.

Bldg-Const. TOE list is put into the GSO-Work ord
GSO work-order file tracks all construction type
aining to be worked on a system.

: is a composite listing of the AMP's and GSO
de file made at T/O. It shows a composite
l open items to be worked on a system. When the
: accepted the CTOE list is transfered to the MPL.

POST T/O

Viewpath after T/O each described below.

-ORDER → PTO ITEM (TOE ADDITION) → APL, if accepted
E BY CCG

o discover items to be added to the
d over system. They then add these items
file. G50 then notifies CCG of the addition
to item (TOE addition) form for submittal
ich. then reviews this PTO and if acceptable
: as a TOC against the system. If not
uld be submitted as a DCP.

APL's → G50 WORK-ORDER FILE → ? → PTO ITEM → APL if accepted

we to update the RWS in the same manner
dition the APL's is updated in the same
is transfered to the G50 work-order file
tions are noted. From this point on it
oblem. What should happen now is that
is completed & out sent to CCG for review

incorporation into the MPL as a TOE. However
had the responsibility to get the PTO form
them not sure we have been getting them
PL.

→ PTO ITEM → MPL, if approved.

designed to catch us if the first two
get a drawing change they ensure it
PL by a TOE, DeP etc. if not they initiate
to the change listed as a TOE. The PTO
review, approval and incorporation into
item against the system. CAR's can then
supplied the work.

I feel we have no problem in agreement
other documents at T/O. They won't always
agreement but that's OK. Post T/O the
the MPL and BSO Work-order file appear
the MPL and this might be a problem. The
e back up rule to catch us from doing
would violate our procedure. At the

seem a simple matter to give our public acce-
ell direct that GSO be the group that initiate the
to create the PTO form when new items show up on
list.

To FWBuckman, P-14-113A
JAMooney, P-14-115A
GSKeeley, P-14-113B
RCBauman, P-14-314B
KRKline, P-14-314A
BWMarguglio, JSC-220A
ARMollenkopf, P-14-209A
RAWells, Midland-MPQAD
DBMiller, Midland (3)

From JWCook, P-26-336B

Date February 7, 1983

CONSUMERS POWER COMPANY

Subject MIDLAND ENERGY CENTER PROJECT -
TRANSMITTAL OF CORRECTED PAGE 2
CONSTRUCTION PROJECT EVALUATION REPORT -
FILE B1.1.5 SERIAL 2[illegible]494

Internal Correspondence

Reference

CC

Attached please find a corrected Page 4-35 which should replace the Page 4-35 in the Construction Project Evaluation Report for the Midland Energy Center Project which was previously provided to you.

JWC/cl

ic0283-3750a102

PERFORMANCE EVALUATION SUMMARY

CONSTRUCTION PROJECT
Consumers Power Company
Midland Plant

Performance Area Design Output Objective No. DC.4

Evaluator(s) K. Horst/R. Lee/E. Schlinger

IV. **Areas of Weakness and Corrective Action; Good Practices**

Finding: (DC.4-1) The congestion being experienced in many areas of the plant requires that more attention be given to constructibility and maintainability in the design output.

Corrective Action: The ability to design optimum constructibility and maintainability into the Midland Plant is a significant challenge, given the limited space available and the evolution of regulatory requirements.

With regard to maintainability, Project Engineering has reemphasized the importance of ensuring that consideration is given in future design for maintainability. See Finding DC.1-1 for additional corrective action being taken. Constructibility in the design is provided by the assigned personnel using their education, training and experience and using the normal design process, which includes internal design interface coordination. As the plant is constructed and options for space become limited, changes required by regulatory agencies, state-of-the-art changes, vendor information changes, construction problems and design evolutionary changes combine to impact constructibility. These factors require that constructibility be addressed on a case-by-case basis. This situation has required major project attention, discussed as follows.

During the period from late 1979 through early 1981, special efforts (then referred to "room task forces") were taken to deal with particularly congested rooms. This effort primarily stemmed from design changes resulting from the Three Mile Island experience and related issues. In the latter part of 1981, a Space Control Group (SCG) was established to further assist in the dealing with plant congestion. The success of the SCG, based on its initial effort, has led to an expansion of current activities and includes (1) a rereview of all issued but not installed design for space-takers. This review will be made to provide additional assurance that items are constructible, (2) the inclusion of a physical walk-down by field engineering prior to forwarding the design to the crafts for construction, (3) the issuance of sketches for all currently field-run commodities (eg, conduit and tubing), with these sketches being processed through the SCG prior to installation, and (4) consideration is also being given to broadening the scope of this group's reviews to areas other than the auxiliary building and the containment building as necessary.

Within construction, additional attention will be given to installation sequence planning in advance of construction forwarding the design to craft personnel. This planning, conducted by system completion teams, will consider constructibility.

To
FWBuckman, P-1--11BA
JAMooney, P-1--115
GSKeeley, P-14-113B
RCBauman, P-14-314B
[illegible], P-1--11[illegible]
BWMarguglio, JSC-[illegible]
ARMollenkopf, P-14-308
RAWells, Midland
[illegible], Midland
CARutgers, Bechtel
MEBakarich, Bechtel

FROM JWCook, P-26-336 JWC

DATE February 1, 1983

FEB 04 1983

Consumers Power Company

INTERNAL CORRESPONDENCE

SUBJECT MIDLAND ENERGY CENTER PROJECT
MAC REPORT ON INPO CONSTRUCTION
PROJECT EVALUATION
FILE B1.1.5 SERIAL 20492

CC

Enclosed for your information is the report prepared by MAC on their evaluation of the Midland project based upon the INPO Performance Objectives and Criteria for Construction Project Evaluations. The report includes the corrective actions which we, as a team, completed and provided to MAC for incorporation in the final report. The report has been sent to INPO and following completion of their overview it will be sent to the NRC Regional Administrator.

Some of the corrective actions have already been completed while others will be completed in the coming months. Within a few days I will be transmitting an action items list to all persons who are responsible for completing corrective actions. This action item list will be periodically updated and maintained by Mike Bakarich. Gil Keeley has been assigned the management responsibility for overseeing the completion of corrective actions and will report at our monthly team meeting if any of the project's commitments are encountering difficulty.

Draft to B. Peck for review

Tony

RESPONSE TO FINDINGS

A. Performance Area CC.1 Construction Engineering

B. Basis Of Grading

Evaluation of Field Engineering support of the construction organization to allow consistency with design and ensure compliance with codes, & standards and procedural requirements.

C. Finding

CC.1-1 Field Engineering support appears insufficient in specific disciplines/areas.

CC.1-2 Excessive time, use and diversion of engineering manpower occurs to support field changes (FCR, FCN, ET AL).

CC.1-3 In some instances design/construction packages received insufficient interference analysis, inspection definition and procedural engineering input.

D. Basis Of Findings (Assumed by Construction)

CC.1-1 Detail statements - 2, 18, 22, 27, 31, 36, 40, 42, 43
Observations - None

CC.1-2 Detail statements - 4, 5, 14, 18, 20, 22, 40, 45
Observations - None

CC.1-3 Detail statements - 4, 5, 14, 16, 18, 19, 20, 22, 23, 40, 45
Observations - None

E. Response To Findings Based On D Above

These findings appear to address staffing levels, lack of experience and training, occupation of FE time with other than construction support tasks, lack of consistency in levels of support provided by various FE disciplines and an inordinate concentration of FE time on changes and requests for construction information.

We agree with these findings in part and disagree in part. (We will treat the three findings as one since they are closely related).

Agree - Numbers of Field Engineers have increased to levels able to support a normal approach to construction. With Field Engineering activity inordinately concentrated on rectifying changes, resolving interferences, requesting design information to allow installation to proceed and to support an unrealistic schedule committment, the staffing level may be below that required by the Project demands. The project corrective action is to reduce the opportunity for change, provide sufficient information to enable unhindered installations and to provide realistic schedule targets for work completion.

Disagree - levels of experience and training of Field Engineers is not below that required to support construction activities in accordance with the INPO "basis of evaluation." The following sampling of Field Engineering grade levels shows experience levels compatible with the rest of the industry.

Grade	Const. Exp.	Bechtel Exp.	Nuclear Exp.
21	3 yrs. 4 mos.	2 yrs. 7 mos.	2 yrs. 7 mos.
22	4 yrs. 2 mos.	2 yrs. 3 mos.	2yrs. 1mo.
23	5 yrs. 5 mos.	2 yrs. 11 mos.	3 yrs. 2 mos.
24	9 yrs. 7 mos.	3 yrs. 4 mos.	4 yrs. 11 mos.
25	12 yrs. 6 mos.	4 yrs. 10 mos.	8 yrs. 2 mos.
26	16 yrs. 1 mos.	11 yrs. 3 mos.	10 yrs.

Training needs are identified in Field Procedure FPG-2.000. This procedure fulfills the purpose of establishing a program to assure individuals receive training as necessary to properly execute their work activities.

This program has been in place for a considerable period of time and is used by supervisors to ensure individuals' proficiency is maintained or upgraded to meet the need of the specific task.

The training program provides for 1) orientation, 2) a formal, general training sequence and 3) a specific portion geared to meet the needs of individuals and specific work operations. This program is considered adequate.

NOTE: The INPO observation of "Training Session" concludes that the training session observed was excellent and above average for the industry.

RESPONSE TO FINDINGS

A. Performance Area CC.3 Material Control

B. Basis Of Grading

Evaluation of the control process for material and equipment control to ensure compliance to codes, standards, and procedural requirements.

C. Finding

CC.3-1 Instances occured where pre-turnover procedures for maintenance/inspection of installed equipment were not followed.

CC.3-2 Degredation/damage of installed equipment has occured in the Turbine and Aux. Building.

D. Basis Of Findings (Assumed by Construction)

CC.3-1 Detail statements - 8, 9, 13, 15, 16, 19, 20
Observations - Equipment Maintenance #6

CC.3-2 Detail statements - 9, 13, 15, 20
Observations - None

E. Response To Findings Based On "D" Above

The INPO conclusion to the Performance Evaluation states that "the material and equipment control system meets the performance objective." Construction agrees with this statement, however, isolated cases were noted in the area of housekeeping and temporary construction interferences. These isolated cases have been corrected. A further review of the material control mechanism and the physical hardware is continuing and will determine if any similar instances of this type are evident.

Based on this review, procedural or physical corrective action may be initiated.

Normal storage and maintenance inspections which meet the performance objectives, will continue.

RESPONSE TO FINDINGS

A. Performance Area CC.4 Control Of Construction Process

B. Basis Of Grading

The Construction Organization should monitor and control operations to assure project completion to design requirements with a high level of quality.

C. Findings

CC.4-1 Work instruction tolerances were insufficient in some areas such as: rebar mapping, inspection tolerances and procedures referenced.

CC.4-2 Work instruction planning was insufficient to level manpower loading.

CC.4-3 Uncontrolled drawings were being used at several work locations.

D. Basis Of Findings

CC.4-1 Detail statements - 1, 4, 11, 17, 18
Observations - Hydrostatic Test - Conclusion
Cable Termination - Conclusion (CPCO)
Aligning Pump & Motor #3

CC.4-2 Detail statements - None support this finding
Observations - None support this finding

CC.4-3 Detail statements - None support this finding
Observations - Pipe fit up #5
Rail Alignment & Welding #2

E. Responses To Findings Based On D Above

CC.4-1

We agree with this finding. Corrective actions already taken (starting December 9, 1982) have been to issue instructions to the various Field Engineering Disciplines that future work would be issued to supervision/craft in a manner to provide all necessary

instructions, permits, location and identity of the work and non-standard tolerances etc. Guidelines have alsc been established providing more definition of rebar mapping and referencing of procedures.

Project recommended corrective action would be to implement the system completion teams comtemplated for the Project Construction Completion Plan. The team approach is intended to bolster areas of identified weakness.

CC.4-2

Response to this finding is to be held pending further INPO clarification or incorporation of this finding into PS. 2 or PS. 3. However, we do not agree with the nature of this finding. Sufficient corporate, division, project and site policies and procedures are in place to adequately address leveling of manpower for identified to-go work.

CC.4-3 Same As PS.6-3

We do not agree with this finding. See response to PS.6-3.

RESPONSE TO FINDINGS

A. Performance Area CC.5 Construction Quality Inspection

B. Basis Of Grading

Construction inspections should verify and document that the final product meets design and quality requirements.

C. Findings

CC.5-1 Inspection procedure/criteria are not being defined for inclusion in work instructions/packages.

CC.5-2 Work instructions/packages in some instances lack clear and complete instructions for performance.

CC.5-3 The inspection procedures being utilized lack clearly understanable instructions and acceptance criteria.

D. Basis of Findings

CC.5-1 Detail statements - 4, 7, 12, 13, 16, 20, 23, 25, 26
Observations - Aligning Pump & Motor #2, 3, 7
Equipment Maintenance
Rail Alignment & Welding #2
Pneumatic Test #1
Cable Termination #3 (CPCO)

CC.5-2 Detail statements - Same as 5-1
Observations - Same as 5-1

CC.5-3 Detail statements - Same as 5-1
Observations - Same as 5-1

E. Response To Findings Based On D Above
CC.5-1,-2,-3 - Treated as one

Construction agrees with the finding. Recent corrective actions have been to establish written work and inspection guidelines and checklists where previously not addressed. These instructions/guidelines contain required inspection and verification points, tolerances and references for acceptance based on existing Project Engineering issued documents. These guidelines and checklists are, and

will continue to be, compatible and complimentary with existing Quality Control Inspection Plans. These steps were initiated in October '82' and will continue to be added to or revised through the completion of the project.

Recommended project corrective action is to assure project documents are correct, accurate and clearly define requirements, tolerances and acceptance/inspection criteria. Additionally, emergence of the Construction Completion Plan Team Concept should enhance the field and project corrective actions.

RESPONSE TO FINDINGS

A. Performance Area: PS.1 Industrial Safety

B. Basis Of Grading

Evaluation of Construction Site Industrial Safety Program.

C. Findings

PS.1-1 The use of combustible wood for scaffolding and flooring expose permanent plant equipment to a possible loss from fire.

PS.1-5 Some areas of containment (2) were observed as being congested, preventing safe access & regress.

D. Basis Of Findings (Assumed by Construction)

PS.1-1 Detail statements - 1.B1a, 1.C5, 2.K1,
Observations - None

PS.1-5 Detail statements - 2.4
Observations - Pipe fit up B.5C, Electrical Cable Install B.8

E. Responses To Findings Based On D Above

PS.1-1 Construction disagrees with the intent of this finding while agreeing with the statement. Non-combustible lumber is not available. The majority of lumber utilized for scaffolding etc. by Contractors, and Sub contractors, is fire retardent material. We have endeavored over many months to remove as much non fire retardent lumber as possible, almost all remaining is fire retardent. In lieu of lumber, metal scaffolding is utilized where ever practical. Construction will continue to utilize fire retardent lumber and or metal for scaffolding in all areas of the job. No further action is contemplated by Construction.

PS.1-5 Construction does not agree with this finding.

Constant monitoring by Safety/Supervision to ensure congestion/proximity and safe working area has and will continue to be an ongoing function in all areas of the job.

D-140-10

Although the withdrawal of "construction aid" material, ie. scaffolding, material etc. has helped eliminate some of the quoted "congestion" temporarily, it should be noted that similar "congestion" will occur when construction resumes in these areas. This stems primarily from the fact that quantities of commodities such as pipe, conduit, HVAC and their supports have grown considerably in number and size while the building size has remained constant.

Construction will continue to monitor accessibility within the Reactor Buildings from both a traffic volume and safety standpoint.

Input to M. N. Bakarich

RESPONSE TO FINDINGS

A. Performance area: PS.6 Documentation Management

B. Basis Of Grading

Evaluation of the control process for construction documentation management.

C. Finding

PS.6-1 Follow-up corrective action on stick file audits is inadequate.

PS.6-2 Procedure for maintaining drawing stick files in an up-to-date mode is inadequate.

PS.6-3 Uncontrolled drawings were being used at several work locations.

D. Basis Of Findings (Assumed by Construction)

PS.6-1 Detail statements - 7, 11
Observations - None

PS.6-2 Detail statements - 7, 11
Observations - None

PS.6-3 Detail statements - None
Observations - Pipe Fit Up #2
Rail Alignment & Welding #2

E. Response To Findings Based On D Above

Because of the low number of occurences found during the normal stick audits, we consider these finding's to be isolated cases.

PS.6-1 Construction agrees with this finding and immediate action was taken to correct the noted deficiencies.

Corrective action by Construction is to implement a follow up of all stick file audits. This additional follow up, will be implemented in the January '83 stick audit and will be continued through the construction phase of the job. This action will be the responsibility of the Documentation

Control Group and will correct deficiencies noted during audits.

PS.6-2 Construction agrees with this finding and immediate action was taken to correct the noted deficiencies.

It appears that this finding is more closely associated with follow up of stick file audits. As described in PS6-1 above, further corrective action for follow up of scheduled stick file audits will identify and correct discrepancies. See corrective action described for PS6-1.

PS.6-3 Construction does not agree with this finding.

The process for allowing uncontrolled drawings in the field was followed by Construction in both of the stated instances.

1) Observation of the uncontrolled drawing (OBS #2 pipe fit up) neglected to note that the drawing was stamped "for information only" as required procedurally and was not utilized for construction purposes. Thus, there was no basis for identifying a weakness.

2) Observation of the unstamped and Project Engineering unapproved vendor's drawing (OBS #2 Rail Alignment & Weld) was allowed by procedure as this document was issued by CPCO on a CWR. Construction procedures do not allow the withdrawal of construction material by an unapproved drawing & subsequently construction work did not occur until the drawings had received the proper approvals & stamping requirements. No corrective action for this finding is contemplated by Construction since CPCO was the issuing agency.

   Recommended project correction action is to ensure that this type of CPCO document be issued via the Project procedure thereby not violating any "unique" handling requirements.

RESPONSE TO FINDINGS

A. Performance Area TN.1 Training Management Support

B. Basis Of Grading

Evaluation of effectivity of indoctrination, training and qualification of personnel.

C. Finding

TN.1-1 The crafts training program could be more effective if a formal training program was developed to keep the crafts informed of the latest procedural change. Gang box meetings are not appropriate for training on procedure.

D. Basis Of Finding

TN.1-1 Detail statements - 1, 2, 3, 7, 8, 9, 10
Observations - Training Session

E. Response To Finding

The INPO conclusion to the performance evaluation states "The utility meets the performance objective." We agree with the conclusion but disagree with the finding. A formal procedure for training , FPG-2.000, includes the provision for the Project Superintendent to provide training for manual crafts personnel.

Manual crafts are involved in formal training programs for specific work operations and these sessions are documented. These sessions are on-going and are reinforced or revised and re-implemented as the type of work operation merits. Examples of standard training programs are:

Welder Training & Qualification
Safety Tagging
Site Evacuation Plan
Other "Safety" Procedures (i.e. confined space MIOSHA requirements etc.)
Cadwelder Operator Training & Certification
Concrete Vibration
Tubing Connector Installation

D-140-10

Drill Permit Usage
Excavation Permit Usage
Storage & Maintenance of Equipment & Materials
Housekeeping Standards
Expansion Anchor Installations
Etc.

As procedure changes merit, re-training or familiarization is performed.

Gang box meetings are not the vehicle for training on work procedures used on this project. FPG-2.000 is the vehicle along with Superintendent/General Foremen regular meetings and other unique Superintendent/General Foreman discussions and work instruction meetings.

Gang box meetings are generally used for safety updates on methods and procedures and, attimes, reinforcement of work rules and matters pertaining to Labor Administration.

Contrary to the detail statement #3, oral and written examinations are not given to craft personnel.

RESPONSE TO FINDINGS

A. Performance Area QP.1 Quality Programs

B. Basis Of Grading

Evaluation of the Quality Assurance Program for adherence to 10CFR50 Appendix B.

C. Finding

QP.1-1 The planning of construction and inspection activities is not a combined effort. Therefore, the potential exists for by passing planned inspection sequence or requirements.

D. Basis Of Finding (Assumed by Construction)

QP.1-1 Detail statements - None
Observations - None

E. Response To Finding Based On C Above

Construction agrees with this finding. This is generic.

Corrective Action: Construction Completion Teams are being developed, some specifically for the reinspection of Q-systems and ultimately the completion of these systems. The QC activities (inspections, etc.) for these systems will be planned, performed, and monitored as part of each team's scheduling and planning process.

Project Recommendation

Quality Control must develop a compatible project planning process.

D-140-10

X

BHP, ~~BDJ~~, ~~[illegible]~~/EMIE

Consumers Power Company

QA 87-0

NONCONFORMANCE REPORT

PROJECTS, ENGINEERING AND CONSTRUCTION

1. NCR NUMBER: M01-9-2-154			
2. START-UP SYSTEM: A290G	3. PRIORITY CODE: 2	4. TREND CODE: A9	5. ACTION ITEM NO: S-1786
6. PROJECT: MIDLAND PROJECT	7. NONCONFORMING PART NO: N/A	8. NONCONFORMING PART NAME: Concrete	9. DATE ISSUED: 11/5/82 Rev 1
10. NONCONFORMING PART SERIAL NUMBER: N/A	11. RESPONSIBLE ORGANIZATION: Bechtel Proj Enging Bechtel Construction	12. LOCATION IN PLANT: Aux Bldg Room 702	13. DATE OF REVISION: ~~N/A~~ 11/19/82

14. DISTRIBUTION: LHCurtis
ACTION: LEDavis
INFO: WRBird JWCook
JEBrunner ~~BHPeck~~
MLCurland JARutgers
MADietrich ESmith
MHanbury TKSubramanian
RDJohnson DATaggart
MJuister RAWells
GSKeeley JLWood
BWMarguglio ALAB-2
REMcCue REWhitaker
JKMeisenheimer
DBMiller RLAkers
JAMooney

15. FILE NUMBER: 16.0 NK

16. REQUIREMENT: ANSI N45.2-1971, Section 6, requires, "Activities affecting quality shall be prescribed by documented instructions, procedures, or drawings of a type appropriate to the circumstances and shall be accomplished in accordance with these instructions, procedures or drawings. (Continued on page 3)

17. NONCONFORMANCE: Contrary to the above, an approximately 18" X 10" X 4" deep portion of concrete was chipped out in the Containment #1, Exterior wall of the Auxiliary Building Containment #1 Purge Room (Room 702) El 674' without procedures, drawings, or specifications which establish criteria and authorize the work.

(Continued on page 3)

	YES	NO
19. ENGINEERING DISPOSITION REQ'D	X	
20. Q-LIST EQUIP. INVOLVED?	X	
21. PROCESS QA REQ'D (SEE BACK)	X	
22. HOLD TAGS APPLIED?	X	
24. REPORTABLE PER 50.55(e)?		X

18. RECOMMENDED PART CORRECTIVE ACTION: Repair chipped concrete per Section 17.0 of Specification C-231. Determine if other areas not shown on design drawings or allowed by specifications exist and repair.

23. LOCATION OF TAGS: Exterior Containment #1 Wall - Room 702 - Area 290G

25. REPORTED BY:	26. REPORTED TO:	27. DATE OF REPORT:	28. TIME OF REPORT:
N/A	N/A	N/A	N/A

29. NCR ORIGINATED BY:	30. WRITTEN REPLY REQUIRED:	31. SUPERVISOR'S SIGNATURE/DATE:
R L Akers *RL Akers*	11/26/82	*RE Whitaker* 11/5/82

32. PART CORRECTIVE ACTION PROPOSED:

DISCARD PREVIOUS ISSUE

33. QA CONCURRENCE-SIG/DATE:

34. PART CORRECTIVE ACTION VERIFIED:

RECEIVED
NOV 22 1982
MIDLAND PLANT PROJECT
MIDLAND, MICHIGAN

35. VERIFIED BY-SIG/DATE:

36. HOLD TAGS REMOVED-SIG/DATE:

37. NCR CLOSED BY - SIGNATURE DATE:

16. REQUIREMENT: (Continued from page 1)

Instructions, procedures or drawings shall include appropriate quantitative or qualitative criteria for determining that important activities have been satisfactorily accomplished."

17. NONCONFORMANCE: (Continued from page 1)

Field Procedure FIG 1.111, Rev 5, addresses chipping in Section 5.0, Applicability, and in Section 6.3.5, however, the only references to a design document dealing with chipping is to Section 9.2 of Specification C-231 which addresses only chipping for permanent penetrations. Concrete chipping which is intended to be temporary or is not a permanent penetration is not specified. Field Engineering has interpreted this lack of specificity to allow unlimited concrete chipping which is to be repaired per Section 17.0 of Specification C-231 prior to area turnover. The procedure for area turnover, FPT-3.000, Rev 0, is non-Q and does not provide control to assure that quality related activities have been accomplished.

41. QA RECOMMENDATION FOR PROCESS CA: (Continued from page 1)

to be recorded on the construction punchlist immediately after activities are conducted which require repairs regardless of scheduled turnover date.

B) Annotate QC records to reflect the fact that the work is no longer acceptable if the required repair is within design document guidelines and is not nonconforming.

C) Establish a new field procedure for tracking required repairs which are not nonconforming.

Consumers Power Company

QA 87-0

NONCONFORMANCE REPORT

PROJECTS, ENGINEERING AND CONSTRUCTION

1. NCR NUMBER: M01-9-2-154			
2. START-UP SYSTEM: A290G	3. PRIORITY CODE: 2	4. TREND CODE: A9	5. ACTION ITEM NO: S-1786
6. PROJECT: MIDLAND PROJECT	7. NONCONFORMING PART NO: N/A	8. NONCONFORMING PART NAME: Concrete	9. DATE ISSUED: 11/5/82
10. NONCONFORMING PART SERIAL NUMBER: N/A	11. RESPONSIBLE ORGANIZATION: Bechtel Construction	12. LOCATION IN PLANT: Aux Bldg Room 702	13. DATE OF REVISION: N/A

14. DISTRIBUTION:
ACTION: LEDavis
INFO: WRBird JWCook JEBrunner BHPeck MLCurland JARutgers MADietrich ESmith MHanbury TKSubramanian RDJohnson DATaggart MJuister RAWells GSKeeley JLWood BWMarguglio ALAB-2 REMcCue REWhitaker JKMeisenheimer DBMiller RLAkers JAMooney

15. FILE NUMBER: 16.0

16. REQUIREMENT:
ANSI N45.2-1971, Section 6, requires, "Activities affecting quality shall be prescribed by documented instructions, procedures, or drawings of a type appropriate to the circumstances and shall be accomplished in accordance with these instructions, procedures or drawings. (Continued on page 3)

17. NONCONFORMANCE:
Contrary to the above, an approximately 18" X 10" X 4" deep portion of concrete was chipped cut in the Containment #1, Exterior wall of the Auxiliary Building Containment #1 Purge Room (Room 702) El 674' without procedures, drawings, or specifications which establish criteria and authorize the work.

(Continued on page 3)

	YES	NO
19. ENGINEERING DISPOSITION REQ?	X	
20. Q-LIST EQUIP. INVOLVED?	X	
21. PROCESS CA REQ? (SEE BACK)	X	
22. HOLD TAGS APPLIED?	X	
24. REPORTABLE PER 50.50(e)?		X

18. RECOMMENDED PART CORRECTIVE ACTION:
Repair chipped concrete per Section 17.0 of Specification C-231. Determine if other areas not shown on design drawings or allowed by specifications exist and repair.

23. LOCATION OF TAGS: Exterior Containment #1 Wall - Room 702 - Area 290G

25. REPORTED BY: N/A	26. REPORTED TO: N/A	27. DATE OF REPORT: N/A	28. TIME OF REPORT: N/A

29. NCR ORIGINATED BY: R L Akers *R L Akers*

30. WRITTEN REPLY REQUIRED: 11/26/82

31. SUPERVISOR'S SIGNATURE/DATE: *R E Whitaker* 11/5/82

32. PART CORRECTIVE ACTION PROPOSED:

33. QA CONCURRENCE-SIG/DATE:

34. PART CORRECTIVE ACTION VERIFIED:

35. VERIFIED BY-SIG/DATE:

36. HOLD TAGS REMOVED BY-SIGNATURE/DATE:

37. NCR CLOSED BY - SIGNATURE/DATE:

Consumers Power Company

NONCONFORMANCE REPORT

PROCESS CORRECTIVE ACTION

NCR SERIAL NUMBER: M01-9-2-154

38. QA ASSESSMENT OF ROOT CAUSE(S):

To be determined.

39. ACTUAL ROOT CAUSE(S), IF DIFFERENT FROM ABOVE (TO BE COMPLETED BY ORG. RESPONSIBLE FOR PROCESS CA):

40. PROCESS CA REQUIRED FROM:

DESIGN [X] FABRICATION [ ] CONSTRUCTION [X] PROCUREMENT [ ] INSPECTION [ ]

OTHER _____

41. QA RECOMMENDATION FOR PROCESS CA:

1) Project Engineering to provide guidelines for concrete chipping not shown on other design documents and evaluate the safety impact of any chipping that has been done in violation of the guidelines.
2) Revise Field Procedure FIG 1.111 to incorporate requirements established by Project Engineering.
3) Establish by procedure, a control mechanism to assure that repairs, not done immediately, will be documented to assure that the repairs will in fact be accomplished. This could be accomplished in several ways:

A) Make Field Procedure FPT-3.000 (Area Turnover) "Q" and provide for the repair

(Continued on page 3)

42. PROCESS CA TO BE TAKEN BY ORG(S) CHECKED IN BLOCK 41 & DATE OF COMPLETION:

43. METHOD OF PROCESS CA VERIFICATION:

44. SIG. OF ORG. RESPONSIBLE FOR PROCESS CA SIGNIFYING COMPLETION:

45. PROCESS CA COMPLETION VERIFIED BY, DATE:

16. REQUIREMENT: (Continued from page 1)

Instructions, procedures or drawings shall include appropriate quantitative or qualitative criteria for determining that important activities have been satisfactorily accomplished."

17. NONCONFORMANCE: (Continued from page 1)

Field Procedure FIG 1.111, Rev 5, addresses chipping in Section 5.0, Applicability, and in Section 6.3.5, however, the only references to a design document dealing with chipping is to Section 9.2 of Specification C-231 which addresses only chipping for permanent penetrations. Concrete chipping which is intended to be temporary or is not a permanent penetration is not specified. Field Engineering has interpreted this lack of specificity to allow unlimited concrete chipping which is to be repaired per Section 17.0 of Specification C-231 prior to area turnover. The procedure for area turnover, FPT-3.000, Rev 0, is non-Q and does not provide control to assure that quality related activities have been accomplished.

41. QA RECOMMENDATION FOR PROCESS CA: (Continued from page 1)

to be recorded on the construction punchlist immediately after activities are conducted which require repairs regardless of scheduled turnover date.

B) Annotate QC records to reflect the fact that the work is no longer acceptable if the required repair is within design document guidelines and is not nonconforming.

C) Establish a new field procedure for tracking required repairs which are not nonconforming.

Consumers Power Company

QA 57-0

NONCONFORMANCE REPORT

PROJECTS, ENGINEERING AND CONSTRUCTION

PAGE 1 OF 3

1. NCR NUMBER: M01-9-2-154			
2. START-UP SYSTEM: A290G	3. PRIORITY CODE: 2	4. TREND CODE: A9	5. ACTION ITEM NO: S-1786
6. PROJECT: MIDLAND PROJECT	7. NONCONFORMING PART NO: N/A	8. NONCONFORMING PART NAME: Concrete	9. DATE ISSUED: 11/5/82
10. NONCONFORMING PART SERIAL NUMBER: N/A	11. RESPONSIBLE ORGANIZATION: Bechtel Construction	12. LOCATION IN PLANT: Aux Bldg Room 702	13. DATE OF REVISION: N/A

14. DISTRIBUTION:
ACTION: LEDavis
INFO: WRBird JWCook
JEBrunner BHPeck
MLCurland JARutgers
MADietrich ESmith
MHanbury TKSubramanian
RDJohnson DATaggart
MJuister RAWells
GSKeeley JLWood
BWMarguglio ALAB-2 -
REMcCue REWhitaker
JKMeisenheimer
DBMiller ~~RLAkers~~
JAMooney

15. FILE NUMBER: 16.0

16. REQUIREMENT:
ANSI N45.2-1971, Section 6, requires, "Activities affecting quality shall be prescribed by documented instructions, procedures, or drawings of a type appropriate to the circumstances and shall be accomplished in accordance with these instructions, procedures or drawings. (Continued on page 3)

17. NONCONFORMANCE:
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(Continued on page 3)

	YES	NO
19. ENGINEERING DISPOSITION REQ?	X	
20. Q-LIST ITEM?	X	
21. PROCESS CA REQ? (SEE BACK)	X	
22. HOLD TAGS APPLIED?	X	
24. REPORTABLE PER 50.55(e)?		X

18. RECOMMENDED PART CORRECTIVE ACTION:
Repair chipped concrete per Section 17.0 of Specification C-231. Determine if other areas not shown on design drawings or allowed by specifications exist and repair.

23. LOCATION OF TAGS: Exterior Containment #1 Wall - Room 702 - Area 290G

25. REPORTED BY: N/A	26. REPORTED TO: N/A	27. DATE OF REPORT: N/A	28. TIME OF REPORT: N/A
29. NCR ORIGINATED BY: R L Akers RL Akers	30. WRITTEN REPLY REQUIRED: 11/26/82	31. SUPERVISOR'S SIGNATURE/DATE: RE Whitaker 11/5/82	

32. PART CORRECTIVE ACTION PROPOSED:

CONSUMERS POWER COMPANY
RECEIVED
NOV 05 1982
CIVIL
FIELD QUALITY ASSURANCE
MIDLAND, MICHIGAN

33. QA CONCURRENCE-SIG/DATE:

34. PART CORRECTIVE ACTION VERIFIED:

35. VERIFIED BY-SIG/DATE:

36. HOLD TAGS VERIFIED-SIGNATURE/DATE:

37. NCR CLOSED BY - SIGNATURE/DATE:

Consumers Power Company

NONCONFORMANCE REPORT

PROJECTS, ENGINEERING AND CONSTRUCTION -

PROCESS CORRECTIVE ACTION

NCR SERIAL NUMBER: M01-9-2-154

38. QA ASSESSMENT OF ROOT CAUSE(S):

To be determined.

39. ACTUAL ROOT CAUSE(S), IF DIFFERENT FROM ABOVE (TO BE COMPLETED BY ORG. RESPONSIBLE FOR PROCESS CA):

40. PROCESS CA REQUIRED FROM:

DESIGN [X] FABRICATION [ ] CONSTRUCTION [X] PROCUREMENT [ ] INSPECTION [ ]

OTHER _____

41. QA RECOMMENDATION FOR PROCESS CA:

1) Project Engineering to provide guidelines for concrete chipping not shown on other design documents and evaluate the safety impact of any chipping that has been done in violation of the guidelines.
2) Revise Field Procedure FIG 1.111 to incorporate requirements established by Project Engineering.
3) Establish by procedure, a control mechanism to assure that repairs, not done immediately, will be documented to assure that the repairs will in fact be accomplished. This could be accomplished in several ways:

   A) Make Field Procedure FPT-3.000 (Area Turnover) "Q" and provide for the repair

(Continued on page 3)

42. PROCESS CA TO BE TAKEN BY ORG(S) CHECKED IN BLOCK 41 & DATE OF COMPLETION:

43. METHOD OF PROCESS CA VERIFICATION:

44. SIG. OF ORG. RESPONSIBLE FOR PROCESS CA SIGNIFYING COMPLETION:

45. PROCESS CA COMPLETION VERIFIED BY, DATE:

16. REQUIREMENT: (Continued from page 1)

Instructions, procedures or drawings shall include appropriate quantitative or qualitative criteria for determining that important activities have been satisfactorily accomplished."

17. NONCONFORMANCE: (Continued from page 1)

Field Procedure FIG 1.111, Rev 5, addresses chipping in Section 5.0, Applicability, and in Section 6.3.5, however, the only references to a design document dealing with chipping is to Section 9.2 of Specification C-231 which addresses only chipping for permanent penetrations. Concrete chipping which is intended to be temporary or is not a permanent penetration is not specified. Field Engineering has interpreted this lack of specificity to allow unlimited concrete chipping which is to be repaired per Section 17.0 of Specification C-231 prior to area turnover. The procedure for area turnover, FPT-3.000, Rev 0, is non-Q and does not provide control to assure that quality related activities have been accomplished.

41. QA RECOMMENDATION FOR PROCESS CA: (Continued from page 1)

to be recorded on the construction punchlist immediately after activities are conducted which require repairs regardless of scheduled turnover date.

B) Annotate QC records to reflect the fact that the work is no longer acceptable if the required repair is within design document guidelines and is not nonconforming.

C) Establish a new field procedure for tracking required repairs which are not nonconforming.

THIS PAGE PART OF ORIGINAL NCR

NONCONFORMANCE REPORT

Non-Tendon [illegible]

NO. 3190 PAGE [illegible] OF [illegible]

DWG. 1030

VENDOR PART NO. N/A — REV — 4. ITEM DESCRIPTION: [illegible] Vents & Drains

5. ITEM LOCATION: H13-030, H13-[illegible]

SERIAL NO. N/A — 8. REPLACEMENT PART — REV N/A — SER NO. N/A — 9. SOURCE: Construction — 10. CONTRACTOR/SUPPLIER: N/A

12. ASME AUTHORIZED INSPECTION — 13. SKETCH ATTACHED — 14. Discovered During — 15. Equip. [illegible]

24. DISPOSITION CONCURRENCE

Description: CQ Rev 15, Section 11.7 states in part "The [illegible] water from accumulating in the sheaths [illegible] drain tubes at low points of deflected tendons. [illegible] of the sheath will be provided with vent [illegible] valves for release of trapped air [illegible] greasing." See continuation sheet.

[signature] 2/9/81

[signature] 2/9/81

[signature] 2/9/81

PROJ CONSTR QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

DATE	19. VALIDATED BY	DATE
10/27/80	[signature]	10/24/80

TO FIELD ENGINEERING [ ] TO OTHERS (SPECIFY)

[X] Field Engineering Recommended Disposition to Project Engineering

[illegible] response to the items is as follows:

[illegible] for the vent is elevated above the high [illegible] of the sheathing. The condition noted above is not [illegible] to the tendon in any way.

[illegible] to the field showing "asbuilt" locations

ENG DISPOSITION

[illegible]

14/70 2/23/81 — 5/70 2/23/81 — 5/70 2/23/81

[signature] 2/23/81

21. DISPOSITION RESULTS

The reworking of Tendon # H13-030 was completed as described in Block 23, and was documented on QCIR # C-920-11

[signature]

2/24/81

QC ACCEPTANCE

[signature] 2/24/81

QC ENGINEER — DATE

AUTHORIZED INSPECTOR — DATE

N/A	N/A	8. REPLACEMENT PART P/N N/A REV N/A SER NO. N/A	9. SOURCE CONSTRUCTION	10. CONTRACTOR/SUPPLIER N/A

11. INSPECTION CRITERIA	12. ASME AUTHORIZED INSPECTION REQ'D	13. SKETCH ATTACHED	14. Discovered During	15. Equip Furnished By
( ) DWG (X) SPEC ( ) OTHER IR NO. C9.10-255,2503 NO. C2 Rev 15	( ) YES (X) NO	( ) YES (X) NO	( ) Rec'g (X) Const ( ) Test	( ) Client ( ) PSI ( ) FLD

16. NONCONFORMING CONDITION: C2 Rev 15, Section 11.7 states in part "The Buyer will prevent water from accumulating in the sheaths by furnishing drain tubes at low points of deflected tendons... All high points of the sheath will be provided with vent tubing and temporary valves for release of trapped air during pressure greasing." See continuation sheet

C 11-11-80

24. DISPOSITION CONCURRENCE

rework	reject	repair	use as is
X			X

Refer to Pg 4 of 4

PROJECT FIELD ENGINEER	DATE 2/4/81
PROJECT ENGINEER	DATE
PROJ CONSTR QC ENGINEER	DATE
AUTHORIZED INSPECTOR	DATE

25. DISPOSITION RESULTS

17. REPORTED BY	DATE	18. VALIDATED BY	DATE
James G Such	10/27/80	R. Bennett	10/24/80.

21. ROUTING: (X) TO FIELD ENGINEERING ( ) TO OTHERS (SPECIFY)

22. ( ) Field Engineering Disposition (X) Field Engineering Recommended Disposition to Project Engineering

The fields response to the items is as follows:

A) The opening for the vent is elevated above the high point of the sheathing. The condition noted above is not detrimental to the tendon is any way.

B) Drawings in the field showing "asbuilt" locations

23. PROJECT ENGINEERING DISPOSITION

Refer to Pgs. 3 and 4 of 4 for Project Engineering Disposition

T. J. Gray 1/28/81

26. QC ACCEPTANCE

QC ENGINEER	DATE
AUTHORIZED INSPECTOR	DATE

A) A VALVE WAS NOT INSTALLED ON THE VENT OF TENDON H13-010. THE VENT WAS FOUND TO HAVE BEEN LEFT OPEN THROUGH GREASING AND PLUGGED ITSELF WITH CONGEALED GREASE AFTER AN INDETERMINATE AMOUNT OF GREASE FLOWED OUT.

B) THE DRAIN IDENTIFIED FOR TENDON H13-030 WAS FOUND TO BE INCORRECT. TENDON WAS GREASED WITH NO DRAIN IN EVIDENCE.

C) THERE IS NO EVIDENCE THAT A VENT WAS PROVIDED FOR DEFLECTED TENDON H21-028. TENDON IS IN GREASED CONDITION.

HOLD FOR ENGINEERING DISPOSITION. Q LIST # L107 NO HOLD TAGS APPLIED

BLOCK 22 CONTINUED:

SHOW THAT A DRAIN WAS PROVIDED PRIOR TO EXTERIOR WALL CONTAINMENT CONCRETE PLACEMENT HOWEVER, THE DRAIN COULD NOT BE LOCATED. THE DRAIN DEFINITELY WAS CLOSED DURING GREASING.

C) THE ASBUILT DRAWINGS FOR VENTS AND DRAINS DO NOT SHOW ANY VENTS FOR TENDON H21-028. PLACING OF THE SHEATHING WAS SUCH THAT A "HIGH SPOT" WAS NOT DISCERNABLE AND A VENT WAS NOT DETERMINED TO BE NECESSARY.

THE FIELD RECOMMENDS "USE AS IS" FOR ITEMS A & B, AND ITEM C IS NOT A NON-CONFORMING CONDITION.

L E Harris 11/7/80

Paul Bogues 11/7/80

Tendon H13-010: The vent is located at the high point of the sheating; therefore, escape of grease through the vent during pumping would not have caused an air void to form. Subsequent to greasing, a permanent cap has been installed. Because leaving the vent open during greasing did not adversely affect tendon H13-010, it shall be used as is.

Tendon H21-028: Because the sheathing placement drawings require Tendon H21-028 to be deflected only 3 inches, it was possible to place the sheathing (within construction tolerances) so that a high point was indiscernible. In view of this fact, vent installation was deemed unnecessary. The lack of a defined high point would preclude the formation of an air void in the filler. Omission of the vent is not detrimental to tendon H21-028; therefore, the tendon shall be used as is.

Tendon H13-030: Although the field drawings indicate that a drain was installed, the drain cannot be located. It is assumed that the end of the drain tube was covered with concrete during the pouring of the containment shell. Therefore, the drain is permanently plugged. Because the drain was closed during greasing, the presence of air voids in the tendon sheathing is not considered ~~to be a problem.~~ TJB 1/26/81 However, because the drain was not able to perform as originally intended, the presence of water in the sheathing before greasing is a possibility that must be addressed. Therefore, Tendon H13-030 shall be reworked to determine whether water may have caused excessive corrosion of the tendon wires.

Tendon H13-030 shall be detensioned in accordance with the requirements of Sections 5.1.1, 5.2.1a and b, and 5.3 of Specification C-99(Q), Rev 2. One wire from the outside row at the shop end shall be cut and removed from the rest of the tendon. The wire shall be inspected along its entire length for

Field Installation Manual 7220-C2-146-12, Rev 5B, Page 37).

If the wire exhibits unacceptable corrosion (condition E), work on Tendon H13-030 shall discontinue. In this event, project engineering shall be notified and consulted for further action.

If the wire can be rated any condition A through D, the entire tendon shall be considered acceptable and be restressed according to Specification C-99(Q), Article 6.0, and regreased according to Specification C-99(Q), Article 7.0. The elapse time between removal of the sheathing filler from the tendon and its replacement shall not exceed 21 days. Unless otherwise stated, all operations shall be in accordance with Field Installation Manual C2-146-12, Rev 5b. During the rework period, the tendon end anchors shall be protected with Viscosity Oil Co. Visconorust 2090P-4 or an approved equal and to the requirements of Specification 7220-C-87(Q), Rev 2, Section 2.2.1. The rework activities and results for tendon H13-030 will be described in a field engineer's report to be transmitted to project engineering upon completion of rework operations.

Use Tendons H13-010 and H21-028 as is

Rework Tendon H13-030

T.J. Boyd 1/26/81

[illegible] 1/30/81

S.S. 2/2/81

Review by Q.E. only P. Presley - QE - 2/4/81

No drawing or specification revision required.

greasing. All drain and vent tubes will be of non-rusting material.

.0 CORROSION PROTECTION (Furnished and Injected by Buyer)

Corrosion protection of the installed tendons will be provided by sheathing filler injected into the sheaths and around the anchorages under a pressure of approximately 100 psi measured at the anchorage inlet at a minimum placement temperature recommended by the manufacturer. Sheathing filler will be "Visconorust 2090 P2" casing filler corrosion preventative as manufactured by Viscosity Oil Company or equal. Injection procedures will be in accordance with the manufacturer's recommendations.

.0 PRESTRESSING (Performed by Buyer)

13.1 Tensioning Schedule and Details

13.1.1 After approval of the Seller's drawings discussed in Section 8.0 above, the Seller shall furnish a detailed sequence of tensioning for each tendon based upon the following:

a. Every second hoop tendon will be tensioned within a strip extending from 20 feet above the construction opening to a tendon 25 feet below the spring line.

NTS & DRAIN FOR CONT. #1

J.	AZM.	VENT/DRAIN	H-21 ELEV.	AZM.	VENT/DRAIN	H-32 ELEV.	AZM.	VENT/DRAIN
-5"	40°	DRAIN				597'-9"	40°	VENT
-7"	71°	DRAIN				603'-3"	71°	DRAIN
	70°	*VENT				610'-10"	70°	*VENT
	50°	DRAIN						
"	50° 170° 208°	VENT VENT DRAIN	618'-4"	170°	VENT			
8"	50°	DRAIN	618'-6"	208°	DRAIN	623'	50°	VENT
	78°	DRAIN				626'-10" 623'	50° 78°	VENT DRAIN
6"	78°	VENT				630'-1" 628'	78° 50°	VENT DRAIN
2"	50°	VENT				"		
-7"	170°	DRAIN				633'-10" 633'-8"	250° 277°	DRAIN
7"	142° 170°	DRAIN VENT	634'-4" 633'-3"	277° 170°	DRAIN			
-11"	142°	DRAIN	636'-3" 637'-7"	142° 276°	DRAIN	638'-6" 641'-5"	325° 280°	DRAIN VENT
-3"	142°	DRAIN	637'-7" 639'-2" 642'-2"	142° 325° 280°	DRAIN VENT	639'-10"	325°	DRAIN
-7"	142°	DRAIN	638'-11" 648'-2"	142° 325°	DRAIN VENT	648'-10"	325°	VENT
-3"	142°	VENT	649'-6" 652'-5"	325° 142°	VENT			
7"	142°	VENT	653'-11"	142°	VENT			
11"	142°	VENT	655'-3"	142°	VENT			
3"	62°	DRAIN				652'-11"	62°	DRAIN
7"	62°	DRAIN				654'-3"	62°	DRAIN
11"	62°	DRAIN				673'-1"	62°	VENT
-9"	62°	VENT				674'-5"	62°	VENT
-1"	62°	VENT				675'-9"	62°	VENT
-7"	150°	DRAIN	672'-11"	150°	DRAIN			
			678'-3"	150°	*VENT			
-6"	150°	DRAIN						
-10"	150°	DRAIN	689'-2"	150°	DRAIN			
-10"	150°	VENT	692'-2"	150°	VENT			
			693'-6"	150°	VENT			
-5"	87°	DRAIN				710'-7"	87°	VENT
-4"	87°	VENT				712'-11"	87°	VENT
-3"	87°	VENT				713'-9"	87°	VENT

*VENTS NOT PLOTTED

TRUCTION
UCTS
ANY

llation in the field. The material will be furnished in lengths for horizontal and dome tendons and in 10' lengths straight portions of vertical tendons. Twelve inch couplers l be provided to attach sections. Each joint of sheathing uld be butted together with the coupler overlapping 6" of h piece. Joints should be taped with at least two complete ps of tape to insure no concrete leakage. Cutting will be uired to fit the 39' sections. This can be accomplished ily with a hacksaw.

tical and Horizontal placements are dependent upon two tors:

Wall lift erection (Pour size and sequence)
Placement of vertical and horizontal rebar.

athing, in all cases, is tied off to the rebar. Extra ports (#3 or #4 bars) may be needed in some locations re the sheathing does not rest against or on rebar. athing should be tied secure on an average of 10 to 15 t intervals or whatever it takes to secure it in place. ember! People will be walking on the sheathing during cement of additional rebar, formwork and concrete placing. is important that the sheathing does not move once it been tied down. After securing the sheathing in place and or to placing the concrete, the Sheathing Rabbit mustbe pull-through every sheathing void, except verticals,to verify a ar and unobstructed passage. Placing tolerances are specid in Spec. 7220-C-2 Item 11.6. Important! Sheathing placing precedence over rebar. It may be necessary to move or splice ~~ar, especially~~ around penetrations.

s & Drains:

athing vents (If required) and drains are located at high points and all low points in the sheathing tratory. Locations of vents and drains are indicated on the wings. Vents will be placed with pipe and elbow protting from the top of the vent coupling and out the side l on horizontal tendons. Dome tendons will have similar its at high point of dome trajectory protruding above the crete pour. Drains, on Horizontal tendons only, will e pipe and elbow projecting below the sheathing and out the side wall. Vents and drains should be closed during creting. Open drains after removal of forms, leaving its closed. Prior to greasing (bulk filling tendons) open its and close drains. Vents will be closed after greasing.

ection:

d covers should be provided for protection of gasket surface Horizontal and top Vertical Bearing Plates. It is recommen- that Gallery Vertical and Dome bearing plates be coated

JUN 24 1974 REVISED: NOV 4 1974

Any point on horizontal wall sheathing shall be within ± 1-1/2" radially of the location given on the tendon placement drawings. The elevation of any point on the horizontal sheathing shall b within ± 1/2" of the elevation given on the tendon placemnt drawing.

11.6.1.2.2 When the location of she ing in field is affected by penetration being out of specified location due to liner plate erection tolerance, the requirement in article 11.6.1.2.1 can be relaxed to allow the affec sheathing to deviate fro its specified position t a maximum of ± 2 1/2" ra ally for both horizontal and vertical tendons.

11.6.2 Dome

11.6.2.1 Requirements in the spherical region of the dome:

Any point on the dome sheathing shall be within ± 1-1/2" radially of the location given on the tendon placement drawings. The tangential location of any point on the sheathing shall be within ± 1-1/2" of the theoretical location given on the tendon placement drawings.

11.6.3 Inspection

The entire length of the sheathing shall be carefully inspected for possible leakage points and local deformations and to determine that it meets all requirements of the project specifications for reactor containment tendon sheathing

11.7 Cleaning and Venting (Furnished by Buyer) Bechtel

The Buyer will prevent water from accumulating in the sheaths by furnishing drain tubes at low points of deflected tendons. Just prior to insertion of the tendon the sheath shall be cleaned of accumulated water by the use of compressed air or other suitable means. All high points of the sheath will be provided with vent tubing and temporary valves for release of trapped air during pressur

BECHTEL

ANN ARBOR

TRANSMITTAL FORM

221100

PLEASE RECEIPT AND RETURN
BLUE COPY IMMEDIATELY

DATE 1-28-83

*** ACTION**

ACTION FOR VENDORS	ACTION FOR OTHERS
1. ☐ WORK MAY PROCEED.	6. ☐ FOR APPROVAL
2. ☐ WORK MAY PROCEED. SUBMIT FINAL DOCUMENT.	7. ☐ CONSTRUCTION
3. ☐ REVISE AND RESUBMIT. WORK MAY PROCEED SUBJECT TO INCORPORATION OF CHANGES INDICATED.	8. ☐ PRELIMINARY USE
4. ☐ REVISE AND RESUBMIT. WORK MAY NOT PROCEED.	9. ☐ REFERENCE
5. ☐ REVIEW NOT REQUIRED. WORK MAY PROCEED. ☐ FOR INFORMATION ONLY.	10. ☒ NCR

SUBJECT	CODE
☐ BECHTEL DRAWINGS	B
☐ VENDOR DRAWINGS	V
☐ MATERIAL REQUISITION	MR
☐ SPECIFICATIONS	S
☐ BID REQUEST	BR
☐ QUOTATIONS	Q
☐ PURCHASE ORDER	PO
☐ CONFERENCE NOTES	CN
☐ BID SUMMARY	BS
☐ SUBCONTR..CTS	SC
☐ _____	X
☐ _____	Y

ATTENTION VENDORS: ALL FINAL DRAWINGS SUBMITTED TO BECHTEL MUST BE CERTIFIED TRANSPARENCIES.

QTY.	F. P. PREFIX 7220 / BECHTEL FOREIGN PR. NO. ☐ / BECHTEL DRAWING NO. ☐	REV. NO.	TITLE	VENDOR NO.	* ACTION	CODE
			NCR # MDI-9-2-154		10	

CONSUMERS POWER COMPANY
RECEIVED
FEB 03 1983
FIELD QUALITY ASSURANCE
MIDLAND, MICHIGAN

	ORIGINAL	PRINTS
ACTION		(RAH) MLC
INFO		
ROUTE		
FILE	16.0	
COPIES SENT AS ADDRESSED		

COMMENTS:

M. CUELAND 1
R. AKERS 1
W. BIRD 1
J. HORSCH 1

TO: CPCO

FROM: BAPC

TRANSMITTAL TYPE
☐ VENDOR PRINT
☐ OTHER

BY EMH / SAR

ORIGINAL

PLEASE RECEIPT AND RETURN
BLUE COPY IMMEDIATELY

TRANSMITTAL FORM

DATE 1-28-83

* ACTION

DORS	ACTION FOR OTHERS
	6. ☐ FOR APPROVAL
INAL DOCUMENT.	7. ☐ CONSTRUCTION
AAY PROCEED SUB-ANGES INDICATED.	8. ☐ PRELIMINARY USE
AAY NOT PROCEED.	9. ☐ REFERENCE
MAY PROCEED.	10. ☒ NCR

SUBJECT	CODE
☐ BECHTEL DRAWINGS	B
☐ VENDOR DRAWINGS	V
☐ MATERIAL REQUISITION	MR
☐ SPECIFICATIONS	S
☐ BID REQUEST	BR
☐ QUOTATIONS	Q
☐ PURCHASE ORDER	PO
☐ CONFERENCE NOTES	CN
☐ BID SUMMARY	BS
☐ SUBCONTRACTS	SC
☐ _____	X
☐ _____	Y

L DRAWINGS SUBMITTED TO BECHTEL MUST BE CERTIFIED TRANSPARENCIES.

☐ SIGN PR. NO. ☐ WING NO.	REV. NO.	TITLE	VENDOR NO.	* ACTION	CODE
		NCR # MO1-9-2-154		10	

RETURN THIS COPY IMMEDIATELY TO BECHTEL

M. CURLAND 1 — R. AKERS 1

W. BIRD 1 — J. HORSCH 1

TO

BAPC

BY EMH / SAR

DATE REC'D _____ BY: _____

ACKNOWLEDGMENT COPY

NONCONFORMANCE REPORT

PROJECTS, ENGINEERING AND CONSTRUCTION

TO: M. CURLAND
FROM: E.M. HUGHES
M01-9-2-154

3. PRIORITY CODE:	4. CAUSE CODE:	5. ACTION ITEM NO:
2	A9	S-1786
7. NONCONFORMING PART NO:	**8. NONCONFORMING PART NAME:**	**9. DATE ISSUED:**
N/A	Concrete	11/5/82 Rev 1
11. RESPONSIBLE ORGANIZATION:	**12. LOCATION IN PLANT:**	**13. DATE OF REVISION:**
Bechtel Proj Enging Bechtel Construction	Aux Bldg Room 702	~~N/A~~ 11/19/82

16. REQUIREMENT: ANSI N45.2-1971, Section 6, requires, "Activities affecting quality shall be prescribed by documented instructions, procedures, or drawings of a type appropriate to the circumstances and shall be accomplished in accordance with these instructions, procedures or drawings. (Continued on page 3)

17. NONCONFORMANCE:
Contrary to the above, an approximately 18" X 10" X 4" deep portion of concrete was chipped out in the Containment #1, Exterior wall of the Auxiliary Building Containment #1 Purge Room (Room 702) El 674' without procedures, drawings, or specifications which establish criteria and authorize the work.

(Continued on page 3)

		18. RECOMMENDED PART CORRECTIVE ACTION:
X		Repair chipped concrete per Section 17.0 of Specification C-231. Determine if other areas not shown on design drawings or allowed by specifications exist and repair.
X		
X		
X		23. LOCATION OF TAGS: Exterior Containment #1 Wall - Room 702 - Area 290G
	X	25. REPORTED BY: N/A

26. REPORTED TO:	27. DATE OF REPORT:	28. TIME OF REPORT:
N/A	N/A	N/A

30. WRITTEN REPLY REQUIRED:	31. SUPERVISOR'S SIGNATURE/DATE:
11/26/82	RE Whitaker 11/5/82

PROPOSED:

This is a complete response to the subject NCR.

(continued)

DISCARD PREVIOUS ISSUE

33. QA CONCURRENCE/DATE:

VERIFIED:

35. VERIFIED BY/DATE:

IMPLEMENTED DATE:

37. QCI VERIFIED BY / DATE:

NONCONFORMANCE REPORT

PROCESS CORRECTIVE ACTION

103105

NCR/SDAR NO.: M01-9-2-154

be determined.

IT FROM ABOVE (TO BE COMPLETED BY ORG. RESPONSIBLE FOR PROCESS CA):

ATION ☐ CONSTRUCTION ☒ PROCUREMENT ☐ INSPECTION ☐

ng to provide guidelines for concrete chipping not shown on other design
luate the safety impact of any chipping that has been done in violation

edure FIG 1.111 to incorporate requirements established by Project

edure, a control mechanism to assure that repairs, not done immediately,
d to assure that the repairs will in fact be accomplished. This could
n several ways:

ocedure FPT-3.000 (Area Turnover) "Q" and provide for the repair

(Continued on page 3)

) CHECKED IN BLOCK 41 & DATE OF COMPLETION:

CES:

OCESS CA SIGNIFYING COMPLETION:

45. PROCESS CA CONFIRMATION VERIFIED BY, DATE:

QUIREMENT: (Continued from page 1)

structions, procedures or drawings shall include appropriate quan-
tative or qualitative criteria for determining that important acti-
ties have been satisfactorily accomplished."

NCONFORMANCE: (Continued from page 1)

ald Procedure FIG 1.111, Rev 5, addresses chipping in Section 5.0,
plicability, and in Section 6.3.5, however, the only references to
design document dealing with chipping is to Section 9.2 of Speci-
cation C-231 which addresses only chipping for permanent penetrations.
ncrete chipping which is intended to be temporary or is not a perma-
nt penetration is not specified. Field Engineering has interpreted
is lack of specificity to allow unlimited concrete chipping which is
be repaired per Section 17.0 of Specification C-231 prior to area
rnover. The procedure for area turnover, FPT-3.000, Rev 0, is non-Q
d does not provide control to assure that quality related activities
ve been accomplished.

RECOMMENDATION FOR PROCESS CA: (Continued from page 1)

be recorded on the construction punchlist immediately after activities
e conducted which require repairs regardless of scheduled turnover date.

Annotate QC records to reflect the fact that the work is no longer acceptable if the required repair is within design document guidelines and is not nonconforming.

Establish a new field procedure for tracking required repairs which are not nonconforming.

COMPLETE RESPONSE TO NCR-M01-9-2-154 (continued)

05

only item that pertains to project engineering is Item 1, of Block 41, ch requests that guidelines be provided for concrete chipping not already icated on design documents (drawings, specifications etc.) and that the ety impact of any nonconforming chipping be evaluated.

: C-5206, approved by project engineering on 12/4/82, revised section 17.0 Specification 7220-C-231(Q) to include the following paragraph:

> The methods described below shall also be used where the field has determined it a necessity to remove concrete in order to accomodate installation of additional material, correct the configuration of formed sections, or explore for imbed items.

oject engineering considers the guidelines provided by the change to be equate and to meet the intent of Item 1 of the subject NCR. Since the suance of NCR-M01-9-2-154, project engineering has not been informed (via R, FCN, NCR, FER, or memorandum) of any other locations where concrete has en chipped in a manner not conforming to the revised section 17.0 of Specification 7220-C231(Q). Therefore, project engineering concludes that there no "safety impact" due to chipping in violation of guidelines.

further assistance and/or clarification is required, contact John Palmer, quality engineering, at extension 9427.

R.C. Hollar

E.M. Hughes
Ann Arbor
Project Engineer

1-27-83

:: R.L. Akers
W. Bird
J. Horsch

bcc: A. Spesard
T. Broze
R.C. Hollar
J.C. Palmer
S. Rao
S. Sobkowski

ritten Response Requested: No

om Use: Closes com 095473 and 096992

BECHTEL POWER CORP.

TRANSMITTAL FORM

PLEASE RECEIPT AND RETURN BLUE COPY IMMEDIATELY

DATE 2/9/83

*** ACTION**

SUBJECT — **CODE**

N FOR VENDORS

D - MFG. MAY PROCEED

D
INAL DWG. MFG. MAY CEED

D EXCEPT AS NOTED, MAKE AND SUBMIT FINAL DWG. PROCEED AS APPROVED

ROVED. CORRECT AND RESUBMIT

IOT REQUIRED Y PROCEED.

ACTION FOR OTHERS

6. ☐ FOR APPROVAL
7. ☐ CONSTRUCTION
8. ☐ PRELIMINARY USE
9. ☐ REFERENCE
10. ☒ Partial Response

☐ BECHTEL DRAWINGS	B
☐ VENDOR DRAWINGS	V
☐ MATERIAL REQUISITION	MR
☐ SPECIFICATIONS	S
☐ BID REQUEST	BR
☐ QUOTATIONS	Q
☐ PURCHASE ORDER	PO
☐ CONFERENCE NOTES	CN
☐ BID SUMMARY	BS
☐ SUBCONTRACTS	SC
☐ _____	X
☐ _____	Y

ALL FINAL DRAWINGS SUBMITTED TO BECHTEL MUST BE CERTIFIED TRANSPARENCIES.

BECHTEL FOREIGN PR. NO. ☐ BECHTEL DRAWING NO. ☐	REV. NO.	TITLE	VENDOR NO.	* ACTION	CODE
		QA AI: S-1786 EE AI: J-214 CPCo NCR M01-9-2-154			

POWER COMPANY
E I V E D
B 14 1983
LITY ASSURANCE
ND, MICHIGAN

	ORIGINAL	COMMENTS
ACTION		RLA MLC
INFO		
ROUTE		
FILE	16.0	
COPIES SENT AS ADDRESSED		

ells, MPQAD
ers Power Company

M. GURLAND

FROM

L.E. Davis, Construction
Bechtel Power Corporation

☐ VENDOR PRINT
☐ OTHER

BY

ORIGINAL

QA AI S-1786

FE AI J-214

CPCO-NCR-M-01-9-2-154

FCR C-5206 has been approved by Project Engineering and provides guidelines for concrete removal and subsequent repair. There are no areas where concrete removal has been performed in violation of these guidelines.

FIG 1.111 (Concrete Drilling Permit) has been revised to incorporate the Project guidelines and is being routed for sign off.

FPT 3.000 (Area Turnover) has been revised and is now designated "Quality Related". It is currently in the approval cycle. The control mechanism to assure that all chipped-out areas are repaired prior to area turnover is through the use of area review checklists contained within the current proposed revision.

Construction's assessment of the root cause is failure by the Project to recognize the need for chipping operations to be controlled by procedures and permits.

Due to the coordinated withdrawal of "Q" systems, completion of any further corrective action for the subject NCR is postponed until "Q" work is released by CPCo.

An extension of any further Construction responses on this subject, until that time is requested.

T/N 36855

NONCONFORMANCE REPORT

PROJECTS, ENGINEERING AND CONSTRUCTION

SHT 1 OF 3

1. NCR NUMBER: M01-9-2-154

3. PRIORITY CODE:	4. TRADE CODE:	5. ACTION ITEM NO:
2	A9	S-1786
7. NONCONFORMING PART NO:	**8. NONCONFORMING PART NAME:**	**9. DATE ISSUED:**
N/A	Concrete	11/5/82
11. RESPONSIBLE ORGANIZATION:	**12. LOCATION IN PLANT:**	**13. DATE OF REVISION:**
Bechtel Construction	Aux Bldg Room 702	N/A

16. REQUIREMENT:

ANSI N45.2-1971, Section 6, requires, "Activities affecting quality shall be prescribed by documented instructions, procedures, or drawings of a type appropriate to the circumstances and shall be accomplished in accordance with these instructions, procedures or drawings. (Continued on page 3)

17. NONCONFORMANCE:

Contrary to the above, an approximately 18" X 10" X 4" deep portion of concrete was chipped out in the Containment #1, Exterior wall of the Auxiliary Building Containment #1 Purge Room (Room 702) El 674' without procedures, drawings, or specifications which establish criteria and authorize the work.

(Continued on page 3)

18. RECOMMENDED PART CORRECTIVE ACTION:

Repair chipped concrete per Section 17.0 of Specification C-231. Determine if other areas not shown on design drawings or allowed by specifications exist and repair.

23. LOCATION OF TAGS: Exterior Containment #1 Wall - Room 702 - Area 290G

25. REPORTED BY:	26. REPORTED TO:	27. DATE OF REPORT:	28. TIME OF REPORT:
N/A	N/A	N/A	N/A

30. WRITTEN REPLY REQUIRED:	31. SUPERVISOR'S SIGNATURE/DATE:
11/26/82	RE White 11/5/82

ED: THE AREA DESCRIBED ABOVE IN BLOCK 16 SHALL BE REPAIRED IN HE STANDARD REPAIR PROCEDURE GIVEN IN SECTION 17.0 OF SPEC STRUCTION FIG 1.111, CONCRETE DRILLING PERMIT, IS BEING LUDE CERTAIN ACTIVITIES LISTED IN SECTION 2.0 FROM JTS OF THE INSTRUCTION. AN FCR [illegible] HAS BEEN ISSUED FICATION C-231(Q) TO MORE CLEARLY PPLICABILITY OF THE STANDARD REPAIR EN IN SECTION 17.0.

33. QA CONCURRENCE-SIG/DATE:

34. VERIFIED CLOSED DATE:

NONCONFORMANCE REPORT

PROCESS CORRECTIVE ACTION

...OJECTS, ENGINEERING AND CONSTRUCTION -

NCR SERIAL NUMBER: MO1-9-2-154

...OT CAUSE(S):

To be determined.

...). IF DIFFERENT FROM ABOVE (TO BE COMPLETED BY ORG. RESPONSIBLE FOR PROCESS CA):

...ED FROM:

FABRICATION ☐ CONSTRUCTION ☒ PROCUREMENT ☐ INSPECTION ☐

...OR PROCESS CA:

...gineering to provide guidelines for concrete chipping not shown on other design ... and evaluate the safety impact of any chipping that has been done in violation ...idelines.

...eld Procedure FIG 1.111 to incorporate requirements established by Project ...g.

... by procedure, a control mechanism to assure that repairs, not done immediately, ...ocumented to assure that the repairs will in fact be accomplished. This could ...lished in several ways:

Field Procedure FPT-3.000 (Area Turnover) "Q" and provide for the repair

(Continued on page 3)

...KEN BY ORG(S) CHECKED IN BLOCK 41 & DATE OF COMPLETION:

...A VERIFICATION:

LIREMENT: (Continued from page 1)

tructions, procedures or drawings shall include appropriate quan-
ative or qualitative criteria for determining that important acti-
ies have been satisfactorily accomplished."

CONFORMANCE: (Continued from page 1)

ld Procedure FIG 1.111, Rev 5, addresses chipping in Section 5.0,
licability, and in Section 6.3.5, however, the only references to
esign document dealing with chipping is to Section 9.2 of Speci-
ation C-231 which addresses only chipping for permanent penetrations.
crete chipping which is intended to be temporary or is not a perma-
t penetration is not specified. Field Engineering has interpreted
s lack of specificity to allow unlimited concrete chipping which is
be repaired per Section 17.0 of Specification C-231 prior to area
nover. - The procedure for area turnover, FPT-3.000, Rev 0, is non-Q
does not provide control to assure that quality related activities
e been accomplished.

RECOMMENDATION FOR PROCESS CA: (Continued from page 1)

be recorded on the construction punchlist immediately after activities
conducted which require repairs regardless of scheduled turnover date.

Annotate QC records to reflect the fact that the work is no longer
acceptable if the required repair is within design document guidelines
and is not nonconforming.

Establish a new field procedure for tracking required repairs which
are not nonconforming.

[redacted]

QUALITY RELATED

Bechtel Power Corporation

Field Instruction

FIG - 1.111 (Q)

Rev. 6

Concrete Drilling Permit

1.0 Purpose

To establish the method of originating, numbering, and obtaining the proper Field Engineer sign-off and/or Resident Engineering approval for concrete drill permits.

2.0 Scope

This instruction discusses the method of initiating, identifying, approving, and controlling concrete drill permits for the Midland Project (Job 7220).

Concrete drilling permits will not be required for the following:

2.1 For total removal of incorrectly batched, mixed, or placed concrete or batch plant grout.

2.2 For removal of concrete that is labeled 'temporary' on the placing document or, is placed solely as an erection aid (examples, mud mats, lean concrete backfill).

6 2.3 For removal of concrete by any method to a depth not to exceed 2-1/2" from the free surface of the concrete as formed or placed.

2.4 For expansion anchors with a max. hole depth of 2-1/2" used only for the attachment of temp. form work or temp. construction aids to block walls or poured walls substituted for block walls.

2.5 For 1/4" through 1/2" (diameters) expansion anchors (max, hole depth 2-1/2") in structural walls and

except, A) For areas noted in specification
(Q) appendix C and appendix G and spec C-306
. which address certain areas within the
ts. B) All attachments to block walls, or,
ck walls substituted for block walls require
with the exception of Sec. 2.4) regardless
id require resident engineering approval in
with section 6.3.2 of this field instruction.

ion 7220-C-231(Q).

ion 7220-C-305(Q).

ion 7220-C-306(Q).

ion 7220-C-194(Q) (FSO)

ion 7220-C-195(Q) (FSO)

: Field Engineer is responsible for the
ind implementation of this instruction.

scipline Field Engineer or his designee, is
: for initiating, preparing, and controlling
iry documents for work activities applicable
:truction within his discipline.

:ngineer originating the concrete drill
esponsible for assuring that the permit
th this instruction and the requirements
ection 9.2 of Specification C-231(Q),
& G of Specification C-305(Q), Appendix
ication C-306(Q), and Section 10.6 of speci-
194(Q) if applicable (FSO).

(Q)

ction applies to all concrete drill permits
ny discipline for core drilling, removal
, or drilling for installation of concrete

g requirements apply to all concrete drill permits,
ted.

discipline shall maintain its own "concrete drill
t" log and numbering system.

Concrete drill permits shall be identified by a discipline letter and numbered in the permit number space on the permit. Letter designations are as follows:

6.1.1.1 C - Civil

6.1.1.2 E - Electrical

6.1.1.3 H - HVAC

6.1.1.4 I - Instrumentation

6.1.1.5 M - Mechanical Large Pipe

6.1.1.6 M - Mechanical Small Pipe

6 6.1.1.7 U - Field Soils Organization (FSO)

6.1.1.8 X - General Services Organization

ermit number shall be assigned prior to routing
it for sign-off/approval.

ing of Permits.

1 All drill permits shall be routed for Field Engineering sign-off.

2 Permits for "Q" listed blockwalls or poured walls substituting for "Q" block walls (see Drawings C-2051 through C-2099). Q

3.2.1 For penetrations only.

After Field Engineering sign-off route one (1) copy of permit to Civil Quality Control and one (1) copy of permit to Resident Engineering.

3.2.2 For attachments.

After Field Engineering sign-off send original permit to Resident Engineering for approval. After permit is approved, route one (1) copy to Civil Quality Control.

rmits for "Q" listed concrete walls and abs.

3.3.1 After Field Engineering sign-off, route one (1) copy of permit to Civil Quality Control and one (1) copy of permit to Resident Engineering.

-mits for Non "Q" concrete walls and slabs.

3.4.1 After Field Engineering sign-off, route one (1) copy of permit to Resident Engineering.

.er the required sign-off/approval and ıting is completed, the permit is routed supervision. No drilling, removal of con-:te or attaching is to be started until : permit is signed-off or approved.

gn-Off

ıineer signing a drill permit is to verify
.

l That no safety hazards exist (i.e. embedded conduit, pipe, etc) in the area to be worked on.

2 That the work required by the permit will not cause interferences with his/her discipline's work in that area.

3 The Civil Field Engineer signing the permit shall also review the permit for work which could compromise the integrity of the structure to the point where permanent damage could occur to the structure or a safety hazard is created.

gineering Approval

ient Engineering approval of permits for Q listed cwalls or poured walls substituting for Q blockwalls or loading only. Any required deviations from ification requirements (see Section 3.0) must be n approved Field Change Request (FCR).

gned-Off/Approved Permits

its shall be revised any time the tolerance on the it can not be maintained.

: Establishing tolerances on the drill permit is the responsibility of the originator.

its not requiring Resident Engineering approval ɔe revised by Field Engineering.

1 The Field Engineer authorizing the change shall revise the permit, enter the date revised and revision number on the craft/ supervision copies and on the copy of the permit in the discipline's log. The revised permit shall be routed as previously required in this instruction.

its requiring Resident Engineering approval (see ions 6.3.2.2 and 9.2.1).

sions to permits requiring Resident
neering approval must have Resident
neering concurrence prior to any work
ıg done in the field.

sed permit with Resident Engineering
:urrence shall be routed to Civil Q. C.
a new copy showing date revised, revision
:er, and Resident Engineering concurrence
:red in the disciplines log.

l by Resident Engineer's.

dent Engineering originated drill permits,
:ed with Resident Engineering drawings
l be considered by the Field as Design
ments.

d changes (i.e. red lining) which change
location of a penetration/attachment
require a revised drill permit (see
ions 6.3.2.2, 9.2.1, and 9.3).

te Drill permit" and Discipline Log Sheet
attached forms.

Quality Control of Work to be Done

l permit is signed-off/approved the
tor shall route two (2) copies of permit
. Work may proceed, as scheduled by area
, at this time.

drill permits routed to Q. C. (per
.1, 6.3.2.2, and 6.3.3.1) are to be
notification of work to be done. No
tion is required.

f/approved Drill Permit (current revision
e posted in a conspicuous place (i. e.

:.), in the near vicinity of the actual work

r completion of the work covered by the permit the
ipline Superintendent shall return the drill permit
he originator to allow Field Engineering inspection.

strictions

concrete drills shall be equipped with ground fault
:ators (stop boxes).

concrete drilling for holes with less than 6" Ø shall
one with carbide tipped bits of the type designed
inimize cutting of rebar. Use of any other type
it requires prior approval of Field Engineering
l technicians as noted on drill permit.

ebar is to be cut, except as authorized by Field
neering drill technicians. This authorization is
e written on the posted drill permit specifying
h bar may be cut and it will be signed and dated
Field Engineering Drill Technician.

e restrictions are effective as follows:

.1 60 days after issue of FIG. (Section 13.1)

.2 30 days after issue of FIG. (Section 13.2)

.3 immediately (Section 13.3)

ngineer originating the drill permit shall verify
cation or work covered by the permit was done accord-
ification and permit requirements.

Drill Permit Log

scipline shall, on the first and third Monday of each
route to Civil Quality Control one copy of the appli-
master pages from the Discipline's Drill Permit Log.

L Harvey Date 2-2-83
9/83

D Date 2/3/83

Date 2/10/83

Date 2/11/83

Date 2/14/83

ager: Date 2/11/83

s Power Co. Derek J. Vokal Date 2/14/83

IIT

Date Rev._____ Rev.#_____

CONCRETE DRILL PERMIT

See Section 6.1 & 6.2

Min. of 2 pages more possible

'ermit No. _____ Page 1 of _____

_____ Date_____

_____ Area_____ Elev._____

; OR POURED WALLS SUBSTITUTING FOR BLOCKWALLS ONLY

Resident Engineer approval for attachments to wall - show loads to be attached on sketch page 2 of ___.

'NT
)UIRED

Approved_____ Not Approved_____

By_____ Date_____

ssuing drill permit check the following;
:st Design Drawings w/FCR(s), DCN(s), etc.
:ifications C-231, C-305, C-306, and C-194 &
; if applicable (FSO)
ıal Area to be Drilled for Interferences
ld Instruction FIG 1.111
:ch (Page 2) Shows All Necessary Information
:. - Col. Line Location, Wall No. (If Needed), Elev.,
:, Number and Depth of Holes etc.)

SPECIAL CONDITIONS

ivil Field Engineering approval.

n Q li sted blockwalls or poured walls substituting or

or use of non-carbide drill See Section 13.2

Name Date

Ground Cable Notify

IF YOU ENCOUNTER

Pipe Hanger Notify

NE EXTENSION OF FIELD ENGINEER TO BE CALLED

FIELD ENGINEERING SIGN-OFF
(Final Sign-Off by Civil)

_____ Date_____

_____ Date_____

_____ Date_____

_____ Date_____

Exhibit 1
FIG-1.111

CONCRETE DRILL PERMIT

Date Rev._____ Rev.#_____

:0 Permit No._____ Page 2 of _____

1_____ Date_____

HOW IN THIS BLOCK A SKETCH OR SKETCHES GIVING COMPLETE INFORMATION
OR THE WORK TO BE PERFORMED SUCH AS; ELEVATION OF HOLES, LOCATION
ROM BUILDING OR PLANT CONTROL LINES; IF HOLES ARE IN WALL, TOP
F SLAB, UNDERSIDE OF SLAB, ETC. SHOW ATTACHMENT LOAD, IF REQUIRED
R APPLICABLE (SEE SECTION 6.3.2)

MAY BE DESIGN DRAWINGS OR FSK'S

awings _____

ECIFIC INSTRUCTIONS

E & DEPTH OF HOLE OR AREAS

TOLERANCES

SPECIFY ALLOWABLE DEVIATIONS FROM

SKETCH ABOVE, IF ANY.

Exhibit 1
FIG-1.111-Rev. 6

ETE DRILLING PERMIT LOG

pared By	Revision No.	Revision Date	Revision No.	Revision Date
		THESE BOXES TO BE COMPLETED ONLY IF ORIGINAL IS REVISED		
ITEMS NOT TO BE IN ISSUED LOG.				

QUALITY RELATED

Bechtel Power Corporation

Field Instruction

FIG - 1.111

Rev. 4

Concrete Drilling Permit

1.0 Purpose

To establish the method of originating, numbering, and obtaining the proper Field Engineer sign-off and/or Resident Engineering approval for concrete drill permits.

2.0 Scope

This instruction discusses the method of initiating, identifying, approving, and controlling concrete drill permits for the Midland Project (Job 7220).

Concrete drilling permits will not be required for the following:

2.1 1/4" Q to 1/2 Q exp. anchors (max. hole depth 2 1/2") in structural walls and slabs only except for areas noted in Specification 7220-C-305(Q) Appendix C (Section 2.4) and Appendix G which address certain areas within the containments. In addition all attachments to blockwalls or poured walls substituted for blockwalls require a permit regardless of depth and require Resident Engineering approval in accordance with Section 6.3.2 of this field instruction.

3.0 References

3.1 Specification 7220-C-231(Q).

3.2 Specification 7220-C-305(Q).

3.3 Specification 7220-C-306(Q).

4.0 Responsibility

4.1 The Project Field Engineer is responsible for the direction and implementation of this instruction.

4.2 The Lead Discipline Field Engineer or his designee, is responsible for initiating, preparing, and controlling the necessary documents for work activities applicable to this instruction within his discipline.

4.3 The Field Engineer originating the concrete drill permit is responsible for assuring that the permit complies with this instruction and the requirements listed in Section 9.2 of Specification C-231(Q), Appendix C & G of Specification C-305(Q), and Appendix E of Specification C-306(Q).

5.0 Applicability

This instruction applies to all concrete drill permits Q issued by any discipline for core drilling, chipping of concrete, or drilling for installation of concrete anchors.

6.0 Requirements

The following requirements apply to all concrete drill permits, except as noted.

6.1 Each discipline shall maintain its own "concrete drill permit" log and numbering system.

6.1.1 Concrete drill permits shall be identified by a discipline letter and numbered in the permit number space on the permit. Letter designations are as follows:

6.1.1.1 C - Civil

6.1.1.2 E - Electrical

6.1.1.3 H - HVAC

6.1.1.4 I - Instrumentation

6.1.1.5 M - Mechanical Large Pipe

6.1.1.6 M - Mechanical Small Pipe

6.1.1.7 U - Remedial Soils Group

4 6.1.1.8 G - General Services Organization

6.2 The permit number shall be assigned prior to routing permit for sign-off/approval.

6.3 Routing of Permits.

6.3.1 All drill permits shall be routed for Field Engineering sign-off.

6.3.2 Permits for "Q" listed blockwalls or poured walls substituting for "Q" block walls (see Drawings C-2051 through C-2099). Q

6.3.2.1 For penetrations only.

After Field Engineering sign-off route one (1) copy of permit to Civil Quality Control and one (1) copy of permit to Resident Engineering.

6.3.2.2 For attachments.

After Field Engineering sign-off send original permit to Resident Engineering for approval. After permit is approved, route one (1) copy to Civil Quality Control.

6.3.3 Permits for "Q" listed concrete walls and slabs.

6.3.3.1 After Field Engineering sign-off, route one (1) copy of

permit to Civil Quality Control and one (1) copy of permit to Resident Engineering.

6.3.4 Permits for Non "Q" concrete walls and slabs.

6.3.4.1 After Field Engineering sign-off, route one (1) copy of permit to Resident Engineering.

6.3.5 After the required sign-off/approval and routing is completed, the permit is routed to supervision. No drilling, chipping, or attaching is to be started until the permit is signed-off or approved. Q

7.0 Field Engineering Sign-Off

7.1 The Field Engineer signing a drill permit is to verify the following.

7.1.1 That no safety hazards exist (i.e. embedded conduit, pipe, etc) in the area to be worked on.

7.1.2 That the work required by the permit will not cause interferences with his/her disciplines work in that area.

8.0 Resident Engineering Approval

8.1 Resident Engineering approval of permits for Q listed blockwalls or poured walls substituting for Q blockwalls is for loading only. Any required deviations from specification requirements (see Section 3.0) must be by an approved Field Change Request (FCR).

9.0 Revising Signed-Off/Approved Permits

9.1 Permits shall be revised any time the tolerance on the permit can not be maintained.

Note: Establishing tolerances on the drill permit is the responsibility of the originator.

9.2 Permits not requiring Resident Engineering approval may be revised by Field Engineering.

9.2.1 The Field Engineer authorizing the change shall revise the permit, enter the date revised and revision number on the craft/ supervision copies and on the copy of the permit in the discipline's log. The revised permit shall be routed as previously required n this instruction.

9.3 Permits requiring Resident Engineering approval (see Sections 6.3.2.2 and 9.2.1). Q

9.3.1 Revisions to permits requiring Resident Engineering approval must have Resident Engineering concurrence prior to any work being done in the field.

9.3.2 Revised permit with Resident Engineering concurrence shall be routed to Civil Q. C. and a new copy showing date revised, revision number, and Resident Engineering concurrence entered in the disciplines log.

9.4 Permits issued by Resident Engineer's.

9.4.1 Resident Engineering originated drill permits, issued with Resident Engineering drawings shall be considered by the Field as Design Documents.

9.4.2 Field changes (i.e. red lining) which change the location of a penetration/attachment will require a revised drill permit (see Sections 6.3.2.2, 9.2.1, and 9.3).

).0 Form Completion

Filling out a "Concrete Drill permit" and Discipline Log Sheet are described in the attached forms.

11.0 Notifying Crafts and Quality Control of Work to be Done

11.1 After the drill permit is signed-off/approved the permit originator shall route two (2) copies of permit to supervision. Work may proceed, as scheduled by area superintendent, at this time.

11.2 Copies of the drill permits routed to Q. C. (per Sections 6.3.2.1, 6.3.2.2, and 6.3.3.1) are to be considered as notification of work to be done. No other notification is required.

12.0 Posting of Permit Q

Copy of the signed-off/approved Drill Permit shall be posted in a conspicuous place (i. e. on wall, etc.), in the near vicinity of the actual work location.

13.0 Master Drill Permit Log

Each discipline shall, on the first and third Monday of each month, route to Civil Quality Control one copy of the applicable master pages from the Discipline's Drill Permit Log.

Prepared By: Dale Shaw Date 8-16-82
J D Davis 8/17/82

Reviewed By:

PFE [signature] Date 8/20/82

PQAE [signature] Date 8/30/82

PFQCE [signature] Date 9/2/82

MPQAD [signature] Date 10/12/82

Approved By:

Site Manager: [signature] Date 9/7/82

Consumers Power Co. Derke J. Vokal Date 10/13/82

CONCRETE DRILL PERMIT

SEE SECT.

Permit No. 6.1 & 6.2

MIN. OF 2 PAGES

Page 1 of MAY BE MORE

Date

Building Area Elev.

TED BLOCKWALLS OR POURED WALLS SUBSTITUTING FOR BLOCKWALLS ONLY

to C-2099

4ESE BOXES IF
ROVAL IS NOT

Resident Engineer approval for attachments to wall - show loads to be attached on sketch page 2 of

Approved Not Approved

By Date

DTE: Before issuing drill permit check the following;

1. Latest Design Drawings w/FCR(s), DCN(s), etc.
2. Specifications C-231, C-305 & C-306
3. Actual Area to be Drilled for Interferences Field Instruction FIG 1.111
4. Sketch (Page 2) Shows All Necessary Information (i.e. - Col. Line Location, Wall No. (If Needed), Elev., Size, Number and Depth of Holes etc.)

SPECIAL CONDITIONS -

·bar without Civil Field Engineering approval.

| is allowed in Q listed blockwalls or poured walls substituting for

IF YOU ENCOUNTER

Ground Cable Notify Pipe Hanger Notify

AME & EXT. OF FLD. ENG. TO BE CALLED

FIELD ENGINEERING SIGN-OFF SEE SECT 7.0
(Final Sign-Off by Civil)

Date

Date

Date

Date

Date

Project 7220

CONCRETE DRILL PERMIT

Date Rev. _____ Rev.# _____

SEE PAGE 1

Permit No. _____

Page 2 of _____

SHOW SKETCH GIVING COMPLETE INFORMATION (ie LOCATION FROM COLUMN LINES, ELEVATION OF HOLES, HOLES IN WALL, TOP OF SLAB, UNDERSIDE OF SLAB, ETC.). SHOW ATTACHMENT LOAD IF REQD. SEE SECTION 6.3.2.

SAMPLE - ACTUAL FORM IN USE MAY VARY - THE ESSENTIAL CONTROL ELEMENTS OF THE FORM REMAIN THE SAME.

Reference Drawings MAY BE DESIGN DRAWING(S) OR FSK(S)

SPECIFIC INSTRUCTIONS	TOLERANCES
NUMBER, D/A, AND DEPTH OF HOLES REQUIRED	ALLOWABLE DEVIATION FROM SKETCH ABOVE

FIG-1.111
Rev. 5
EXHIBIT 1-1

CONCRETE DRILLING PERMIT LOG

Rev. 5

EXHIBIT 1-2

SEE SECTION 6.0

TO BE COMPLETED ONLY IF ORIGINAL PERMIT IS REVISED

No.	Date	Prepared By	Revision No.	Revision Date	Revision No.	Revision Date

SAMPLE - ACTUAL FORM IN USE MAY VARY - THE ESSENTIAL CONTROL ELEMENTS OF THE FORM REMAIN THE SAME

S.U. SYSTEM NO.

Rush!

FIELD CHANGE REQUEST

Cindra

PAGE 1 OF 1

FCR NO. C5206

JOB NO.	SPECIFICATION NO.	SHEET NO.	REV	Q ITEM	TITLE OF SPEC
7220	C-231(Q)	N.A.	22	YES ☒ NO ☐	TECHNICAL SPECIFICATION FOR FORMING PLACING, FINISHING & CURING OF CONCRETE

CHANGE PROPOSED FCR	PREPARED BY AND DATE	CHANGE APPROVED	PFE SIGNATURE AND DATE	DISPOSITION OF FCR REQUIRED BY DATE
X	L. E. Morris 11/19/82	YES ☒ NO ☐	Paul Rogers 11/11/82	11/19/82

REASON FOR CHANGE To address repair of concrete removed for reasons other than "imperfections in formed concrete".

EXISTING CONDITION Section 17.0 of spec. C-231(Q) Rev. 22 currently reads as follows;

17.0. Repair of Concrete

Repair of concrete shall be made as follows, unless otherwise approved by Project Engineering.

RECEIVED

DESCRIPTION OF CHANGE ~~Revise Section 17.0 to read as follows;~~ Add the following paragraph to Section 17.0;

BECHTEL POWER CORP. JOB 7220

~~17.0 Repair of Concrete~~

The methods described below shall also be used ~~for all areas~~ where the field has determined it a necessity to remove concrete in order to accomodate installation of additional material, correct the configuration of formed sections, or explore for embeded items. ~~The repair of concrete shall be made as noted in the following paragraphs. Deviations from these standards, methods of repair, or, use of alternate methods not described below shall be approved by Project Engineering.~~

RESIDENT ENGRS PE COMMENT RS-108-01

DB 11/15

INTERIM APPROVAL BY RESIDENT ENGINEER: SIGN David Brag DATE 11-19-82

AAO CONTACT: DATE 11-19-82 NAME AL SPESARD

OTHER DWGS OR SPECS AFFECTED	CIVIL	ELECTRICAL	INSTRUMENTATION	MECHANICAL	PIPING	WELDING OR OTHERS
	NA	N.A.	N.A.	N.A.	N.A.	N.A.
CHECKED BY FIELD LDE	S. Hayney	"	"	"	"	
CHECKED BY PE GR SUPV						

FCR ☒ APPROVED YES ☒ NO ☐

PROJECT ENGINEER SIGNATURE AND DATE LK/MA Eden 12/4/82

REMARKS FCR IS APPROVED AS NOTED. NO CALC. REQ'D. SPEC ~~WILL~~ WILL BE REVISED. for [illegible] SAS 11/30/82

APPROVED

written instructions. Color shall match adjacent concrete. Texture shall be similar to that obtained in Section 16.3.4.

17.0 REPAIR OF CONCRETE

Repair of concrete shall be made as follows, unless otherwise approved by project engineering.

17.1 Imperfections in formed concrete shall be repaired as soon as practicable after removal of forms. Imperfections in formed concrete shall be removed by chipping to sound concrete. In areas of walls and columns prominently exposed to view, an initial saw cut approximately 1/2 inch in depth shall be made around the periphery of the area and the inside of the area chipped to sound concrete before placing concrete used for repair. All areas to be repaired shall be prepared in accordance with Section 7.3, Cleaning Construction Joints, and shall be in a surface dry condition. A coating of concrete adhesive shall be applied to all concrete surfaces, except tie rod holes, before placing drypack, concrete, mortar, or nonshrink grout used for repairs. The concrete adhesive shall be Expoxtite 2362 or 2390 as manufactured by Grace Construction materials; Weld-crete as manufactured by Larsen Products Corporation; or approved equal. Application of the adhesive shall conform to the manufacturer's written instructions. All filling shall be bonded tightly to the surface of the holes, shall be sound and free from shrinkage cracks and hollow sounding areas, and shall match the adjacent concrete in color and texture after the fillings have been cured and dried.

17.2 Drypack filling shall be used for holes having at least one surface dimension less than the hole depth, for holes left by the removal of fasteners from the ends of form tie rods, and for narrow slots cut for repair of cracks. Holes drilled for testing epoxy coating on walls shall be repaired by drypack filling.

17.3 Concrete replacement shall be used where a reinforcing bar is completely exposed. Rebar shall be termed completely exposed when its entire circumference is not in contact with the surrounding concrete.

17.4 Nonshrink grout or pneumatically applied mortar replacement shall be used for holes too wide to drypack and too shallow for concrete replacement, and for all comparatively shallow depressions, large or small, which extend no deeper than the far side of the reinforcing bars nearest the surface. | 23

17.5 Concrete cracks subject to intrusion of water may be repaired through the use of "Sinmast Injection Resin #2" as manufactured by Sinmast of America, Inc., or "Vandex" as manufactured by Vandex (USA), Inc., or approved equal, provided such material is compatible with the concrete surface coating with which it is used. Application and use is non-Q and shall be as recommended by the manufacturer.

17.6 Forms used in repair of concrete imperfections may be removed during the curing period as soon as the concrete has reached sufficient strength to resist damage from sagging or removal operations.

17.7 DRYPACK MORTAR

Drypack shall consist of a mixture (by volume) of one part cement (white cement shall be used as necessary to match adjacent surfaces) to two and a half parts of sand conforming with ASTM-C 33-71a or ASTM-C 144-70 and graded at 100% passing Number 4 sieve. Cement used shall be ASTM-C 150, Type I or II (including white cement). Premixed drypack mortar or the component materials for mixing may be used. Sufficient water shall be used to produce a mortar which will stick together when molded into a ball by a slight pressure of the hands, and will not exude water but will leave the hands damp. The filling shall be of a consistency which is at the point of becoming rubbery when the material is solidly packed. Drypack shall be packed in layers. Each layer shall be solidly compacted over its entire surface using a hardwood stick and a hammer or pneumatic hammer with a drypack head.

17.8 CONCRETE REPLACEMENT

Concrete shall be removed a minimum of 1 inch behind the completely exposed reinforcing bars. However, in any case, removal shall be to sound concrete. The area shall be cleaned before placing the concrete. Concrete

replacement shall be accomplished with one of the following materials:

17.8.1 Use 3/8 or 3/4 inch maximum size aggregate concrete with the same specified strength as the original concrete. The slump of the concrete, as placed, shall not exceed 3 inches.

17.8.2 When, in the opinion of field engineering, it is not feasible to use concrete for the concrete replacement method specified above, replacement with nonshrink grout is an acceptable alternative. This nonshrink grout is to be used only after it has been determined that the above specified method using concrete cannot be used due to severe accessibility limitations which prevent forming, placing and/or adequate consolidation of concrete. The nonshrink grout used shall comply with Section 7.6 of Specification 7220-C-230.

17.9 PNEUMATICALLY APPLIED MORTAR REPLACEMENT

The mortar shall consist of one part cement (use white cement as necessary to match adjacent surfaces) to a range of four to four and a half parts of well graded concrete sand conforming with ASTM C-33-71a or ASTM-C 144-70 with 100% passing a Number 4 sieve. The mortar shall be mixed with water to give the same consistency as required for drypack mortar (Section 17.1). The mortar shall be applied with an air suction gun similar to that shown in the U.S. Department of Interior Bureau of Reclamation Concrete Manual, 7th Edition, Page 291, Figure 117, or an equivalent approved by field engineering. If the repairs are more than 1 inch deep, the mortar shall be applied in layers not more than 3/4 inch thick. After completion of each layer, 30 minutes or more shall elapse before the next layer is placed, except the mortar shall not be allowed to dry.

18.0 CONCRETE GROUT AND MORTAR

18.1 Grout shall be placed according to the manufacturer's requirements. Mixed, ready to place, standard grout for use in construction

REPORT NUMBER NOV ITEM B-1 82-22-24

ADMISSION OR DENIAL OF ALLEGED VIOLATION

REASON(S) FOR VIOLATION — IF ADMITTED REVISE TO APP

CORRECTIVE STEPS WHICH HAVE BEEN TAKEN AND RESULTS ACHIEVED:

CORRECTIVE STEPS WHICH WILL BE TAKEN TO AVOID FURTHER VIOLATIONS:

DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED:

X

REPORT NUMBER _____ ADMISSION OR DENIAL OF ALLEGED VIOLATION _____

REASON(S) FOR VIOLATION — IF ADMITTED

CORRECTIVE STEPS WHICH HAVE BEEN TAKEN AND RESULTS ACHIEVED:

CORRECTIVE STEPS WHICH WILL BE TAKEN TO AVOID FURTHER VIOLATIONS:

DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED:

EPORT X

UMBER 329/82-22-24 ADMISSION OR DENIAL
330/82-22-24 OF ALLEGED VIOLATION A

EASON (S) FOR VIOLATION — IF DMITTED CONTROLS WERE NOT ESTABLISHED PRIOR TO COMMENCING WORK WHICH AFFECTED THE QUALITY OF THE CONTAINMENT BUILDING. BECHTEL PROCEDURE DID NOT CLEARLY STATE THE REQUIREMENTS FOR WHEN CONCRETE DRILL PERMITS ARE NECESSARY

ORRECTIVE STEPS WHICH HAVE BEEN TAKEN AND RESULTS ACHIEVED.
FIELD CHANGE REQUEST NUMBER
1. A C-5206 HAS BEEN APPROVED BY BECHTEL PROJECT ENGINEERING TO ESTABLISH GUIDELINES FOR CONCRETE CHIPPING.
2. FIELD PROCEDURE FIG-1.111, CONCRETE DRILL PERMITS, HAS BEEN REVISED AND APPROVED PER PROJECT GUIDELINES.
3. FIELD PROCEDURE FPT-3.000, AREA TURNOVERS, HAS BEEN REVISED AND DESIGNATED AS QUALITY RELATED. THIS PROCEDURE IS CURRENTLY UNDER REVIEW.

ORRECTIVE STEPS WHICH WILL BE TAKEN TO AVOID FURTHER VIOLATIONS:
BECHTEL SPEC C-231 WILL BE REVISED TO INCORPORATE FCR C-5206.
. FIELD PROCEDURE FPT-3.000 MUST BE APPROVED
~~REPAIR OF THE CONCRETE WILL BE DONE AFTER SAFETY~~ RELATED WORK IS RELEASED REPAIR WILL BE PER C-231 SECTION 17.

ATE WHEN FULL COMPLIANCE WILL BE ACHIEVED:

APRIL 1, 1983

S.U. SYSTEM NO. _____

SECHTEL

Rush!

FIELD CHANGE REQUEST

PAGE 1 OF 1

FCR NO. C5206

JOB NO.	SPECIFICATION NO.	SHEET NO.	REV	ITEM YES / NO	TITLE OF SPEC
7220	C-231(Q)	N.A.	22	X / ☐	TECHNICAL SPECIFICATION FOR FORMING PLACING, FINISHING, & CURING OF CONCRETE

CHANGE PROPOSED FCR	PREPARED BY AND DATE	CHANGE APPROVED	PFE SIGNATURE AND DATE	DISPOSITION OF FCR REQUIRED BY DATE
X	L. E. Morris 11/10/82	YES ☑ NO ☐	Paul Rogers 11/11/82	11/19/82

REASON FOR CHANGE To address repair of concrete removed for reasons other than "imperfections in formed concrete".

EXISTING CONDITION Section 17.0 of spec. C-231(Q) Rev. 22 currently reads as follows;

17.0. Repair of Concrete

Repair of concrete shall be made as follows, unless otherwise approved by Project Engineering.

UNCONTROLLED
NOT TO BE USED
FOR CONSTRUCTION

DESCRIPTION OF CHANGE ~~Revise Section 17.0 to read as follows;~~ Add the following paragraph to Section 17.0;

~~17.0 Repair of Concrete~~

The methods described below shall also be used ~~for all areas~~ where the field has determined it a necessity to remove concrete in order to accomodate installation of additional material, correct the configuration of formed sections, or explore for embeded items. ~~The repair of concrete shall be made as noted in the following paragraphs. Deviations from these standard methods of repair, or, use of alternate methods not described below shall be approved by Project Engineering.~~

RESIDENT ENGRS DB COMMENT RS-198-01

DB 1/15

INTERIM APPROVAL BY RESIDENT ENGINEER: SIGN David Bragg DB DATE 11-19-82

AAO CONTACT: DATE 11-19-82 NAME AL SPESARD

OTHER DWGS OR SPECS AFFECTED	CIVIL	ELECTRICAL	INSTRUMENTATION	MECHANICAL	PIPING	WELDING OR OTHERS
	NA	N.A.	N.A.	N.A.	N.A.	N.A.
CHECKED BY FIELD LDE	S. Harvey	"	"	"	"	
CHECKED BY PE GR SUPV						

FCR ☐ APPROVED YES ☐ NO ☐

PROJECT ENGINEER SIGNATURE AND DATE

REMARKS

stated that this error would be corrected. The ultimate result was that the correct size bolt (7/8 inch) was actually specified on the drawing.

17. Concrete Chipping

The inspector observed a section of concrete wall which had been chipped away. The chipped section was located on a wall in Containment Purge Room 702, elevation 674' 6". The volume of chipped concrete was non-uniform and approximately 18 inches high, 10 inches wide and 4 inches deep (in some places). There were no markings or tags in the area which would have indicated that the chipped section was controlled.

A Bechtel Field Engineer was responsible for that area of the plant and was aware of the chipped section. The engineer also stated that he planned to put this concern on a punchlist for regrouting.

The licensee stated that the concrete was chipped away in late 1981 to locate drain tubes for tendon sheaths which were inadvertently embedded in the wall. The inspector observed two drains located just above the chipped area.

The inspector asked if measures had been established to control the chipped area since the wall was now in a nonconforming condition. The licensee provided Bechtel Field Instruction No. FIG-1.111, Revision 4, Concrete Drilling Permit. Section 2.0 of this instruction stated, "This instruction discusses the method of initiating, identifying, approving, and controlling concrete drill permits . . ." Section 5.0 stated, "This instruction applies to all concrete drill permits issued by any discipline for core drilling, chipping of concrete, or drilling for installation of concrete anchors." The instruction defined the administrative process for completing concrete drilling permits. The instruction appeared to address a method of control which could be used for concrete chipping activities, such as the one in the containment purge room. However, the instruction did not establish requirements which stated when or for what activities a drilling permit must be used. A drilling permit was not used to control the chipped concrete in the containment purge room. Therefore, measures were not established to provide controls over concrete chipping activities which affected the quality of structures. The Bechtel construction personnel stated that there were several other areas in the plant in which the concrete had been chipped and was not controlled. Failure of the licensee to provide controls over activities such as concrete chipping which affects the quality of structures was contrary to 10 CFR 50, Appendix B, Criterion V as described in the Notice of Violation. (50-329/82-22-24; 50-330/82-22-24)

As a result of this finding, the licensee wrote NCR No. M01-9-2-154 November 14, 1982.

18 Cable Segregation

In Containment Purge Room 702, the inspector observed cable tray sections which contained metal dividers that extended approximately 20 feet along the trays. The dividers were approximately the height of the tray sides. The tray sections were identified with green alpha-numeric markings (i.e.,

X

NOV Item B - 1.g (82-22-24)

EME MPQAD

1. Admission

2. Controls were not established prior to commencing work which affected the quality of the Containment Building. Bechtel procedure did not clearly state the requirements for when concrete drill permits are necessary.

3. (1) FCR C-5206 has been approved by Bechtel Project Engineering to establish guidelines for concrete chipping.
   (2) Field Procedure FIG-1.111, Concrete Drill Permits, has been revised and approved per project guidelines.
   (3) Field Procedure FPT-3.000, Area Turnovers, has been revised and designated as Quality Related. This procedure is currently under review.

4. (1) Bechtel Specification C-231 will be revised to incorporate FCR C-5206.
   (2) Field Procedure FPT-3.000 must be approved.

5. April 1, 1983.

3. (4) We need to say that the chipping in the purge room did not result in a physical NCR. We also need to identify the other places (Page 25 IR) that makes a similar statement after we inspect or fix.

EME

X NOV Item B - 1.q (82-22-24)

1. Admission

REASON FOR VIOLATION

2. BECHTEL FIELD INSTRUCTION FIG 1.1.1 REVISION 4 did not clearly state when concrete drill permits are necessary.

CORRECTIVE STEPS TAKEN

3. (1) FCR C-5206 has been approved by Bechtel Project Engineering to establish guidelines for concrete chipping repair.
(2) Field Procedure FIG-1.111, Concrete Drill Permits, has been revised and approved per project guidelines.
(3) Field Procedure FPT-3.000, Area Turnovers, has been revised and designated as Quality Related. This procedure is currently under review.

CORRECTIVE STEPS TO BE TAKEN

4. (1) Bechtel Specification C-231 will be revised to incorporate FCR C-5206.
(2) Field Procedure FPT-3.000, Area Turnovers, must be approved.

DATE OF FULL COMPLIANCE.

5. April 1, 1983.

---

3. (4)

SME
3/24/83

stated that this error would be corrected. The ultimate result was that the correct size bolt (7/8 inch) was actually specified on the drawing.

17. Concrete Chipping

The inspector observed a section of concrete wall which had been chipped away. The chipped section was located on a wall in Containment Purge Room 702, elevation 674' 6". The volume of chipped concrete was non-uniform and approximately 18 inches high, 10 inches wide and 4 inches deep (in some places). There were no markings or tags in the area which would have indicated that the chipped section was controlled.

A Bechtel Field Engineer was responsible for that area of the plant and was aware of the chipped section. The engineer also stated that he planned to put this concern on a punchlist for regrouting.

The licensee stated that the concrete was chipped away in late 1981 to locate drain tubes for tendon sheaths which were inadvertently embedded in the wall. The inspector observed two drains located just above the chipped area.

The inspector asked if measures had been established to control the chipped area since the wall was now in a nonconforming condition. The licensee provided Bechtel Field Instruction No. FIG-1.111, Revision 4, Concrete Drilling Permit. Section 2.0 of this instruction stated, "This instruction discusses the method of initiating, identifying, approving, and controlling concrete drill permits . . ." Section 5.0 stated, "This instruction applies to all concrete drill permits issued by any discipline for core drilling, chipping of concrete, or drilling for installation of concrete anchors." The instruction defined the administrative process for completing concrete drilling permits. The instruction appeared to address a method of control which could be used for concrete chipping activities, such as the one in the containment purge room. However, the instruction did not establish requirements which stated when or for what activities a drilling permit must be used. A drilling permit was not used to control the chipped concrete in the containment purge room. Therefore, measures were not established to provide controls over concrete chipping activities. However, The Bechtel construction personnel stated that there were several other areas in the plant in which the concrete had been chipped and was not controlled. Failure of the licensee to provide controls over activities such as concrete chipping which affects the quality of structures was contrary to 10 CFR 50, Appendix B, Criterion V as described in the Notice of Violation. (50-329/82-22-24; 50-330/82-22-24)

The integrity of the structure has not been compromised

As a result of this finding, the licensee wrote NCR No. M01-9-2-154 November 14, 1982.

18. Cable Segregation

In Containment Purge Room 702, the inspector observed cable tray sections which contained metal dividers that extended approximately 20 feet along the trays. The dividers were approximately the height of the tray sides. The tray sections were identified with green alpha-numeric markings (i.e.,

EM #	DATE INITIATED	DESCRIPTION	INSP.	ENG.		DATE	
-15	11/5/82	Provide NRC with QCIR for structural steel for still framing for second floor of D/G Bldg. - Also any CMTR's for framing steel.	Landsman	DWP	Gather Information. Contact Steve Harvey/Ed Dutton.	11/8/82	U X
-16	11/10/82	FSK procedure does not allow field to do design. Because connections are designed by Field, the procedure is violated.	Landsman	DWP	Change FSK procedure and design documents to delineate the what is design vs. what is detailing. Contact Steve Harvey/RLAkers		U
-17	11/10/82	Material in laydown area does not seem to be segregated or marked per Field Procedure.	Landsman	DWP	Correct marking - NCR if procedure is violated. Contact Steve Harvey/RLAkers		U
-18	11/10/82	Do the ¼" plates and L's on fan support meet tolerances for ASTM A-6?	Landsman	DWP	Review as-built data. NCR if not correct. Contact Steve Harvey/RLAkers.		U
-19	11/10/82	Some connection in HVAC fan support was bolted while dwg. called for welded.	Landsman	DWP	Review as-build condition. NCR if not per drawing. Contact Steve Harvey/RLAkers		U
-20	11/10/82	Address why QCIR for fan support steel is closed yet as-built is not per drawing.	Landsman	DWP	Write QAR or NCR to correct. Contact Ron Akers.		U
-21	11/10/82	Revision 6 of dwg. C-1004 incorporated FCN-C 335 yet the revision block did not note this.	Landsman	DWP	Correct drawing revision block. Contact D. Anderson/RLAkers		U
C-22	10/28/82	Chipping of concrete on CB #1 exterior wall at elev. 680'.	Barrett	EMB	MPQAD has written an NCR to cover this. Barrett feels the corrective action asked for is inadequate. Need a more generic training effort, stressing the need for design before modifying part of the plant.		Potenti Non-com a

March 5, 1983

MR. WILKINSON'S COMMENTS

Mr Reynolds, Mr DeWitt, Gentlemen, we appreciate the opportunity to report to you on our assistance visit to the Midland Nuclear Plant.

INPO evaluation teams are nearing completion of the second round of evaluations of the operating nuclear stations. In addition to the operating stations, this is our sixteenth assistance visit to a near-term operating licensee (NTOL).

Our NTOL assistance teams visit a nuclear station for one week and concentrate on preparations and readiness for operating the nuclear plant in a safe and reliable manner. We realize that this visit was scheduled too far in advance of actual fuel load to provide the optimum benefit. Additionally, the observations of our team were limited by the reduced work schedule in effect. This NTOL team was supplemented by evaluators from the recently established Construction Project Evaluation Division. These evaluators, were here primarily to gain field experience with an evaluation team. They focused on their training in use of the CPE criteria. Our report includes a few of their observations and comments.

The report of an NTOL visit is different from the report procedure following an evaluation. In the evaluation of an operating plant, we present findings and recommendations which require a formal response. Here we develop recommendations for which no response is expected. Our recommendations will be sent to you in a letter within the next few weeks.

While a response to this letter is not required, we will check on these recommendations when we conduct the first operational evaluation. The criteria for assistance visits are quite similar to those for your regular evaluations, so there should be no transition problem.

In addition to the more formally written recommendations, which go into the assistance visit report, we are providing you with written copies of certain observations made by team members. These are primarily observations of station personnel at work. While these observations are of considerable help to our team in bringing conclusions into focus, they will not be included in our letter report to you. We have provided you only a limited number of observations. Our team conducted a number of others which were not formally written up because no problems of any significance were noted.

Before the team reports, I want to express my appreciation and that of all of the team to Jerry Slade and Don Miller and their people for the cooperation provided to our team. We have enjoyed the week here.

Bill Wigley has been our Lead Team Manager, assisted by Larry Jackson as Team Manager for the assistance team and Norm Moseley as Team Manager for the CPE team.

Larry...

March 5, 1983

TEAM MANAGER COMMENTS

Thank you, Mr. Wilkinson. First, I also wish to thank Jerry Slade and all the staff for the excellent cooperation and support provided to us during the evaluation. We have had a larger than normal team and we realize the impact we had on your operations. I particularly want to thank Linda Mitchell for her administrative assistance and the delicious doughnuts.

Our assistance team was on site for five days. During that time, we engaged in numerous discussions with all levels of plant personnel, observed plant activities, and looked at records and procedures. From this we developed our recommendations. Areas such as Security and Emergency Preparedness were not within the scope of this visit.

Recommendations that could assist in achieving the performance objectives will be presented by a team member from each area. An area not addressed indicates that we did not find anything for which recommendations were appropriate.

Additionally, good practices that contribute to meeting a performance objective are identified where we have found such good practices.

These recommendations and supporting data have already been discussed with plant management, construction management and appropriate supervisors as the NTOL visit progressed and in the interest of time will not be discussed in detail here.

After each team member has made his presentation, you will have an opportunity to ask questions. We have provided copies of our exit presentation to Jerry and thus there should not be a need for extensive notes. These contain the recommendations and amplifying comments. Additional details which support a recommendation but which will not be read during the presentation, are also given following the recommendation.

I have asked each team member to introduce the team member who follows.

At this time I would like to introduce George Felgate who will present the Operations area.

George.....

PERFORMANCE EVALUATION SUMMARY	S-83-01

Performance Area Operations Organization & Administration Objective No. OP - 1.1

Evaluator(s) [illegible]

1. Performance Objective

The operations organization and administrative systems should ensure effective control and implementation of department activities.

2. Summary of Performance Achievement

Recommendation

(OF. 1-1)

Place additional emphasis on the participation of operations personnel in system functional testing. Active operator involvement will enhance their overall system knowledge and serve to keep them abreast of system states.

1. Two system tests observed during the assistance visit did not have operator participation. The tests were the flush of the refueling platform hydraulic system and the operation of a circulating Water Pump Motor.
2. 5 of 6 auxiliary operators stated they had not participated in any testing during the last two weeks on shift.
3. Four auxiliary operators stated that their participation in testing consisted only of operating a valve in sequence at the lead engineers direction. They did not gain insight into the overall system operation.

PERFORMANCE EVALUATION SUMMARY

Evaluation No. S-83-01

Performance Area: Plant Status Controls | Objective No.: OP - 3.1

Evaluator(s): FELGATE / WAIRSTAIR

1. Performance Objective

Operational personnel should be cognizant of the status of plant systems and equipment under their control, and should ensure that systems and equipment are controlled in a manner that supports safe and reliable operation.

2. Summary of Performance Achievement

RECOMMENDATION (OP. 3-1)

DEFINE THE REQUIREMENTS FOR THE TURNOVER OF SYSTEMS FROM THE TECHNICAL DEPARTMENT TO THE OPERATIONS DEPARTMENT FOLLOWING TESTING. THIS TURNOVER SHOULD OCCUR AS SOON AS OPERATIONALLY FEASIBLE TO FACILITATE THE TRANSITION FROM CONSTRUCTION TO NORMAL SYSTEM OPERATION. DRAFT PROCEDURE 11-5, "MIDLAND PLANT INTEGRATED START-UP PROGRAM," PROVIDES ONLY GENERAL GUIDELINES FOR THIS TURNOVER.

1. 542 SYSTEM UNITS (64%) HAVE BEEN TURNED OVER TO THE TECHNICAL DEPARTMENT FROM CONSTRUCTION. NONE HAVE BEEN TURNED OVER TO OPERATIONS.

2. FOUR SYSTEMS ARE ROUTINELY OPERATED BY OPERATIONS DEPARTMENT PERSONNEL. THEY ARE:

   AUXILIARY BOILERS
   PLANT HEATING SYSTEM
   SERVICE AIR SYSTEM
   MAKEUP DEMINERALIZERS

Performance Area Plant Status Controls Objective No. OP - 3.1

Details (Provide comprehensive facts which support the summary item)

BASED ON INTERVIEWS WITH OPERATORS, INCLUDING SUPERVISORY PERSONNEL, THERE EXISTS NO SENSE OF RESPONSIBILITY OR OWNERSHIP FOR THESE SYSTEMS.

G. DETAILED CRITERIA FOR THE TURNOVER OF SYSTEMS FROM THE TECHNICAL DEPARTMENT TO THE OPERATIONS DEPARTMENT HAVE NOT BEEN ESTABLISHED. THESE CRITERIA WILL NEED TO ADDRESS AREAS SUCH AS JUMPER, LINK, AND BYPASS DOCUMENTATION. WHILE UNDER THE CUSTODY OF THE TECHNICAL DEPARTMENT, THE USE OF THE JUMPER LINK AND BYPASS LOG IS AT THE DISCRETION OF THE INDIVIDUAL TEST ENGINEER. PRIOR TO TURNOVER TO OPERATIONS ALL OUTSTANDING JUMPERS, LINKS, AND BYPASSES WILL NEED TO BE IDENTIFIED AND DOCUMENTED.

H. ADVANTAGES OF EARLY SYSTEM TURNOVER TO OPERATIONS INCLUDE:

a. OPERATOR SYSTEM KNOWLEDGE AND FAMILIARITY WITH ROUTINE SYSTEM EVOLUTIONS.

b. IMPLEMENTATION AND CHECKOUT OF ROUTINE ROUNDSHEETS AND EQUIPMENT PARAMETER LIMITS.

c. EARLY IDENTIFICATION OF SYSTEM DEFICIENCIES.

d. EARLY EXERCISE OF NORMAL OPERATING AND SURVEILLANCE PROCEDURES.

PERFORMANCE EVALUATION SUMMARY

Evaluation No. S-83-01

Performance Area: Plant Status Controls — Objective No.: OP - 3.2

Evaluator(s): [illegible]

1. **Performance Objective**

Operational personnel should be cognizant of the status of plant systems and equipment under their control, and should ensure that systems and equipment are controlled in a manner that supports safe and reliable operation.

2. **Summary of Performance Achievement**

Recommendation

(OP. 3-2)

Provide additional guidance to the auxiliary operators for the monitoring of plant equipment during their routine rounds. This guidance should include the extent of these rounds, acceptable ranges for selected equipment parameters, and actions to be taken when readings fall outside the acceptable range.

1. Auxiliary operators stated that the purpose of their round sheets was to gather data for the test engineers. The test engineers stated that the round sheets were supplied to the operators to aid them in monitoring equipment operation.
2. The data sheets do not specify acceptable ranges for selected equipment parameters to aid the operator in detecting abnormal equipment operation.
3. The AO assigned to the Auxiliary Boiler Area does not routinely tour the Auxiliary Boiler Area.

	PERFORMANCE EVALUATION SUMMARY	Evaluation No. S-93-01

Performance Area: Plant Status Controls — Objective No.: OP - 3.3

Evaluator(s): FEIGATE / WEBSTER

1. **Performance Objective**

Operational personnel should be cognizant of the status of plant systems and equipment under their control, and should ensure that systems and equipment are controlled in a manner that supports safe and reliable operation.

2. **Summary of Performance Achievement**

RECOMMENDATION (OP. 3-3) EXPAND THE PROGRAM FOR THE PERIODIC REVIEW OF WORKMEN'S PROTECTIVE TAGS TO INCLUDE A CHECK OF OUTSTANDING TAGOUTS FOR CONTINUED APPLICABILITY OR NEED. A THOROUGH PERIODIC REVIEW IS CURRENTLY CONDUCTED BUT INCLUDES ONLY A PHYSICAL CHECK OF OUTSTANDING TAGS.

INPO's GOOD PRACTICE OP-203, " PROCEDURE FOR THE PROTECTION OF EMPLOYEES WORKING ON ELECTRICAL AND MECHANICAL COMPONENTS", COULD BE OF ASSISTANCE IN THIS EFFORT.

1. STATION PROCEDURE PLANT 10H2.1 REQUIRES A PERIODIC REVIEW TO " PHYSICALLY VERIFY THAT ALL TAGS ARE IN THE PROPER LOCATION OR MISSING TAGS HAVE BEEN REPLACED." NO REQUIREMENT EXISTS FOR SUPERVISORY PERSONNEL TO PERIODICALLY ASSESS OUTSTANDING TAGOUTS FOR CONTINUED APPLICABILITY OR NEED.

PERFORMANCE EVALUATION DETAILS S-83-01

Performance Area Plant Status Controls Objective No. OP - 1.3

Details (Provide comprehensive facts which support the summary item)

2. AUDITS OF THE WORKMEN'S PROTECTIVE TAGS OBSERVED DURING THE EVALUATION DID NOT INCLUDE A REVIEW FOR APPLICABILITY OR NEED.

PERFORMANCE EVALUATION SUMMARY | S-83

Performance Area Plant Status Controls Objective No. —

Evaluator(s) Felgate/Webster

1. Performance Objective

Operational personnel should be cognizant of the status of plant systems and equipment under their control, and should ensure that systems and equipment are controlled in a manner that supports safe and reliable operation.

2. Summary of Performance Achievement

Recommendation

(OP.3-4)

Upgrade operations procedure OPS 1110.2, Removing and Restoring Q-listed Equipment to Service, to include the following:

a. The requirement to perform the two valve position verifications independently.

b. The use of the control room valve position indication as only one verification of valve position where feasible.

c. A caution that if a functional test is used as one means of position verification ensure that it verifies the position of all intended components.

In addition, implement the restoration portions of OPS 1110.2 prior to fuel load so operators will

	PERFORMANCE EVALUATION SUMMARY	Evaluation No. S-23-01

Performance Area: Plant Status Controls — Objective No.: OP - 3.5

Evaluator(s): FLOATS / WEBSTER

1. **Performance Objective**

Operational personnel should be cognizant of the status of plant systems and equipment under their control, and should ensure that systems and equipment are controlled in a manner that supports safe and reliable operation.

2. **Summary of Performance Achievement**

RECOMMENDATION (OP 3-5) IMPLEMENT A CHECKLIST FOR EACH MANNED WATCHSTATION TO GUIDE THE SHIFT TURNOVER PROCESS. THIS CHECKLIST SHOULD INCLUDE A LISTING OF THE PERTINENT INFORMATION TO BE REVIEWED DURING THE TURNOVER. IT IS RECOGNIZED THAT DETAILED CHECKLISTS HAVE BEEN DEVELOPED FOR USE WHEN THE PLANT BECOMES OPERATIONAL.

1. SHIFT SUPERVISOR, CONTROL OPERATOR, AND AUXILIARY OPERATOR TURNOVERS WERE OBSERVED OVER A THREE DAY PERIOD. WHILE THE SHIFT SUPERVISOR HAS A CHECKLIST TO GUIDE THE TURNOVER PROCESS, THE CONTROL OPERATOR AND AUXILIARY OPERATOR AT THE AUXILIARY BOILER CONTROL PANEL DO NOT. THESE WATCHSTANDERS RELY ON MEMORY FOR THE TURNOVER OF INFORMATION.

PERFORMANCE EVALUATION DETAILS | S-23-01

Performance Area Plant Status Controls Objective No. OP - 3.5

Details (Provide comprehensive facts which support the summary item)

2. NOT ALL PERTINENT INFORMATION IS BEING PROVIDED AS PART OF THE TURNOVER PROCESS. ONE OR MORE OF THE FOLLOWING ITEMS WERE NOT REVIEWED DURING SOME SHIFT SUPERVISOR AND CONTROL OPERATOR TURNOVERS

COMMUNICATIONS LOG
NARRATIVE LOG
WORKMEN'S PROTECTIVE TAG LOG
CAUTION TAG LOG
JUMPER LINK AND BYPASS LOG.

3. SOME GUIDANCE CONCERNING CONDUCT OF TURNOVERS CONTAINED IN THE COMMUNICATIONS LOG IS NOT BEING ADHERED TO.

See OBSERVATION A

PERFORMANCE EVALUATION SUMMARY

Evaluation No. S-83-01

Performance Area: Plant Status Controls — Objective No.: CP - 3.6

Evaluator(s): FELGATE/WEBSTER

1. Performance Objective

Operational personnel should be cognizant of the status of plant systems and equipment under their control, and should ensure that systems and equipment are controlled in a manner that supports safe and reliable operation.

2. Summary of Performance Achievement

RECOMMENDATION (OP. 3-6) IMPLEMENT THE USE OF SMALLER CAUTION AND WORKMEN'S PROTECTIVE TAGS ON ALL CONTROL BOARDS. THE USE OF SMALLER TAGS WILL MINIMIZE THE RISK OF OBSCURING LABELS, INDICATING LIGHTS, AND CONTROL SWITCH POSITIONS.

1. SEVERAL EXAMPLES OF TAGS OBSCURING LABELS, INDICATING LIGHTS, AND CONTROL SWITCHES WERE OBSERVED DURING PLANT TOURS. SPECIFIC EXAMPLES INCLUDE:
   - CAUTION TAG ON CONTROL SWITCH 2P-6CA FOR DHR PUMP
   - CAUTION TAG ON STATION TRANSFORMER 2X01 CONTROL SWITCH
   - CAUTION TAG ON STATION TRANSFORMER 1X01 CONTROL SWITCH
2. IT SHOULD BE NOTED THAT THE CONTROL ROOM IS NOT YET MANNED AND FEW TAGS HAVE BEEN HUNG ON THESE PANELS TO DATE.
3. OTHER PANELS OBSERVED TO HAVE LARGE CAUTION TAGS HANGING WITH THE POTENTIAL TO OBSCURE INDICATIONS
   - MAKEUP DEMINERALIZER PANEL
   - PANEL CC299 - AUXILIARY BOILER ROOM
   - PROCESS STEAM CONTROL PANEL

PERFORMANCE EVALUATION SUMMARY

S-93-01

Performance Area Operator Knowledge and Performance Objective No. OP - 4.1

Evaluator(s) Falgat, Hill, Hale

1. Performance Objective

Operator knowledge and performance should support safe and reliable plant operation.

2. Summary of Performance Achievement

A-1

Recommendation (OP. 4-1) Implement a program to ensure operators receive formal training and qualification on systems before they are assigned responsibility for their operation. Operators are presently operating systems on which they have not received formal training.

1. An auxiliary operator on the job training program has recently been developed but it has not been fully implemented.
2. One auxiliary operator (AO) operating the Service Air System stated he had not received any formal training on the air system. The only training he had received on the system was by observation of a more experienced operator. The AO did not fully understand the air compressor lube oil system.
3. Six AOs stated they had not received any formal training on the Make Up Water Demineralizers. They routinely operate the Make Up Water Demineralizers.
4. Though the test engineer for the Make Up Water System trained two personnel per shift on the Make Up Water Demineralizers, on one shift both personnel had left the shift.
5. See Observation R

erformance Area Operations Procedures & Documentation Objective No. OP - 5.1

valuator(s) E. L. Finkelstein

Performance Objective

Operational procedures and documents should provide appropriate direction and should be effectively used to support safe operation of the plant.

Summary of Performance Achievement

Recommendation

(OP. 5-1)

Implement a program to control the posting of drawings, notes, and instructions used as operator aids. This program should include a mechanism to ensure that posted materials remain current and reflect approved operating information.

INPO is in the process of developing a Good Practice in this area.

The following posted operator aids were observed:

a. Penciled alarm set points on the Make Up Water Control Panel.

b. Make Up Water Demineralizer instructions on the side of the control panel

c. Charts for hydrazine reading vs temp and sodium reading vs physical properties on the Make up water system.

d. System diagram for Make up water system posted

PERFORMANCE EVALUATION SUMMARY

5-83-01

Performance Area: Operations Facilities & Equipment — Objective No.: OP - 5.1

Evaluator(s): Calvert, Mosbaugh

Performance Objective

Operational facilities and equipment should effectively support plant operation.

Summary of Performance Achievement

Recommendation

(OP.G -1) Upgrade the labeling of plant valves and components for systems that have been turned over from construction by identifying and replacing missing or illegible labels. It is recognized that a program exists for the temporary labeling of components following turnover but many labels have been damaged or removed.

The following systems, currently being manned by operators, were noted to be missing labels.

a. Service Air and Air Compressors

b. Potable Water System

2. The auxiliary operators have recorded the wrong values for the air compressor oil filter inlet and outlet pressures.

3. A comprehensive labeling program exists for when the plant becomes operational. In the interim temporary metal labels are being used to designate valves and some components. These labels are easily marred or removed.

4. See observation E

PERFORMANCE EVALUATION SUMMARY	Evaluation No. S-83-01

Performance Area: Operations Facilities & Equipment — Objective No.: OP - 6.2

Evaluator(s): FELGATE / WEBSTER

1. **Performance Objective**

Operational facilities and equipment should effectively support plant operation.

2. **Summary of Performance Achievement**

RECOMMENDATION (OP. 6-2) IMPROVE HOUSEKEEPING EFFORTS IN THOSE AREAS OF THE PLANT THAT HAVE UNDERGONE AREA TURNOVER TO CONSUMER'S POWER. ENSURE OPERATIONS DEPARTMENT RESPONSIBILITIES FOR THE UPKEEP OF THESE AREAS ARE CLEARLY DEFINED.

1. HOUSEKEEPING ASSIGNMENTS HAVE RECENTLY BEEN MADE TO TEAM LEADERS BUT THIS INFORMATION HAS NOT BEEN DISSEMINATED TO ALL LEVELS OF THE ORGANIZATION.
2. THE AUXILIARY BOILER CONTROL PANEL AREA WAS CLUTTERED WITH TOOLS, NEWSPAPERS, AND MAGAZINES.
3. SEVERAL OPEN CARTONS OF PAPER, CIGARETTE PACKS, TAGS, AND OTHER FLAMMABLE MATERIAL ARE STORED INSIDE AND UNDER ENERGIZED CONTROL PANELS.

SEE OBSERVATION E

4. HOUSEKEEPING DEFICIENCIES EXISTED IN THE LUBE OIL ROOMS (HED AND HEI)
   a. AN ACCUMULATION OF OIL EXISTS IN THE VICINITY OF THE LUBE OIL RECIRCULATION PUMP AND FILTER.
   b. THERE IS LOOSE SAND ON THE FLOOR OF BOTH ROOMS [illegible] DEBRIS AND PACKAGING MATERIAL

	PERFORMANCE EVALUATION DETAILS	Evaluation No. S-83-01

Performance Area: Operations Facilities & Equipment Objective No.: OP -6.2

Details (Provide comprehensive facts which support the summary item)

d. UNUSED HOSES ARE DRAPED OVER PIPING IN SEVERAL LOCATIONS.

e. PLYWOOD AND ROPE SUSPENDED FROM SAFETY RAILING IN SEVERAL LOCATIONS

5. THE #2 TURBINE BUILDING BATTERY ROOM WAS DUSTY AND DIRTY. IN ADDITION, THE BUS BARS ON THE BATTERY WERE DIRTY.

6. THE DIESEL FIRE PUMP ROOM WAS IN NEED OF GENERAL CLEANING. SEVERAL EMPTY SOFT DRINK CANS WERE LEFT ON A JUNCTION BOX IN THE ROOM.

7. Several operators interviewed, including two shift supervisors, were unable to identify the areas turned over to Consumer's Power for upkeep. Housekeeping responsibilities are not clearly defined.

	PERFORMANCE EVALUATION SUMMARY	Evaluation S-83-01

Performance Area: Work Control System — Objective No. MA.3 -1

Evaluator(s): Karl Brakeall, Richard Green

1. Performance Objective

The control of work should ensure that identified maintenance actions are properly completed in a safe, timely, and efficient manner.

2. Summary of Performance Achievement

RECOMMENDATION: (MA.3-1) Improve the coordination between the test group and the maintenance department to ensure information regarding manpower, material, and tool requirements is available for work planning. A clearer definition of these job requirements on the Form 40 is needed.

1. Form 40 requesting maintenance support for flushing procedure did not specify material and tool requirements.
2. Test engineer developed material & tool list during a walkdown orientation with the assigned crew (four people).
3. Refer to Observation F.

PERFORMANCE EVALUATION SUMMARY

Evaluation No. 5 83-01

Performance Area Conduct of Maintenance Objective No. MA.4 - 1

Evaluator(s) Carl Brokaw Richard Urem

1. Performance Objective

Maintenance should be conducted in a manner that ensures efficient and effective plant operation.

2. Summary of Performance Achievement

GOOD PRACTICE: (MA.4-1) The following good practice was noted: The Reactor Coolant Pump seal cartridge rebuild is being effectively utilized to validate procedures and train personnel. A controlled atmosphere booth with an observation window has been erected for this work. Work performance during future seal repair should be enhanced due to the quality of procedures and personnel skills being developed.

	PERFORMANCE EVALUATION SUMMARY	Evaluation No. S-83-01

Performance Area Maintenance Facilities and Equipment — Objective No. MA.8 - 1

Evaluator(s) Jack Crabtree, Richard Lucas

1. Performance Objective

Facilities and equipment should effectively support the performance of maintenance activities.

2. Summary of Performance Achievement

RECOMMENDATION: (MA.8-1) Implement the periodic inspection of slings and chain falls required by Station Order 1157.3, Portable Mechanical Equipment Safety Check. Establish a method of attaching inspection tags to inspected tools.

1. Rigging equipment in tool crib is not subject to periodic inspection.
2. Station Order 1157.3 does not address affixing inspection tags to mechanical tools.
3. Station Order addressing portable electrical tools specifies inspection tagging requirements.

PERFORMANCE EVALUATION SUMMARY

Performance Area Maintenance Facilities and Equipment — Objective No. MA.8 - 2

Evaluator(s) JARL BRAKKE & RICHARD HEM

1. **Performance Objective**

Facilities and equipment should effectively support the performance of maintenance activities.

2. **Summary of Performance Achievement**

RECOMMENDATION:

(MA.8-2) IMPROVE CONTROLS OF WELD FILLER MATERIAL TO ASSURE THE MATERIAL IS MAINTAINED UNDER CONDITIONS THAT PROVIDE ADEQUATE ENVIRONMENTAL AND ACCESS CONTROL. INSTALL READILY AVAILABLE WELD ROD OVEN THERMOMETERS ON WELD ROD OVENS AND ADD A CONTROLLED ACCESS STORAGE AREA FOR THE WELD FILLER MATERIAL.

- THE WELD ROD OVEN TEMPERATURE MONITOR WAS A PORTABLE HOUSEHOLD OVEN THERMOMETER WHICH WAS NOT CALIBRATED.
- THERE WAS NO LOCK ON THE ROD OVEN. THE OVEN WAS LOCATED IN A BACK PORTION OF THE WAREHOUSE WITH "QUALITY" WELD ROD IN THE OVEN. - VERY ACCESSABLE
- THE CALIBRATION STICKER FOR THE OVEN WAS LOCATED ON THE THERMOSTATIC CONTROL SWITCH. THIS WOULD REQUIRE THE USE OF A CALIBRATED THERMOMETER TO CHECK THE ACTUAL TEMPERATURE OF THE OVEN
- THE ROD OVEN HAD TO BE OPENED TO CHECK THE TEMPERATURE ON THE TEMPORARY THERMOMETER. THIS LETS MOISTURE INTO THE OVEN EVERY TIME IT IS OPENED.

PERFORMANCE EVALUATION SUMMARY

S-83-01

Performance Area Maintenance Facilities and Equipment Objective No. MA.8 - 3

Evaluator(s) TARL RANDALL & RICHARD HAEM

Performance Objective

Facilities and equipment should effectively support the performance of maintenance activities.

Summary of Performance Achievement

RECOMMENDATION:

(MA.8-3) IMPROVE THE CONTROL OF MATERIALS DURING THE RECEIPT, INSPECTION AND HOLD PROCESS TO ASSURE THAT QUALITY AND NON-QUALITY MATERIAL IS SEGREGATED. HOLD STORAGE AREAS FOR QUALITY MATERIAL SHOULD BE SPECIFICALLY IDENTIFIED AND MAINTAINED AS A LIMITED ACCESS CONTROL AREA

- SIGNS STATING ENTRANCE BY AUTHORIZED PERSONNEL ONLY WERE LOCATED AT ONLY ONE ENTRANCE TO THE QUALITY MATERIAL STORAGE AREA. PERSONNEL COULD ENTER THE CONTROLLED AREA FROM ANOTHER DIRECTION AND WOULD NOT KNOW THEY WERE IN A CONTROLLED AREA.
- CONTROL ROD DRIVE MECHANISMS RECEIVED RECENTLY WERE FOUND IN UNCONTROLLED ASSEMBLY AND IN THE BACK OF THE WAREHOUSE NEAR THE WELD ROD OVEN
- QUALITY AND NON QUALITY PARTS RECENTLY RECEIVED WERE LAYING TOGETHER IN SEVERAL AREAS NEAR THE ENTRANCE TO THE WAREHOUSE

Performance Area Maintenance Facilities and Equipment Objective No. MA.8 - 4

Evaluator(s) JARL BRANDT & RICHARD CHEM

Performance Objective

Facilities and equipment should effectively support the performance of maintenance activities.

Summary of Performance Achievement

RECOMMENDATION:

(MA.8-4) IMPROVE THE TEMPERATURE AND HUMIDITY CONTROLS IN THE MEASURING AND TEST EQUIPMENT CALIBRATION SHOP. FLUCTUATIONS IN TEMPERATURE AND HUMIDITY CAN AFFECT THE CALIBRATION OF EQUIPMENT USED TO CALIBRATE CRITICAL PLANT EQUIPMENT. INSTALLATION OF CONTINUOUS MONITORING TEMPERATURE AND HUMIDITY INDICATION WOULD BE OF ASSISTANCE.

- HUMIDITY IN THE M+TE CALIBRATION SHOP IS MONITORED BY MEANS OF A BATTERY POWERED PSYCHROMETER. THIS IS ONLY USED WHEN CALIBRATING SOME GAGES. EG HEISE'S
- CALIBRATION ACTIVITIES WERE STOPPED TWICE LAST YEAR DUE TO HIGH TEMPERATURE AND HUMIDITY CONDITIONS
- A POWER SUPPLY FOR CALIBRATION ACTIVITIES ACCURATE TO ± 0.02 % IS SITING ON A SHELF NEAR A WEST WALL WINDOW WHERE IT IS SUBJECT TO LARGE TEMPERATURE FLUCTUATIONS.

MIDLAND	PERFORMANCE EVALUATION SUMMARY	Evaluation No. S-83-01

Performance Area Technical Support Organ. & Admin. Objective No. TS - 1.1

Evaluator(s) JOHN P. RONAFALVY

1. Performance Objective

The technical support organization and administrative systems should ensure effective control and implementation of department activities.

2. Recommendation

(TS. 1-1)

Review the scope of the activities assigned to the Technical Support Department. Effective control of these activities with the current organization may be difficult because of the diversity and magnitude of the activities

Present span of responsibilities include:

- Operational programs:
  1. Plant engineering (modification design and implementation, coordination of off-site modification control packages, etc)
  2. Reactor engineering (fueling, low power physics testing, operational duties)
  3. Performance monitoring and testing program
  4. Surveillance program
  5. System engineering duties (maint. support, purchase specification support, etc.)
  6. Develop Q list
  7. Develop equipment qualification list

MIDLAND	PERFORMANCE EVALUATION SUMMARY	Evaluation No. S-83-01

Performance Area Technical Support Organ. & Admin. Objective No. TS - 1.1

Evaluator(s) JOHN P. RONDALVY

1. Performance Objective

The technical support organization and administrative systems should ensure effective control and implementation of department activities.

2. Recommendation

TS. 1-1 cont'd

8. Station procedure development and review support

o Construction

1. Walkdowns and turnover of systems
2. Construction scheduling via punch list prioritization in support of testing
3. Construction management via G.A.O. resource

o Startup

1. Testing from flushing through power ascention
2. Startup testing procedures development

Present plans call for many operational and startup responsibilities to be fulfilled by the same engineer.

MIDLAND	PERFORMANCE EVALUATION SUMMARY	Evaluation No. S-83-01

Performance Area: Surveillance Testing Programs Objective No.: TS - 2.1

Evaluator(s): JOHN P. RINALDY

1. Performance Objective

Surveillance inspection and testing activities should provide assurance that equipment important to safe and reliable plant operation will perform within required limits.

2. Recommendation

(TS. 2-1)

Prioritize the surveillance procedures development schedule to support system turnovers. The present completion schedule is determined by each department without consideration for initial program implementation.

The Station Commitment Tracking list has identified all required surveillance procedures known to date, however no dates are provided for completion of each individual procedure. The station has a goal for bulk completion of procedures and each department has a completion date for procedures that they are responsible for, however these schedules do not consider initial program implementation.

MIDLAND	PERFORMANCE EVALUATION SUMMARY	Evaluation No. S-83-01

Performance Area: Surveillance Testing Programs — Objective No.: TS - 2.2

Evaluator(s): JOHN P. RONAGHAN

1. Performance Objective

Surveillance inspection and testing activities should provide assurance that equipment important to safe and reliable plant operation will perform within required limits.

2. Recommendation

(TS. 2-2)

Develop a method for initial performance and the timetable for the surveillance program implementation by incorporating surveillance requirements into startup procedures or using surveillance procedures to satisfy startup requirements to the maximum extent practicable. Initiate the program by commencing surveillance test interval scheduling upon completion of tests where credit for the surveillance test requirements has been satisfied.

Many surveillance requirements parallel startup requirements, some with minor differences that can be easily incorporated into startup procedures. Factoring in both requirements can satisfy both commitments, thus avoiding duplication of efforts at the time of licensing. This is particularly applicable to surveillances that are on a one year or greater frequency.

	PERFORMANCE EVALUATION SUMMARY	Evaluation No. S-83-C

Performance Area Operating Experience Review Program Objective No. TS - 3.1

Evaluator(s) John R Willis

1. Performance Objective

Industrywide and in-house operating experiences should be evaluated and appropriate actions undertaken to improve plant safety and reliability.

2. Summary of Performance Achievement

TS.3-1 STATUS

The status of the SOER recommendations is as follows:

Number of Recommendations	Action taken
36	° Satisfactory
32	° Not Applicable
95 (17 red - immediate action)	° Pending - Awaiting Decision
12 (4 red - immediate action)	° Pending - Awaiting Implementation
5 (4 red - immediate action)	° Needs Further Review
—	° Previously Evaluated as Satisfactory or Not Applicable
180	° Total

	PERFORMANCE EVALUATION DETAILS	Evaluation No. S-83-01

Performance Area: Operating Experience Review Program — Objective No.: TS-3.1

Details (Provide comprehensive facts which support the summary item)

The following recommendations are pending - awaiting decision:

SCER No.	Recommendation No.
80-2	1, 2
81-3	1, 2, 3
81-4	1, 2, 2a, 2b, 3, 4
81-6	1, 1a, 2
81-7	1, 2
81-11	1
81-15	1a, 1b, 1c, 2a, 2b, 2c, 3
81-16	1, 2, 3
81-17	1, 2, 3
82-4	1, 2, 3, 4, 5, 6
82-5	1, 2, 3, 4, 5, 6
82-7	1, 2, 3, 4a, 4b, 4c, 4d, 4e, 4f, 5
82-8	1, 2, 3, 4
82-9	1, 2, 3, 4, 5, 6, 7, 8, 9
82-10	1, 2, 3, 4, 5, 6, 7
82-11	1, 2, 3, 4, 5
82-12	1, 2, 3, 4, 5
82-13	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13

The following recommendations are pending - awaiting implementation:

SCER No.	Recommendation No.
80-1	1, 2
81-2	3, 4, 5, 6
82-6	1, 2a, 2b, 3, 4, 5

The following recommendations need further review:

SCER No.	Recommendation No.
81-9	1
81-12	1, 3, 4a, 4b

PERFORMANCE EVALUATION SUMMARY | 5-83-01

Performance Area Operating Experience Review Program Objective No. 5-3.1

Evaluator(s) John B Willis

1. Performance Objective

Industrywide and in-house operating experiences should be evaluated and appropriate actions undertaken to improve plant safety and reliability.

2. Summary of Performance Achievement

Recommendation (TS. 3-1) Improve the operating experience review program in the following areas:

(a) Significant Event Reports should be reviewed, evaluated, and tracked to completion.

(b) Operations and Maintenance Reminders should be reviewed.

(c) NOTEPAD should be frequently interrogated and distributed for information and review.

(a) and (b) About 250 Significant Event Reports and 250 Operations and Maintenance Reminders have been issued to date and the number is increasing. Present work priorities for Shift Engineers do not include the processing of this Nuclear Operating Experience Information.

(c) NOTEPAD is being interrogated only once each week and is being distributed only for information. Although the Shift Engineers presently are performing this function, it is not identified as their responsibility, and there is no visible evidence of any other group performing the function. Procedures indicate that this activity would become the responsibility of Nuclear Licensing

MIDLAND | PERFORMANCE EVALUATION SUMMARY | Evaluation No. S-83-01

Performance Area: Plant Modifications | Objective No.: TS-4.1

Evaluator(s): JOHN P. RONCALLY

1. Performance Objective

Plant modification programs should ensure proper review, control, implementation, and completion of plant design changes in a safe and timely manner. During startups all changes made as a result of, or after, system or component testing should be controlled under formal modification programs.

2. Recommendation

(TS. 4-1)

Develop a program that will provide engineering reviews for temporary modifications made to the plant. This program is required after licensing. The program should include such temporary modifications as jumpers and lifted leads and mechanical blocks and bypasses on operating systems, temporary loads added to piping and equipment, temporary power feeds from station busses, and storage of materials in seismic structures and near high energy safety significant piping or equipment.

No program for controlling temporary modification has been identified to date.

MIDLAND	PERFORMANCE EVALUATION SUMMARY	Evaluation No. S-83-01

Performance Area Plant Efficiency & Reliability Monitoring Objective No. TS-6.1

Evaluator(s) JOHN P RONAFALVY

1. Performance Objective

Performance monitoring activities should optimize plant thermal performance and reliability.

2. Recommendation

(TS. 6-1)

Identify the specific equipment and systems that will be included in the performance monitoring and testing program. Ensure that the startup program will provide the required baseline data and lessons learned for these pieces of equipment and systems.

Presently there is no program developed or outlined. Although a program will not be required for some time to come, the scope of the monitoring and testing along with the specific equipment and systems that will be included in the program should be identified. A one time in the life of the plant event, as startup is, could provide much of the required baseline data.

PERFORMANCE EVALUATION SUMMARY

Evaluation No. S-83-01

Performance Area Non-Licensed Operator Training   Objective No. TQ.2 -

Evaluator(s) Gary Grant

1. Performance Objective

The non-licensed operator training and qualification program should develop and improve the knowledge and skills necessary to perform assigned job functions.

2. Summary of Performance Achievement

Recommendation

(TQ.2-)

.. Provide nonlicensed operator training in the areas of educational fundamentals and power plant technology to support watchstation qualification. These subjects are identified in the approved Nonlicensed Operator Training Program (NOTD No 12.A), however this program is not implemented.

2 yr schedule to meet 1985 [illegible]

- Although NOTD No. 12.A identifies [illegible] material, the sequence of instruction identified does not support watchstanding qualifications.
- Present program limited to systems training and OJT
- Math, physics, thermodynamics, chemistry, [illegible] are examples of [illegible] subjects [illegible]
- Motors, generators, [illegible], instrumentation and control are examples of power plant [illegible] topics needed by non-licensed operators

PERFORMANCE EVALUATION SUMMARY	Evaluation No. 5-83-01

Performance Area Non-Licensed Operator Training   Objective No. TQ.2 - 2

Evaluator(s) Gary Grant

1. Performance Objective

The non-licensed operator training and qualification program should develop and improve the knowledge and skills necessary to perform assigned job functions.

2. Summary of Performance Achievement

Recommendation

(TQ.2-2)

Place additional emphasis on the provisional qualification of auxiliary operators. Current progress towards completion of the on-the-job qualification program may not support the assumption of watchstanding responsibilities as systems are turned-over.

- [illegible] defining auxiliary operator OJT qualification program [illegible] reviewed by the [illegible] on [illegible]. It was approved for use on 9/20/82.
- Some auxiliary operators are standing watches in areas in which they are not provisionally qualified.
- Lack of sufficient progress toward qualification goals is recognized by plant staff.

	PERFORMANCE EVALUATION SUMMARY	Evaluation No. S-83-01

Performance Area Non-Licensed Operator Training Objective No. TQ.2 - 1

Evaluator(s) Gary Grant

1. Performance Objective

The non-licensed operator training and qualification program should develop and improve the knowledge and skills necessary to perform assigned job functions.

2. Summary of Performance Achievement

Recommendation TQ.2-2

.. Establish a program to ensure that System and watchstation checkouts adequately verify the required trainee knowledge and skills. Presently, control operators designated to give these checkouts have not themselves been examined and as a result inexperienced and/or inadequate checkouts may be given.

- Individuals identified to give checkouts should be thoroughly examined in these areas.
- In some cases control operators are reluctant to give checkouts because they have insufficient knowledge.
- A system to "qualify" those who are to give checkouts on each shift with ...

	PERFORMANCE EVALUATION SUMMARY	Evaluation N S - 83-01

Performance Area Licensed Operator Training Objective No. TQ.3 -

Evaluator(s) Gary Grant

1. Performance Objective

The licensed operator training and qualification program should develop and improve the knowledge and skills necessary to perform assigned job functions.

2. Summary of Performance Achievement

Recommendation (TQ.3-1)

Expand the cold license operator training program to include on-the-job training related to auxiliary operator duties and responsibilities. The goal of this training should be to ensure licensed operators are familiar with subordinate activities to the extent necessary to provide assistance and to support control room operators.

- Present program does not require control operators to qualify as auxiliary operators.
- Knowledge of tasks performed by auxiliary operators is needed by control operators to coordinate and understand routine plant operations.

PERFORMANCE EVALUATION SUMMARY

Evaluation No: S-83-01

Performance Area Licensed Operator Training Objective No. TQ.3 - 2

Evaluator(s) Gary Grant

1. Performance Objective

The licensed operator training and qualification program should develop and improve the knowledge and skills necessary to perform assigned job functions.

2. Summary of Performance Achievement

Recommendation (TQ.3-2)

"Identify the training required to support the preoperational and startup test programs. This training needs to be factored into the overall training plan in support of plant startup."

- Presently, only natural circulation tests is identified for training.
- Simulated system tests (i.e. load rejection, loss of offsite power, etc) and major test programs such as first criticality tests should be evaluated for training needs.
- Test transients can be identified on the simulator during training.

PERFORMANCE EVALUATION SUMMARY	Evaluation No. S-83-01

Performance Area Maintenance Personnel Training Objective No. TQ.5 -

Evaluator(s) Gary Grant

1. Performance Objective

The maintenance personnel training and qualification program should develop and improve the knowledge and skills necessary to perform assigned job functions.

2. Summary of Performance Achievement

Recommendation TQ.5-1

- Increase the emphasis placed on the completion of On-the-job training for mechanical and electrical repairmen. OJT is to be completed in conjunction with training conducted at the Skills Training Center, however a substantial portion is accumulated.

- In some cases, the OJT associated with STC classroom instruction is nine months to years late.
- OJT related to theory topics should be reevaluated. Where appropriate these knowledge and skills should be examined at the STC
- Mechanical maintenance training [illegible]

	PERFORMANCE EVALUATION SUMMARY	Evaluation No. 583-01

Performance Area RP PERSONNEL QUALIFICATION Objective No. 2-1

Evaluator(s) T.N. MITCHELL

1. Performance Objective

The radiological protection qualification program should ensure that radiological protection personnel have the knowledge and practical abilities necessary to effectively implement radiological protection practices.

2. Summary of Performance Achievement

Recommendation (RP. 2-1)

Improve the knowledge of the station's many inexperienced health physics technicians prior to start-up by:

a. refreshing the knowledge of technicians in health physics fundamentals
b. training technicians in new health physics instruments being purchased and in health physics procedures being finalized
c. establishing a health physics technician requalification program

- Interviews of health physics personnel revealed weakness in health physics and radiological protection fundamentals (e.g., Observation "H") and in the operation of new instruments at Midland.

	PERFORMANCE EVALUATION SUMMARY	Evaluation No. 583-01

Performance Area EXTERNAL RADIATION EXPOSURE Objective No. 4-1

Evaluator(s) T.N. MITCHELL

1. Performance Objective

External radiation exposure controls should minimize personnel radiation exposure.

2. Summary of Performance Achievement

Recommendation
(RP 4-1)

Perform a detailed walk-down of radioactive piping systems to identify potential radiation sources needing shielding, remote operators, additional access controls, or piping modifications. In addition, use piping walk-downs as a mechanism for training chemistry - health physics technicians.

- Some radioactive waste systems have sharp angle pipe bends and horizontal pipe runs that result in crud traps after start-up
- It appears that radioactive waste system piping may be readily accessible to station personnel (e.g., in hallways of the Auxiliary Building).

	PERFORMANCE EVALUATION SUMMARY	Evaluation No. S83-01

Performance Area EXTERNAL RADIATION EXPOSURE Objective No. 4-2

Evaluator(s) T.N. MITCHELL

1. Performance Objective

External radiation exposure controls should minimize personnel radiation exposure.

2. Summary of Performance Achievement

Recommendation (RP4-2)

Revise the station's ALARA program and dose tracking system to establish administrative radiation exposure goals for individuals. These goals should be set below those established for preventing people from exceeding Federal or station limits.

- The ALARA program sets administrative exposure limits at 2-00 mrem/qtr. and 4-00 mrem/yr.
- A goal of, for example, 500 mrem per year could be established for clerical and administrative workers. Similar goals could be set for other work groups.

	PERFORMANCE EVALUATION SUMMARY	Evaluation No. 583-01

Performance Area PERSONNEL DOSIMETRY Objective No. 8-1

Evaluator(s) T.N. Mitchell

1. Performance Objective

The personnel dosimetry program should ensure that radiation exposures are accurately determined and recorded.

2. Summary of Performance Achievement

Recommendation (RP. 8-1)

Resolve the inconsistencies between the station's dosimetry procedures and the corporate thermoluminescent dosimeter (TLD) program regarding the use of General Office and station multiple whole body and extremity TLDs. Specifically, corporate and station procedures require the use of General Office TLDs for legal dosimetry purposes. However, computer problems or time for dosimeter processing do not permit the practical use of General Office TLDs in multiple whole body or extremity dose control.

- The corporate dosimetry computer program does not permit assigning multiple TLDs to one person.
- Corporate extremity TLDs require 6 to 9 months for processing

	PERFORMANCE EVALUATION SUMMARY	Evaluation No. 583-C1

Performance Area RADIOACTIVE CONTAMINATION CONTROL Objective No. 9-1

Evaluator(s) T.M. MITCHELL

1. Performance Objective

Radioactive contamination controls should minimize the contamination of areas, equipment, and personnel.

2. Summary of Performance Achievement

Recommendation
(RP.9-1)

Evaluate the method of determining efficiencies of instruments used to measure surface contamination. Ensure that efficiencies are representative of radioactive contamination in the plant.

The instrument efficiency in use is about a factor of two higher than used in many other nuclear power stations. This higher efficiency could result in unconservative use of protective clothing or area postings.

	PERFORMANCE EVALUATION SUMMARY	Evaluation No. 583-01

Performance Area CHEMISTRY ORGANIZATION AND ADMINISTRATION Objective No. 1-

Evaluator(s) R. REMUS / W. BURKE

1. Performance Objective

The organization and administrative systems should ensure effective implementation and control of the chemistry program.

2. Summary of Performance Achievement

RECOMMENDATION
(CY.1-1)

Expedite the completion of laboratory construction and the writing of countroom procedures and computer programs. The present status of these items, and plans for completion do not provide sufficient time for laboratory equipment set-up, procedure and equipment troubleshooting, and technician training prior to startup testing.

- There is presently no completion date for laboratory construction.
- Many potential laboratory design problems cannot be identified until equipment is actually installed and operational (i.e. adequacy of environmental controls in the count room, adequacy of laboratory power supply).

	PERFORMANCE EVALUATION DETAILS	Evaluation No. 533-01

Performance Area CHEMISTRY ORGANIZATION AND ADMINISTRATION Objective No. 1-

Details (Provide comprehensive facts which support the summary item.)

- a laboratory / countroom set-up time of 1 years is not uncommon.
- until countroom procedures are completed, technician training cannot be completed.
- Concern was expressed by several Chemistry supervisors that the laboratories will not be complete soon enough to be fully operational for plant startup.

	PERFORMANCE EVALUATION SUMMARY	Evaluation No. S 83-01

Performance Area CHEMISTRY ORGANIZATION AND ADMINISTRATION Objective No. 1-2

Evaluator(s) R. REMUS / W. BURKE

1. Performance Objective

The organization and administrative systems should ensure effective implementation and control of the chemistry program.

2. Summary of Performance Achievement

RECOMMENDATION
(CY.1-2)

Provide adequate protection for chemistry related components and equipment during the plant construction phase. Some sample sinks and analyzers are not adequately protected.

- The condensate demineralizer sample sinks are not covered. Drain piping, cation exchange collumn supports and a flow cell are missing. One electrical lead to a flow cell has been cut. The entire sink and equipment is covered with debris and a heavy layer of dust. This system is tagged as turned over to C?Co.

- The new sodium analyzers are installed in the corner of a hallway and unprotected from the traffic.

	PERFORMANCE EVALUATION SUMMARY	Evaluation No. 533-01

Performance Area CHEMISTRY PERSONNEL QUALIFICATION Objective No. 2-

Evaluator(s) R. REMUS / W. BURKE

1. Performance Objective

The chemistry qualification program should ensure that chemistry personnel have the knowledge and practical abilities necessary to implement chemistry practices effectively.

2. Summary of Performance Achievement

RECOMMENDATION

(CY. 2-1) Provide more emphasis on operational chemistry training to chemistry technicians by sending them to operating nuclear plants for on-the-job training. Consider obtaining computer discs containing representative spectra and efficiency tables from an operating pressurized water reactor plant for use in training personnel.

- The nuclear experience of chemistry technicians is very low.
- Approximately 1/2 of the present chemistry technician force does not maintain and improve proficiency by performing frequent analysis of samples.
- Use of computer discs would improve personnel gamma isotopic data reduction techniques.

	PERFORMANCE EVALUATION SUMMARY	Evaluation No. 583-01

Performance Area CHEMISTRY PERSONNEL QUALIFICATION Objective No. 2-2

Evaluator(s) R. REMUS / J. BURKE

1. Performance Objective

The chemistry qualification program should ensure that chemistry personnel have the knowledge and practical abilities necessary to implement chemistry practices effectively.

2. Summary of Performance Achievement

RECOMMENDATION
(CY.2-2)

Develop a retraining program for chemistry technicians. This program should include continuing training in basic technical subjects, plant equipment and procedural changes, industry operating experience, and weaknesses identified in the plant chemistry program. INPO guideline 82-007, "Chemistry Technician Qualification" may be of use in developing this program.

	PERFORMANCE EVALUATION SUMMARY	Evaluation No. 533-01

Performance Area CHEMISTRY CONTROL Objective No. 3-1

Evaluator(s) R. REHIS / D. BECK

1. Performance Objective

Chemistry controls should ensure optimum chemistry conditions during all phases of plant operation.

2. Summary of Performance Achievement

RECOMMENDATION (Y.3-1)

Develop and implement a preventative maintenance program for chemistry laboratory and in-line monitoring equipment. Established procedures do not ensure that equipment is maintained for maximum life and optimum performance. Incorporate vendor recommendations in the developed procedures.

- While performing analyses on unknown, spiked samples, the atomic absorption spectrophotometer (AA) beam and flame could not be properly aligned, leading to erroneous data. Subsequently, one button on the instrument was found to be sticky. A technician stated that manufacturer maintenance had last been performed on the AA 2½ years ago.

	PERFORMANCE EVALUATION DETAILS	Evaluation No. 583-01

Performance Area CHEMISTRY CONTROL Objective No. 3-1

Details (Provide comprehensive facts which support the summary item.)

- Manufacturers maintenance is only performed on the A.A. and Nuclear Data computer equipment when the equipment fails rather than preventative maintenance.

- The chloride specific ion electrode is not being maintained in accordance with manufacturer recommendations.

- See observation C

	PERFORMANCE EVALUATION SUMMARY	Evaluation No. S83-C1

Performance Area LABORATORY ACTIVITIES Objective No. 4-1

Evaluator(s) R. REMUS / W. BURKE

1. Performance Objective

Laboratory and counting room activities should ensure accurate measuring and reporting of chemistry parameters.

2. Summary of Performance Achievement

RECOMMENDATION
(CY. 4-1)

Expand the Quality Control Program to provide the following:

(a). frequent analysis of spiked, unknown samples by all technicians who could be required to perform analyses

(b). use of standards in the concentration range of the samples to be analyzed

(c). implementation of the procedure to perform frequent laboratory functional checks of in-line monitors

(d). extension of the shelf-life program to low concentration standards

(e). vigorous control of shelf-life for reagents and standard solutions

	PERFORMANCE EVALUATION DETAILS	Evaluation No. S83-01

Performance Area LABORATORY ACTIVITIES Objective No. 4-1

Details (Provide comprehensive facts which support the summary item.)

- Spiked unknown samples were given to two technicians for iron analysis. The standard concentration was 100 ppb. Neither technician identified any iron in the sample. The second technician determined that the atomic absorption spectrophotometer was broken.

- The first two technicians are assigned to the primary and secondary chemistry laboratory groups. One took two hours to perform an iron analysis. The other took 2½ hours to perform two chloride analyses.

- The following dated chemicals were found expired:

standard	expiration date
Viscosity	Oct '81
Nalco H-3	July '80
Nalco H-2	June '81
Indigo Carmine Stock Solution	March 2, 83 (found March 3, 83)

	PERFORMANCE EVALUATION DETAILS	Evaluation No. SS3-C1

Performance Area LABORATORY ACTIVITIES Objective No. 1-1

Details (Provide comprehensive facts which support the summary item.)

- Atomic absorption procedures routinely use of standards in the ppm range regardless of sample concentration.

- Makeup water demineralizer train 'B' in-line conductivity meter reading 0.03 umhos/cm. Theoretically pure water conductivity is 0.056 umhos/cm.

- There is no indication of any analytical verification of in-line monitor readings. Present procedure requires bi-monthly verification.

- ppb range chloride and iron standards approximately one month old were in use. No expiration date is assigned to low ppb standards even though they are very sensitive to any contamination.

- See observation "C".

	PERFORMANCE EVALUATION SUMMARY	Evaluation No. 583-01

Performance Area LABORATORY ACTIVITIES Objective No. 4-2

Evaluator(s) R. REINUS / W. BECK

1. Performance Objective

Laboratory and counting room activities should ensure accurate measuring and reporting of chemistry parameters.

2. Summary of Performance Achievement

Recommendation (CY. 4-2)

Record analytical data in a way to facilitate data evaluation and trend review. The present method of chronologically recording all data in a logbook makes evaluation of individual system data very difficult. Many operating stations have found that graphing analytical data aids in data trend review.

I WAS SHOWED

- Presently all data is logged chronologically in one log book. One day's data may cover up to 10 pages. Once additional systems are operational, this method of data recording will make system data evaluation very time consuming.

	PERFORMANCE EVALUATION DETAILS	Evaluation No. 583-01

Performance Area LABORATORY ACTIVITIES Objective No. 4-2

Details (Provide comprehensive facts which support the summary item.)

- Graphing of data was previously performed on the makeup water plant when water quality problems arose. Continued graphing of data could identify any further makeup water plant problems and could also help to optimize makeup water plant operation.

	PERFORMANCE EVALUATION SUMMARY	Evaluation No. S 83-01

Performance Area CHEMICAL AND LABOPATORY SAFETY Objective No. 5-1

Evaluator(s) R. REMUS / B. BURKE

1. Performance Objective

Work practices associated with chemistry activities should ensure the safety of personnel.

2. Summary of Performance Achievement

RECOMMENDATION

(CY.5-1)

Install diffent, unique fittings on the fill lines of the acid and caustic storage tanks to ensure that acid or caustic is not pumped to the wrong tank.

- This accident has happened at other companies.

O&A	PERFORMANCE EVALUATION SUMMARY	Evaluation

Performance Area: Management Assessment and Quality Programs Objective No. OA.3.1

Evaluator(s) [illegible]

1. Performance Objective

Management should assess and monitor station activities to ensure effective performance of all aspects of nuclear plant operation.

2. Summary of Performance Achievement

Recommendation (OA.3.1-1) Develop specific goals for ensuring that managers and supervisors will direct work activities through frequent plant tours and by discussion of work activities + Plans / Work in plant

Some key managers and supervisors are not getting into the plant on a frequent basis to assess station activities and worker performance. The administrative work load on managers and supervisors is such that a specific commitment to spend time in the plant is needed

O&A	PERFORMANCE EVALUATION SUMMARY	Evaluation No. S-33-01

Performance Area: Industrial Safety — Objective No. OA.5

Evaluator(s): [illegible]

1. Performance Objective

Station industrial safety programs should achieve a high degree of personnel safety.

2. Summary of Performance Achievement

Recommendation (OA.5-1)

Develop a program to improve the industrial safety activities of construction organizations. Although the Consumers Power Company safety program appears effective, many safety concerns involving construction personnel were observed.

See Doc [illegible]

1. One person, not wearing any eye protection was observed operating a pipe threading machine.

2. Several people not wearing any eye protection were observed in close to grinding operation. In one case the person was holding a ladder for the worker performing the grinding and sparks were flying all about the person's head.

3. Many personnel were observed on scaffolds without their safety belt being hooked up.

4. Safety personnel made an unconfirmed statement that the construction first aid office averaged about 80 visits [illegible] with many of these visits [illegible] [illegible] matter in the eye.

PERFORMANCE EVALUATION DETAILS

Performance Area INDUSTRIAL SAFETY Objective No. OA - 1

Details (Provide comprehensive facts which support the summary item)

- Presidents Safety award 1979, 1980, 1981
- 5 lost time and 5 doctors treated injuries in last 4 years
- 1,000,000 man-hours without lost time accident
- 30 percent of ~~salary~~ salary performance review based on safety
- Very good participation by supervisors in safety program
- Our plant safety committee made up of personnel from all disciplines in the plant
- Monthly safety meeting for entire plant staff put on by plant personnel themselves.
- Use of observation T for safety deficiencies identified
- Bechtel contract provides for their care, custody and control during construction. Therefore, Bechtel has no requirements for wearing safety glasses in the plant.
- Consumers personnel are required to wear safety glasses and hard hats
- Bechtel has very loose safety program

OA	PERFORMANCE EVALUATION SUMMARY	Evaluation No. S-88-01

Performance Area: Document Control — Objective No. OA.6

Evaluator(s): [illegible]

1. Performance Objective

Document control systems should provide correct, readily accessible information to support station requirements.

2. Summary of Performance Achievement

Recommendation (OA.6-1): Reduce the distribution list for controlled plant procedures. The current distribution list calls for 163 controlled copies of plant procedures.

There is little control over who can request controlled copies of procedures. Document control personnel stated that virtually anyone requesting to be put on distribution for controlled copies of procedures would be put on the distribution.

OA	PERFORMANCE EVALUATION SUMMARY	Evaluation No. E-83-01

Performance Area: Document Control — Objective No. OA.6

Evaluator(s): [illegible]

1. Performance Objective

Document control systems should provide correct, readily accessible information to support station requirements.

2. Summary of Performance Achievement

Recommendation (OA.6-2): Develop a method to control the use of aperture card systems located throughout the plant. Many people have access to these card readers from which they can make ~~uncontrolled~~ copies of prints. ~~Reducing the number~~ of such systems should be considered.

1. There are 14 aperture card systems throughout the plant. Personnel can access these systems freely and are on the honor system not to use uncontrolled prints from these card systems for official purposes.

2. The aperture card although updated by Document Control are not considered controlled systems.

	PERFORMANCE EVALUATION SUMMARY	Construction Project 5-83-1

Performance Area Material Control Objective No. CC-3

Evaluator(s) N. MOSELEY

Performance Objective

Material and equipment should be inspected, controlled, and maintained to ensure the final as-built condition meets design and operational requirements.

Good Practice: (CC.3-1)

A plexigloss cover is installed on the manholes of large heat exchangers allowing inspection for moisture without removal of manhole covers.

	PERFORMANCE EVALUATION SUMMARY	Construction Project 5-33-1

erformance Area Material Control Objective No. CC-3-2

valuator(s) J. Wells

Performance Objective
Material and equipment should be inspected, controlled, and maintained to ensure the final as-built condition meets design and operational requirements.

I. Summary of Performance Achievement

Recommendation: (CC.3-2)
The protection of installed material and equipment is generally satisfactory and it is obvious that much effort has been expended over the last weeks to up grade this protection. This effort should be continued since there are a number of items that still need attention.

1. Rigging from installed pipe in the turbine building at el 614 was noted at 4 locations.
2. Flexitallic gaskets are on the floor near unit 2 turbine in a location where damage is possible.
3. The threaded extension of the valve stems of several valve operators were exposed to potential damage. These are located near unit 1 turbine and at elev 634' in the turbine building.
4. Some of electrical cabinets at el 589' in the turbine building for two the units are located where they could be damaged.
5. The unit 2 moisture separator Reheater manhole covers were off allowing dust to enter the reheater
6. Piping in several locations ~~were~~ had the ends open allowing dust and debris to enter the pipe. These locations include el 638 in the turbine building, elev 598 in RB #1, and elev 637 in the turbine building

	PERFORMANCE EVALUATION SUMMARY	Construction Project S-83-1

Performance Area Material Control Objective No. CC-3.3

Evaluator(s) B. James

Performance Objective
Material and equipment should be inspected, controlled, and maintained to ensure the final as-built condition meets design and operational requirements.

Recommendation: (CC. 3-3)
Implement a program to limit the chloride Content of stickers, labels, and markings utilized on stainless steel.

1. Green labels "Turned over to CPCO" are purchased without specifications to limit Chloride Content. These labels are on stainless steel components located throughout the plant.
2. The original purchase order contained specifications to properly limit Chlorides but subsequent reorder went to a different suppliers with no Chloride limit provided.
3. It could not be determined that the reorder material was Chemically tested upon receipt.
4. The lack of evaluation time precludes thorough development of other potential sources

	PERFORMANCE EVALUATION SUMMARY	Construction Project 5-83-1

rformance Area Control of Construction Processes Objective No. CC-4

aluator(s) J. WELLS, R. FISKE

Performance Objective

The construction organization should monitor and control all construction processes to ensure the project is completed to design requirement and that a high level of quality is achieved.

Recommendation: (CC.4-1)

Provide craftsmen with more specific instructions on significant quality parameters to ensure that work meets design intent. Examples were noted where supervisors and workmen did not have adequate knowledge of requirements or follow procedures.

1. Expansion anchors are being installed by craftsmen who have not been instructed on the required torque values which are recommended by the manufacturer.
2. Cable pulling procedures require the heating of cable prior to installation if the temperature is lower than the minimum vendor requirements; however some craft personnel do not know this minimum temperature
3. Procedures for cable pulling require that the minimum bend radius specified by the vendor not be violated. Some craft personnel installing cable were not aware of this information
4. Craft personnel assume that no maximum tension requirements exist for cable installation if tension requirement sheets are not provided in their work instructions.

From: RM Rice
Date: 3/11/83
Subject: Task Force - Team Concept Items

Mar 11, 1983

cc DBM

① The Task Force is for Pilot Team Items only. It doesn't address all concerns on Non Q Team problems, team assignments, etc.

② We can't (at present time) get the 32 which are scheduled for T/O & not assigned to a Non Q Team assigned to a Non Q Team. These are being worked & completed independent of the team concept (Tech Dept didn't know about this). This poses the following problems:

- TE has no contact - CCG is gone.
- TOC doesn't exist - how do we turnover system
- We are not getting Punchlists - how do we do our job
- Pre turnover walkdowns aren't being done
- No punchlist meetings
- No Tech Dept involvement

③ BPCC says they must spread out priority systems among all the Teams. This can be disputed.

④ BPCC is looking at GE specific team. I expect friction

⑤ They (BPCC) will provide CpCo with Ann Arbor Engr Rep name on Team (this was defined 3 weeks ago & we weren't informed.

⑥ T Valengano stated BPCC has not yet received the direction on system priorities yet from Rutgers & have reason to believe this is not true: BPCC said they would look at re-prioritizing based on this letter/direction.

Bottom line - we need to talk!

Communications are not consistent!

10/27 GRC, JGH, DHM, RAW

Project Musts

1. Control for Process (Decision) (Plan)
2. Expansion of Super Resources
3. (Do what is necessary in cost effective manner)
4. Be Responsive to NRC Concerns
5. Documentation of Facts as to what we have done right & with Bonneral in the past
6. Plan for ProActive Approach (Combine w/ Cert Plan)
7. Establish our own confidence based upon NRC requirements today
   - Hanger
   - Cable
   - Etc
8. Define & scope of reinspection & status
   - 100% vs ?% on what attributes
   i.e. Specific Plan
9. (Part of 4) Evaluate programs (Generic Concerns)
   - In Process Inspection

Adjust plan based upon initial findings

Keep Eng. (Advance) ahead / tight with Const.

Push Team Effort

Proximity, now criteria - ?

Include Walkdowns

NRC Musts

1. Rebuild conf in (B) field work
   - QA/QC
   - Const Interface
2. ~~Continue Quality team effort~~
3. ~~Continue~~ Basis for continuing in audit mode
3. Bring total plant to final inspection standards at this time & maintain
4. Resolve "other" NRC generic concerns
5. Real time inspection program w/ future construction
6. Verify old work

(A) Sort results problems
(B) Keep work under control

7. Retain full control of all future ongoing work w/o covering up any past problems

RAW (20 000
(20 100 E.S.

Q System Workload Reduction

New Perm (20 200 E.S.
(20 300 T.O.

MCC/MAD (30 100
(365 00 — Appraisal Team

Finish immediate work
System Lay up
Craft Reassignments - to Non Q area
- Advise BA

(Decrease 800-1000)

QA/QC

Transfer QC & Organization : Set Organization
QA Mgmt

Identify Resources / Use Outside

(1) Scope of PQCIR
- Reinspection plans for PQCI : Comm. Activity

(2) Review of Inspection Process for generic problem Area (Clean Out Sequence)
- Train to above & recertify

Resolve how to track & document & hold & clear
- Team Approach

Outside Resources

Audit of Processes on Ongoing Work

Zack
Soils
BW
GSO

QA or 3rd Party

CAI ?

Training Needs

Engrg
FE, Supts.

QA/QC

Lead ~~underdeveloped~~ People:
1) PQCI Review & MRB
2) PQCI Exam & Tng
3) Review of Generic Issues
4) QC Transition / Integration
5) Uninspection Activities
QC
QA

~~SWEC~~

Independent
Implementation ~~Assessment~~ - Burden to total Project
- Needs ongoing

Public Domain & NRC — Don't call a shutdown "Re Order Tasks"

- ⓐ/CALs/Champ met Wed @ GAP
- Enlisted Nuclear Oversight to keep Midland separate from Zimmer
- Can communicate w/ NRC thru M&E

- INDO : How M&E do project diagnostic this week and defer report 1 month (Vince McMann)

EXISTING CONDITIONS

- QC INSPECTION IS NOT CURRENT WITH EXISTING INSTALLATION STATUS
- REDESIGN IS REQUIRED PRIOR TO BEING ABLE TO INSTALL MANY ITEMS
- NEW DESIGN (SEISMIC, HELBA, ETC.) IS YET TO BE ISSUED & WILL RESULT IN REDESIGN FOR INSTALLED ITEMS
- WALKDOWNS & INSPECTIONS WILL RESULT IN NEW DESIGNS & REDESIGNS
- REWORK ON INSTALLED ITEMS
- ENGINEERING TOO CLOSE TO CONSTR.
- CASH FLOW LIMITATIONS

PRODUCT OF THESE CONDITIONS

- MAINTENANCE OF QC INSPECTION IS NOT CURRENT WITH INSTALLATION PROGRESS
- INACCURATE FORECASTS FOR COMPLETION OF WORK (ESPECIALLY SYSTEM COMPLETION FORECASTS)
- REVISING & REWORKING INSTALLED ITEMS SEVERAL TIMES
- CLIENT PURSUIT OF A TEST SCHEDULE THAT IS NOT BEING SUPPORTED BY ENGR., PROC., OR CONSTR. ACTIVITIES
- CHANGES TO PROJECT PRIORITIES

AREAS OF CONCERN

PROBLEMS

1. QC INSPECTION OF COMMODITIES IS NOT MAINTAINED CURRENT WITH INSTALLATION PROGRESS
2. CONSTRUCTION SPENDS SUCH A SIGNIFICANT AMOUNT OF TIME PURSUING "CHANGES" THAT IT DETRACTS FROM PLANNING, FORECASTING, & INSTALLING THE ITEMS THAT DO FIT AS DESIGNED.

RESOLUTION

TAKE ACTIONS TO GET QC INSPECTIONS CURRENT & TO GET ENGINEERING SUFFICIENTLY AHEAD OF CONSTRUCTION TO SUPPORT A LOGICAL PROJECT SCHEDULE.

ACTIONS

1. INSPECT AREAS & COMMODITIES TO BRING UP TO CURRENT INSTALLATION STATUS LEVEL
2. CONTINUE ENGINEERING
3. ENGINEERING TO USE SITE CONDITIONS AND SITE PERSONNEL TO A GREATER EXTENT
   - A. WALKDOWN EXISTING INSTALLATIONS TO IDENTIFY REVISIONS
   - B. WALKDOWN ISSUED DESIGN TO IDENTIFY REVISIONS
   - C. ISSUE NEW DESIGN ONLY AFTER A PHYSICAL CHECK OF A & B
4. SLOW DOWN CONSTRUCTION TO SUPPORT 1, 2, & 3.
   - A. WORK ITEMS LEAST LIKELY TO BE AFFECTED BY NEW DESIGNS
   - B. WORK ITEMS THAT WILL YIELD GREATEST BENEFIT TO CLIENT TESTING PROGRAM

PROJECT RESCHEDULE

FORWARD PASS

I. FOR SELECTED AREAS (Starting at Back Offices)

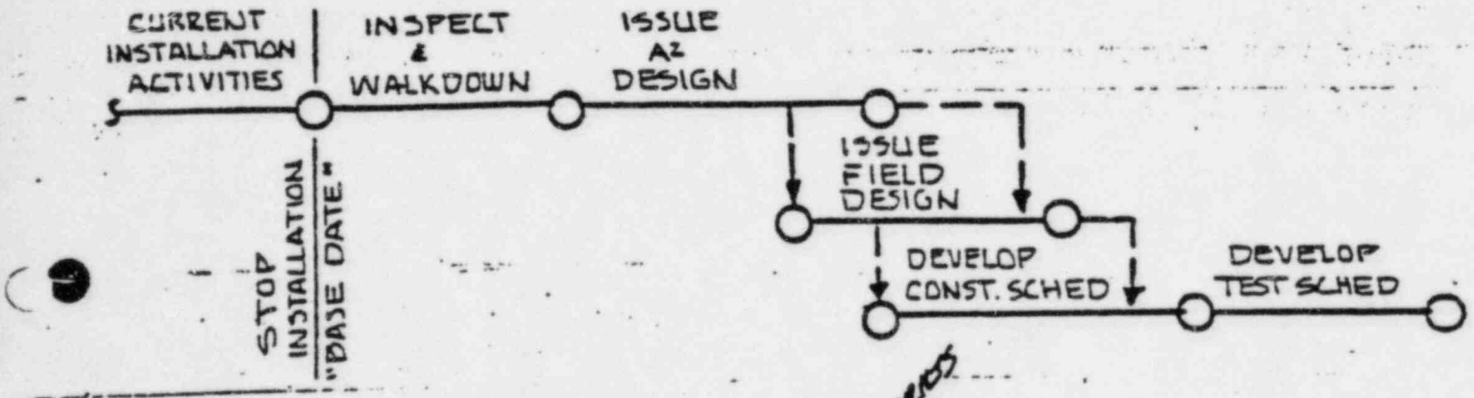
A. AT AN ESTABLISHED "BASE DATE"
   1. STOP INSTALLATION ACTIVITIES
   2. INSPECT ALL INSTALLED ITEMS
   3. WALKDOWN ALL ISSUED DESIGN

B. ISSUE ALL TO GO A² DESIGN

C. ISSUE ALL TO GO FIELD DESIGN

D. DEVELOP CONSTRUCTION SCHEDULE

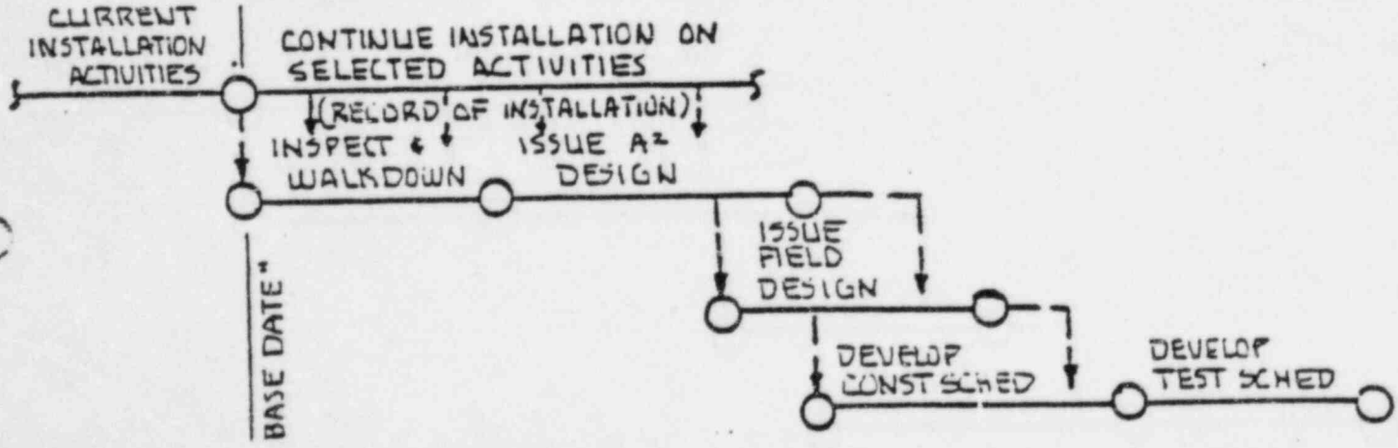
E. DEVELOP TEST SCHEDULE



FOR OTHER AREAS (Starting at Front Offices)

A. AT AN ESTABLISHED "BASE DATE"
   1. INSPECT ALL INSTALLED ITEMS
   2. CONTINUE INSTALLATION OF THOSE ITEMS LEAST LIKELY TO BE AFFECTED BY NEW DESIGN & UNIQUELY RECORD ITEMS INSTALLED AFTER THE "BASE DATE"

B. to E (SAME AS I. B. to E.)



PROJECT RESCHEDULE

II. BACKWARD PASS

A. DEVELOP NEW TEST SCHEDULE

B. ENGINEERING TO ISSUE (OR IDENTIFY IN DETAIL) ALL TO GO DESIGN IN A SEQUENCE TO BEST SUPPORT THE TEST SCHEDULE

Scotch of best ones

PROCEED WITH ESTABLISHING "BASE DATE", STOPPING CONSTRUCTION ACTIVITIES, & ISSUING NEW DESIGN AS IN "FORWARD PASS" APPROACH.

C. DEVELOP CONSTRUCTION SCHEDULE TO BEST SUPPORT THE TEST SCHEDULE

D. REVISE THE TEST SCHEDULE AS NECESSARY

Not recommended, for Data comparisons

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

NOV 19 1982

Docket Nos: 50-329 OM, OL
and 50-330 OM, OL

Dr. Paul Shewmon, Chairman
Advisory Committee on Reactor Safeguards
U.S. Nuclear Regulatory Commission
Washington, D. C. 20555

Dear Dr. Shewmon:

Subject: Report on Midland Design and Construction Problems, Their Disposition, and Overall Effectiveness of the Effort to Assure Appropriate Quality

The ACRS Interim Report on Midland Plant, Units 1 and 2 dated June 8, 1982, requested, in part, "a report which discusses design and construction problems, their disposition, and the overall effectiveness of the effort to assure appropriate quality."

Supplement No. 1 to the Midland Safety Evaluation Report (SSER 1) replied that Region III would prepare such a report addressing construction problems for the period from the beginning of construction through June 30, 1982. The enclosed report responds to that reply. SSER 1 also indicates that a final report on overall quality of plant construction will be issued for the remaining period following completion of construction.

In addition, the staff is currently reviewing the several programs proposed by the applicant to independently verify design and construction of the Midland Plant. The results of this review will be addressed in a future supplement to the SER.

Sincerely,

Thomas M. Novak, Assistant Director
for Licensing
Division of Licensing

Enclosure:
As stated

cc: See next page

8211300004

MIDLAND

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Midland Nuclear Power Plant, Units 1 and 2

Docket No. 50-329
Docket No. 50-330

REPORT ON DESIGN AND CONSTRUCTION PROBLEMS FOR PERIOD FROM START OF CONSTRUCTION THROUGH JUNE 30, 1982

Report Requested by Advisory Committee on Reactor Safeguards

I. Introduction

The following report prepared by the NRC, through its Region III office, discusses Midland construction problems, their disposition, and the overall effectiveness of the Consumers Power Company's efforts to ensure appropriate quality. The report was prepared at the request of the Advisory Committee on Reactor Safeguards and in response to commitments made in Supplement No. 1 of the Safety Evaluation Report. The report covers the period starting with the beginning of construction up to June 30, 1982. A final report will be issued on the above subjects for the period from July 1, 1982 through the completion of construction discussing the overall quality of plant construction.

II. Summary and Conclusions of Overall Effectiveness

Since the start of construction, Midland has experienced some significant problems resulting in enforcement action (enforcement statistics are summarized in Table 1). Following the identification of each of these problems, the licensee has taken action to correct the problems and to upgrade the QA program and QA/QC staff. The most prominent action has been an overview program which has been steadily expanded to cover safety related activities. In spite of the corrective actions taken, the licensee continues to experience problems in the implementation of quality in construction.

Significant construction problems identified to date include: (1) 1973 - cadweld splicing deficiencies (Paragraph C.2); (2) 1976 - rebar omissions (Paragraph F.5); (3) 1977 - bulge in the Unit 2 Containment Liner Plate (Paragraph G.3); (4) 1977 - tendon sheath location errors (Paragraph G.4); (5) 1978 - Diesel Generator Building settlement (Paragraph H.10); (6) 1980 - allegations pertaining to Zack Company heating, ventilating, and air conditioning (HVAC) deficiencies (Paragraph J.7); (7) 1980 - reactor pressure vessel anchor stud failures (Paragraph J.8); (8) 1981 - piping suspension system installation deficiencies (Paragraph K.4); and (9) 1982 - electrical cable misinstallations (Paragraph L.2).

Consumers Power has on repeated occasions not reviewed problems to the depth required for full and timely resolution. Examples are: (1) rebar omissions (1976); (2) tendon sheath location errors (1977); (3) Diesel Generator Building settlement (1978); and (4) Zack Company HVAC deficiencies (1980). In each of these cases the NRC, in its investigation, has determined that the problem was of greater significance than first reported or that the problem was more generic than identified by Consumers Power Company.

The Region III inspection staff believes problems have kept recurring at Midland for the following reasons: (1) Overreliance on the architect-engineer, (2) failure to recognize and correct root causes, (3) failure to recognize the significance of isolated events (4) failure to review isolated events for their generic application, and (5) lack of an aggressive quality assurance attitude.

A history of the Midland design and construction problems and their disposition, as identified and described in NRC inspection reports, is contained in the following section (III). This history is for the period from the beginning of construction through June 30, 1982.

Table 1

ENFORCEMENT STATISTICS

YEAR	INSPECTIONS	NONCOMPLIANCES/ DEVIATIONS	HEADQUARTERS NOTICE OF VIOLATION	CIVIL PENALTIES	IALs/ CALs	ORDERS MODIFYING CP/ SHOW CAUSE ORDERS	SIGNIFICANT CONSTRUCTION PROBLEMS
1970	6	5	0	0	0	0	0
1971	2	0	0	0	0	0	0
1972	1	0	0	0	0	0	0
1973	11	6	0	0	0	1 (Cadwelds)	1 (Cadwelds)
1974	11	3	0	0	0	0	0
1975	7	0	0	0	0	0	0
1976	9	17	1 (Rebar)	0	1 (Rebar)	0	1 (Rebar)
1977	15	10	0	0	1 (Tendon Sheath)	0	3 (Bulge in Containment Liner and Tendon Sheath Installation Errors)
1978	21	14	0	0	0	0	1 (Diesel Generator Bldg. Settlement)
1979	11	17	0	0	0	1 (Diesel Generator Bldg. Settlement)	0
1980	17	21	0	1 (Zack)	1 (Zack)	0	2 (Zack HVAC & Reactor Anchor Studs)
1981	23	21	0	0	1 (Pipe Suspension System)	0	1 (Pipe Suspension System)
1982	14	7	0	0	0	2 (Diesel Generator Bldg. Settlement)	1 (Electric Cable Routing)

III. Design and Construction Problems As Documented in NRC Inspection Reports

A. 1970

Six inspection reports were issued in 1970. In July 1970, construction activities authorized by the Midland Construction Permit Exemption commenced. A total of four items of noncompliance were identified in 1970. These items are described below:

Four items of nonconformance were identified in Inspection Report Nos. 50-329/70-06 and 50-330/70-06 concerning the installation of concrete. The nonconformances regarded: (1) concrete placement activities violated ACI Code; (2) laboratory not performing tests per PSAR; (3) sampling not per ASTM; and (4) QA/QC personnel did not act on deviations when identified. Licensee corrective actions included: (1) Bechtel to provide a report attesting to the Auxiliary Building base slab where lack of consolidation was apparent; (2) a commitment to perform tests at frequencies specified in the PSAR; and (3) a commitment to train workers and the inspection staff. This matter was discussed during the Construction Permit Hearings and is considered closed.

B. 1971-1972

Three inspections were conducted during this period. No items of noncompliance were identified. Midland construction activities were suspended pending the pre-construction permit hearings.

On December 15, 197', the Midland Construction Permit was issued.

C. 1973

Eleven inspection reports were issued in 1973 of which two pertained to special management meetings, two to vendor inspections, one to an audit of the architect engineer, and six to onsite inspections. A total of six items of noncompliance were identified during 1973. One significant construction problem was identified involving deficiencies in cadweld splicing of rebar (see Paragraph 2). These items/problems are described below:

1. Noncompliances involving two separate Appendix B criteria with five different examples were identified during a special audit of the architect engineer's Quality Assurance Program. The noncompliances were documented in Inspection Report Nos. 50-329/73-08 and 50-330/73-08. The items of noncompliance regarded: (1) inadequate requirements for quality record retention; (2) inadequate drawing control; (3) inadequate procedures; and (4) unapproved specifications used for vendor control. Licensee corrective actions included: (1) revision of Bechtel Nuclear Quality Assurance Manual; (2) revision of Midland Internal Procedures Manual; (3) personnel instructed to audit the status of the drawing stick files weekly; (4) project administrator assigned the

responsibility for maintenance of master stick file; and (5) project engineer and staff to perform monthly surveillance of project record file. Inspection Report Nos. 50-329/74-03 and 50-330/74-03 concluded that appropriate corrective actions had been taken by the licensee relative to the identified violations.

2. One significant construction problem was identified during 1973. It involved cadweld splicing deficiencies and resulted in the issuance of a Show Cause Order. Details are as follows:

A routine inspection, conducted on November 6-8, 1973, identified eleven examples of four noncompliance items relative to rebar cadwelding operations. The noncompliances were documented in Inspection Report Nos. 50-329/73-10 and 50-330/73-10. These items were summarized as: (1) untrained cadweld inspectors; (2) rejectable cadwelds accepted by QC inspectors; (3) records inadequate to establish cadwelds met requirements; and (4) inadequate procedures.

As a result, the licensee stopped work on cadweld operations on November 9, 1973, which in turn stopped rebar installation and concrete placement work. The licensee agreed not to resume work until the NRC reviewed and accepted their corrective action. A Show Cause Order was issued on December 3, 1973, formally suspending cadwelding operations. On December 6-7, 1973, Region III and Headquarters personnel conducted a special inspection and determined that construction activities could be resumed in a manner consistent with quality criteria. Licensee corrective actions included: (1) the revision of the Bechtel specification to reflect requalification requirements; (2) development of instructions requiring that work specifications be reviewed prior to Class 1 work; (3) the establishment of provisions for Consumers Power QA review of work procedures; and (4) the establishment of procedures for the audit of Class 1 work.

The Show Cause Order was modified on December 17, 1973 allowing resumption of cadwelding operations based on inspection results. The licensee answered the Show Cause Order on December 29, 1973 committing to revise and improve the QA manuals and procedures and make QA/QC personnel changes.

On September 25, 1974, the Hearing Board found that the licensee was implementing its QA program in compliance with regulations and that construction should not be stopped.

D. 1974

Eleven inspection reports were issued in 1974 of which one pertained to a vendor inspection, one to an inspection at the licensee's corporate offices, and nine to onsite inspections. Three items of noncompliance were identified during 1974. These items are described below:

1. One noncompliance was identified in Inspection Report No. 50-329/74-01 and 50-330/74-01 concerning the use of unapproved procedures during the preparation of containment building liner plates for erection. Licensee corrective actions included: (1) intensive review of liner plate records for accuracy; (2) issuance of nonconformance report; (3) requirement imposed that unapproved copies of procedures transmitted to the site be marked "advance copy;" and (4) identification of procedure approval status. The licensee's actions in regards to this matter were reviewed and the noncompliance closed by the NRC as documented in Inspection Report Nos. 50-329/74-01 and 50-330/74-01.

2. One noncompliance was identified in Inspection Report Nos. 50-329/74-04 and 50-330/74-04, concerning the use of a weld method which was not part of the applicable weld procedure. Licensee corrective actions included: (1) issuance of a nonconformance report; (2) repair of subject welds; (3) reinstruction of welders; and (4) increased surveillance of containment liner plate field fabrications. The licensee's actions in regards to this matter were reviewed and the noncompliance closed by the NRC as documented in Inspection Report Nos. 50-329/74-04 and 50-330/74-04.

3. One noncompliance was identified in Inspection Report Nos. 50-329/74-11 and 50-330/74-11 concerning the failure of QC inspections to identify nonconforming rebar spacing. This violation is discussed further in the 1976 section of this report, Paragraph F.5.

E. 1975

Seven inspection reports were issued in 1975 of which one pertained to a meeting in Region III, one to an inspection at the licensee's corporate offices, and five to onsite inspection.

No noncompliances were identified in 1975, however, the licensee in March and August of 1975 identified additional rebar deviations and omissions. This matter is further discussed in the 1976 section of this report, Paragraph F.5.

F. 1976

Nine inspection reports were issued in 1976 pertaining to nine onsite inspections. A total of seventeen items of noncompliance were identified during 1976. One significant construction problem was identified involving rebar omissions/placement errors and the issuance of a Headquarters Notice of violation (see Paragraph 5). These items/problems are described below:

1. Three items of noncompliance were identified in Inspection Report Nos. 50-329/76-01 and 50-330/76-01. These items regarded: (1) inadequate concrete oven temperature controls; (2) no measures to control nonconforming aggregate; and (3) failure to dispose of nonconforming aggregate as required. Licensee corrective actions included: (1) implementing a requirement for the reverification of oven temperature controls every three months; (2) removal of nonconforming aggregate from the batch plant area; (3) modification of subcontractor's QA manual; and (4) training of subcontractor's personnel to the revised QA manual. The corrective actions implemented by the licensee in regards to these noncompliances were subsequently reviewed and the items closed by the NRC as documented in Inspection Report Nos. 50-329/76-02 and 50-330/76-02.

2. Two items of noncompliance were identified in Inspection Report Nos. 50-329/76-02 and 50-330/76-02. These items regarded: (1) the Vice President of Engineering Inspection did not audit test reports as required; and (2) corrective actions required by audit findings had not been performed. Corrective actions taken by the licensee included revising the U.S. Testing QA manual. The licensee's corrective actions taken in regards to these matters were subsequently reviewed and the items closed by the NRC as documented in Inspection Report Nos. 50-329/76-08 and 50-330/76-08.

3. Three items of noncompliance were identified in Inspection Report Nos. 50-329/76-08 and 50-330/76-08. These items regarded: (1) inadequate classification, review, and approval of field engineering procedures and instructions; (2) inadequate documentation of concrete form work deficiencies; and (3) inadequate control of site storage of post tension embedments. Licensee corrective actions included: (1) revision of the Bechtel Nuclear QA manual; (2) revision of Bechtel field procedure for "Initiating and Processing Field Procedures and Instructions;" (3) initiation of Bechtel Discrepancy Report; (4) training sessions for Bechtel QC; and (5) revision of storage inspection procedures. The licensee's corrective actions in regards to these items were subsequently reviewed and the items closed by the NRC as documented in Inspection Report Nos. 50-329/77-01 and 50-330/77-01.

4. Two items of noncompliance were identified in Inspection Report Nos. 50-329/76-09 and 50-330/76-09. These items regarded: (1) noncompliance report not written to identify broken reinforcing steel; and (2) hold down studs for the reactor vessel skirt were not protected. Licensee corrective actions included: (1) inspection of all rebar dowels; (2) initiation of new field procedure; and (3) initiation of new

procedure for inspecting reactor vessel and steam generator anchor bolts. The licensee's corrective actions in regards to these items were subsequently reviewed and the items closed by the NRC as documented in Inspection Report Nos. 50-329/77-01 and 50-330/77-01.

5. One significant construction problem was identified during 1976. It involved rebar omissions/placement errors and the issuance of a Headquarters Notice of Violation. Details are as follows:

During an NRC inspection conducted in December 1974 the licensee informed the inspector that an audit had identified rebar spacing problems in the Unit 2 containment. The failure of QC inspectors to identify the nonconforming rebar spacing was identified in the 1974 NRC inspection report as an item of noncompliance. (See the 1974 section of this report, Paragraph D.3.) This matter was subsequently reported by the licensee as required by 10 CFR 50.55(e).

Additional rebar deviations and omissions were identified in March and August 1975 and in April, May and June 1976.

Five items of noncompliance regarding reinforcement steel deficiencies were identified in Inspection Report Nos. 50-329/76-04 and 50-330/76-04. These items regarded: (1) no documented instructions for the drilling and placement of reinforcement steel dowels; (2) nonconformance reports concerning reinforcement steel deficiencies were not adequately evaluated; (3) inadequate inspections of reinforcement steel; (4) inadequate evaluations of a nonconformance report problem relative to 10 CFR 50.55(e) reportability requirements; and (5) results of reviews, interim inspections, and monitoring of reinforcement steel installations were not documented.

The licensee's response, dated June 18, 1976, listed 21 separate items (commitments) for corrective actions. A June 24, 1976 letter from the licensee provided a plan of action schedule for implementing the 21 items. The licensee suspended concrete placement work until the items addressed in the licensee's June 24 letter were resolved or implemented. This commitment was documented in a Region III Immediate Action Letter (IAL) to the licensee, dated June 25, 1976.

Rebar installation and concrete placement activities were resumed in early July, 1976 following satisfactory completion of the corrective actions and verification by Region III as documented in Inspection Report Nos. 50-329/76-05 and 50-330/76-05.

A subsequent inspection to followup on reinforcing steel placement problems identified two noncompliances. These noncompliances are documented in Inspection Report Nos. 50-329/76-07 and 50-330/76-07. The noncompliances regarded: (1) failure to follow procedures; and (2) inadequate Bechtal inspections of rebar installations. The inspection report documents licensee corrective actions which included: (1) removal of cognizant field engineer and lead Civil engineer from the project; (2) removal of lead Civil Quality Control engineer from the project; (3) reprimand of cognizant inspector; (4) additional training given to cognizant foremen, field engineers, superintendants and Quality Control inspectors; and (5) assignment of additional field engineers and Quality Control engineers. The licensee's actions in regard to these items were reviewed and the items closed by the NRC as documented in Inspection Report Nos. 50-329/76-07 and 50-330/76-07.

As a result of the rebar omissions and placement errors, a Headquarters Notice of Violation was issued on August 13, 1976.

Additional actions taken by the licensee included the establishment of an overview inspection program to provide 100% reinspection of embedments by the licensee following acceptance by the contractor Quality Control personnel.

Additional actions taken by the contractor included: (1) personnel changes and retraining of personnel; (2) preparation of a technical evaluation for the acceptability of each identified construction deficiency; and (3) improvement in the QA/QC program coverage of civil work.

G. 1977

Twelve inspections pertaining to Unit 1 and fifteen inspections pertaining to Unit 2 were conducted in 1977. Ten items of noncompliance were identified during 1977. Two significant construction problems were identifed involving a bulge in the Unit 2 containment liner plate (see Paragraph 3) and errors in the placement of tendon sheathings (see Paragraph 4). These items/problems are described below:

1. Five examples of noncompliance with Criterion V of 10 CFR 50, Appendix B, were identified in Inspection Report Nos. 50-329/77-05 and 50-330/77-08. The examples of noncompliance regarded: (1) inadequate clearance between concrete wall and pipe support plates; (2) assembly of pipe supports using handwritten drawing changes; (3) inadequate preparation and issue of audit reports; (4) inadequate review of nonconformance reports and audit findings for trends; and (5) inadequate tagging of defective measuring equipment. Licensee corrective actions included: (1) clarification of

design and acceptance criteria contained in pertinent specifications; (2) modification and review of Quality Control Instructions; (3) issuance of two field procedures relative to field modifications of piping hanger drawings; (4) staffing of additional QA personnel at the site; (5) closer management attention; and (6) additional training in the area of tagging. The licensee actions in regard to these items were subsequently reviewed and the items closed by the NRC as documented in Inspection Report Nos. 50-329/77-08, 50-330/77-11, 50-329/78-01, and 50-330/78-01.

2. Three items of noncompliance were identified in Inspection Report Nos. 50-329/77-09 and 50-330/77-12. The items regarded: (1) failure to follow audit procedures; (2) failure to qualify stud welding procedures; and (3) inadequate welding inspection criteria. Licensee corrective actions included: (1) administrative instruction issued to require the audit manager to obtain a semi-monthly audit findings status report from the project manager; (2) administrative instruction issued for the close out and followup of internal corrective action requests; (3) revision of Quality Control Instruction; (4) special inspections and audit; and (5) prescribing specific acceptance criteria. The licensee's actions in regard to these items were subsequently reviewed and the items closed by the NRC as documented in Inspection Report Nos. 50-329/78-01, 50-330/78-01, 50-329/78-05, and 50-330/78-05.

3. A significant construction problem involving a bulge in the Unit 2 containment liner plate was identified in 1977. Details of the liner plate bulge follow:

   The initial identification by the licensee of a bulge in the Unit 2 liner plate occurred on February 26, 1977. The liner plate bulge occurred between column line azimuths 250 degrees and 270 degrees and between elevations 593 and 700. Inspection Report No. 50-330/77-02 documents a special inspection concerning the liner plate bulge. This report further identifies an item of noncompliance relative to the failure of the licensee to report the bulge deficiency pursuant to the requirements of 10 CFR 50.55(e). The licensee's corrective actions in regard to this item were reviewed and the item closed by the NRC as documented in Inspection Report No. 50-330/77-14.

   The cause of the liner plate bulge was determined to be due to a leaking 2 inch water line installed in the containment concrete as a construction convenience. It was theorized that the water line froze, started to leak, allowing water to seep behind the liner. The water line was supplied by a construction water pump that was set to cycle between 100 and 130 PSI. This pressure was considered to be sufficient to cause the liner plate bulge.

A meeting was held on April 4, 1977 at the Ann Arbor, Michigan Office of Bechtel to review the original design and construction concept of the containment liner, the procedures and actions taken during the removal of bulge affected zones, the investigation activities and results, and to ascertain the concepts involved in the licensee's proposed repair program.

The containment liner bulge deficiency repair was started on August 1, 1977. Inspection Report No. 50-330/77-11 documents the observed fit up and welding of the first four foot lift of replacement liner plate installed. The completion of repair and the repair records were subsequently reviewed as documented in Inspection Report No. 50-330/79-25.

4. A second significant construction problem involved tendon sheath placement errors and resulted in an Immediate Action Letter (IAL). Details are as follows:

The licensee reported, on April 19, 1977, the discovery of an error in the Unit 1 containment building which resulted in two tendon sheathings (H32-036 and H13-036) being misplaced, and two tendon sheathings (H32-037 and H13-037) being omitted. As shown on pertinent vendor drawings, these four tendons were to be deflected downward to clear the two main steam penetrations at center line elevation 707' 0". Concrete had been placed to a construction joint at elevation 703' 7" approximately one week before these tendon deficiencies were discovered.

Corrective actions resulted in the rerouting of tendon sheathing H32-037, originally planned for below the penetration, to a new alignment above the penetration. Tendon sheathing H13-037 was installed below the penetration. Tendon sheathings H32-036 and H13-036 did not require modification.

The tendon sheath placement errors and the past history of rebar placement errors indicated the need for further NRC evaluation of the licensee's QA/QC program. As a result, an IAL was issued to the licensee on April 29, 1977. Licensee commitments addressed by this IAL included: (1) NRC notification prior to repairs or modifications involving the placement of concrete in the area of the misplaced and omitted tendon sheaths; (2) identification of the cause of the tendon sheath deficiencies and implementation of required corrective action; (3) expansion of the licensee's QC overview program; (4) NRC notification of all embedment placement errors identified after QC acceptance; (5) review and revision of QC inspection procedures; and (6) training of construction and inspection personnel.

A special QA program inspection was conducted in May 1977 as documented in Inspection Report Nos. 50-329/77-05 and 50-330/77-08. The inspection team was made up of personnel from Region I, Region III, and Headquarters. It was the consensus of opinion of the inspectors that the licensee's program was acceptable.

The licensee issued the final 50.55(e) report on this matter on August 12, 1977. Final onsite review was conducted and documented in Inspection Report Nos. 50-329/77-08 and 50-329/79-15.

H. 1978

Twenty-two inspections and one investigation were conducted during 1978. A total of fourteen items of noncompliance were identified in 1978. One significant construction problem was identified involving excessive settlement of the Diesel Generator Building foundation (see Paragraph 10). These items/problems are described below:

1. Three items of noncompliance were identified in Inspection Report Nos. 50-329/78-03 and 50-330/78-03. These items regarded: (1) inadequate inspections of welds on cable tray supports; (2) inadequate control of welding voltage and amperage as required by AWS; and (3) inadequate documentation of repairs on purchased equipment. Licensee corrective actions included: (1) additional training given Quality Control Engineers and craft welders; (2) revision of pertinent technical specifications and weld acceptance requirements; (3) revision of welding procedures; (4) revisions of vendor QA manual; and (5) reinspections and engineering evaluations. The licensee actions in regard to these items were subsequently reviewed and the items closed by the NRC as documented in Inspection Report Nos. 50-329/78-15, 50-330/78-15, 50-329/79-25, 50-330/79-25, 50-329/81-12, 50-330/81-12, 50-329/79-22, and 50-330/79-22.

2. Two items of noncompliance were identified in Inspection Report Nos. 50-329/78-05 and 50-330/78-05. These items regarded: (1) inadequate control of welding filler material; and (2) inadequate protection of spool pieces. Licensee corrective actions included: (1) additional instructions given to welding personnel; (2) generation of nonconformance report to require Bechtel to perform a thorough inspection of the facility, correct and document discrepancies noted, and instruct craft personnel. The licensee actions in regard to these items were subsequently reviewed and the items closed by the NRC as documented in Inspection Report Nos. 50-329/78-05, 50-330/78-05, 50-329/79-22, and 50-330/79-22.

3. Two examples of noncompliance with one 10 CFR 50 Appendix B criterion were identified in Inspection Report Nos. 50-329/78-07 and 50-330/78-07. These examples regarded: (1) inadequate

control of drawings; and (2) inadequate drawing control procedures. Licensee corrective actions included: (1) Zack and Bechtel revised drawing control procedures; and (2) extensive audits of drawing controls. The licensee actions in regard to these items were subsequently reviewed and the items closed by the NRC as documented in Inspection Report Nos. 50-329/79-25 and 50-330/79-25.

4. One item of noncompliance was identified in Inspection Report No. 50-330/78-09 concerning inadequate backing gas flow rate during welding operations. Licensee corrective actions included: (1) revision of Bechtel welding procedure specifications; (2) revision of Bechtel Quality Control Instruction; and (3) additional training for all welding Quality Control Engineers. The licensee's actions in regard to this item were subsequently reviewed and the item closed by the NRC as documented in Inspection Report No. 50-330/78-16.

5. Two items of noncompliance were identified in Inspection Report Nos. 50-329/78-13 and 50-330/78-13. The items regarded: (1) inadequate inspection of weld joints; and (2) inadequate storage of Class 1E equipment. Licensee corrective actions included: (1) revision of welding specifications; (2) additional instructions to QC inspectors; (3) additional overinspections; (4) upgrade of administrative procedures; and (5) actions to bring storage environment within controlled specifications. The licensee's actions in regard to these items were reviewed and the items closed by the NRC as documented in Inspection Report Nos. 50-329/78-13 and 50-330/78-13.

6. Two items of noncompliance were identified in Inspection Report Nos. 50-329/78-15 and 50-330/78-15. These items regarded: (1) nonconforming welds on Main Steam Isolation Valve support structures; and (2) inadequate corrective action taken to repair nonconforming Nelson Stud weld attachments. Licensee corrective actions included: (1) responsible welding Quality Control Engineer required to attend training course; (2) defective welds reworked; and (3) engineering evaluation. The licensee's actions in regard to these items were subsequently reviewed and the items closed by the NRC as documented in Inspection Report Nos. 50-329/79-22, 50-330/79-22, 50-329/79-25 and 50-330/79-25.

7. One deviation was identified in Inspection Report No. 50-330/78-16 concerning the failure to meet ASME code requirements for nuclear piping. Licensee corrective actions included the determination that the impact test values of the pipe material in question met the code requirements, and the UT thickness measurements made by ITT Grinnell were in error and

voided by measurements made by Bechtel. The licensee's actions in regard to this item were subsequently reviewed and the item closed by the NRC as documented in Inspection Report No. 50-330/79-24.

8. One item of noncompliance was identified in Inspection Report Nos. 50-329/78-17 and 50-330/78-17 regarding the failure to follow weld procedures pertaining to the repair welding of cracked welds on the personnel air locks. The licensee's corrective actions included steps to revise affected drawings and to update the stress analysis report for the air locks. The corrective actions taken by the licensee will be reviewed during future NRC inspections.

9. One item of noncompliance was identified in Inspection Report Nos. 50-329/78-22 and 50-330/78-22 concerning the failure to perform specified maintenance and inspection activities on Auxiliary Feed Pumps. Licensee corrective actions included: (1) training of pertinent Quality Control engineers; (2) transition of personnel in QC department relative to storage and maintenance activities; and (3) inspections and evaluations of omitted maintenance. The licensee's actions in regard to this item were subsequently reviewed and the item closed by the NRC as documented in Inspection Report Nos. 50-329/78-22 and 50-330/78-22.

10. One significant construction problem was identified during 1978. It involved excessive settlement of the Diesel Generator Building foundation. Details are as follows:

    The licensee informed the Region III office on September 8, 1978, per requirements of 10 CFR 50.55(e), that settlement of the Diesel Generator foundations and structures was greater than expected.

    Fill material in this area was placed between 1975 and 1977, with construction starting on the diesel generator building in mid-1977. Review of the results of the Region III investigation/inspection into the plant fill/Diesel Generator building settlement problem indicate many events occurred between late 1973 and early 1978 which should have alerted Bechtel and the licensee to the pending problem. These events included nonconformance reports, audit findings, field memos to engineering, and problems with the administration building fill which caused modification and replacement of the already poured f ting and replacement of the fill material with lean concrete.

    Causes of the excessive settlement included: (1) inadequate placement method - unqualified compaction equipment and excessive lift thickness; (2) inadequate testing of the soil material; (3) inadequate QC inspection procedures; (4) unqualified Quality Control inspectors and field engineers; and (5) overreliance on inadequate test results.

Lead technical responsibility and program review for this issue was transferred to NRR from IE by memo, dated November 17, 1978.

During 1978 the licensee conducted soil borings in the area of the Diesel Generator building and in other plant fill areas. In addition, a team of consultants who specialize in soils was retained by the licensee to provide an independent evaluation and provide recommendations concerning the soil conditions existing under the Diesel Generator building.

As previously stated, an investigation was initiated in December 1978 by the NRC to obtain information relating to design and construction activities affecting the Diesel Generator Building foundation and the activities involved in the identification and reporting of unusual settlement of the building. The results of the investigation and additional developments in regard to this matter are discussed in the 1979 section of this report, Paragraph I.11.

I. 1979

Thirty inspection reports were issued in 1979 of which one pertained to an onsite management meeting, two to investigations, one to a vendor inspection, one to a meeting in Region III, and twenty-five to onsite inspections. A total of seventeen items of noncompliance were identified in 1979. These items are described below:

1. One item of noncompliance was identified in Inspection Report Nos. 50-329/79-10 and 50-330/79-10 concerning inadequate measures to assure that the design basis was included in drawings and specifications. Licensee corrective actions included: (1) revision to Midland FSAR; and (2) revision to pertinent specification. The licensee's actions in regard to this item were subsequently reviewed and the item closed by the NRC as documented in Inspection Report Nos. 50-329/79-19 and 50-330/79-19.

2. Three items of noncompliance were identified in Inspection Report Nos. 50-329/79-12 and 50-330/79-12. The items were: (1) inadequate corrective action in regard to drawing controls; (2) discrepancy in Zack Welding Procedure Specification; and (3) inadequate control of purchased material. Licensee corrective actions included: (1) audit of drawing control program; (2) revision to drawing control requirements; (3) revision of Zack Welding Procedure Specification; (4) review of other Zack procedures; (5) missing data added to documentation packages; and (6) audits of other documentation packages. The actions taken by the licensee were subsequently reviewed and the items closed by the NRC as documented in Inspection Report Nos. 50-329/81-01, 50-330/81-01, 50-329/80-15, 50-330/80-16, 50-329/79-22, and 50-330/79-22.

3. One item of noncompliance was identified in Inspection Report No. 50-330/79-13 concerning the failure to inspect all joints and connections on the Incore Instrument Tank as prescribed in the hydrostatic test procedure. Licensee corrective actions included a supplemental test of the Incore Instrument Tank and the initiation of a supplemental test report. The licensee's actions in regards to this matter were subsequently reviewed and the item closed by the NRC as documented in Inspection Report No. 50-330/80-38.

4. One item of noncompliance was identified in Inspection Report No. 50-330/79-14 concerning the use of a wad of paper in making a purge dam during welding activities. Licensee corrective actions included: (1) revision of pertinent procedures; (2) revision of pertinent Quality Control inspection checklist; and (3) training sessions for welders and Quality Control inspectors. The licensee's actions in regards to this matter were subsequently reviewed and the item closed by the NRC as documented in Inspection Report No. 50-330/80-16.

5. One item of noncompliance was identified in Inspection Report Nos. 50-329/79-18 and 50-330/79-18 concerning inadequate controls to protect materials and equipment from welding activities. Licensee corrective actions included training sessions for cognizant Field Engineers, Superintendents, General Foremen and Foremen. The licensee's actions in regards to this matter were subsequently reviewed and the item closed by the NRC as documented in Inspection Report Nos. 50-329/80-15 and 50-330/80-16.

6. Two items of noncompliance were identified in Inspection Report Nos. 50-329/79-19 and 50-330/79-19. These items regarded: (1) failure to ensure that appropriate quality standards were in the specification for structural backfill; and (2) Quality Control inspection personnel performing containment prestressing activities were not being qualified as required. Licensee corrective actions included: (1) revision of pertinent specification; (2) examination given to Level I and Level II inspector; and (3) reinspection of selected tendons. The licensee's actions in regards to these items were subsequently reviewed and the items closed by the NRC as documented in Inspection Report Nos. 50-330/80-09, 50-329/80-04 and 50-330/80-04.

7. One item of noncompliance was identified in Inspection Report Nos. 50-329/79-20 and 50-330/79-20 concerning inadequate controls for welding activities pertaining to 4.16 KV switchgear. Licensee corrective actions included: (1) correction of relevant records; (2) additional training for Quality Control Engineers; and (3) additional training for the Quality Control Document Coordinator. The licensee's actions were subsequently reviewed and the item closed by the NRC as documented in Inspection Report Nos. 50-329/80-15 and 50-330/80-16.

8. One item of noncompliance was identified in Inspection Report No. 50-330/79-22 concerning inadequate weld rod controls. Licensee corrective actions included a training session for cognizant welding personnel. The actions taken by the licensee in regards to this matter were subsequently reviewed and the item closed by the NRC as documented in Inspection Report No. 50-330/80-01.

9. One item of noncompliance was identified in Inspection Report Nos. 50-329/79-26 and 50-330/79-26 concerning failure to follow procedures relative to the shipment of auxiliary feed water pumps to the site with nonconforming oil coolers. Licensee corrective actions included: (1) reinstruction given to cognizant engineer; and (2) Supplied Deviation Disposition Request (SDDR) generated by the vendor. The licensee's actions in regards to this matter were reviewed and the item closed by the NRC as documented in Inspection Report Nos. 50-329/79-26 and 50-330/79-26.

10. One item of noncompliance was identified in Inspection Report Nos. 50-329/79-27 and 50-330/79-27 concerning the violation of QC Hold Tags. Licensee corrective actions included: (1) a training session for Construction Supervisors and Field Engineers; and (2) a Field Instruction on Quality Control Hold Tags was issued. The licensee's actions in regards to this matter were subsequently reviewed and the item closed by the NRC as documented in Inspection Report Nos. 50-329/81-04 and 50-330/81-04.

11. As a followup to the significant construction problem identified in 1978 (see Paragraph H.10), an investigation was initiated in December, 1978 to obtain information relating to design and construction activities affecting the Diesel Generator Building foundations and the activities involved in the identification and reporting of unusual settlement of the building. The investigation findings were documented in Inspection Report Nos. 50-329/78-20 and 50-330/78-20, dated March 22, 1979. Information obtained during this investigation indicated: (1) a lack of control and supervision of plant fill activities contributed to the inadequate compaction of foundation material; (2) corrective action regarding nonconformances related to plant fill was insufficient or inadequate as evidenced by the repeated deviations from specification requirements; (3) certain design bases and construction specifications related to foundation type, material properties, and compaction requirements were not followed; (4) there was a lack of clear direction and support between the contractor's engineering office and construction site personnel; and (5) the FSAR contained inconsistent, incorrect and unsupported statements with respect to foundation type, soil properties, and settlement values. Nine examples of noncompliance involving four different 10 CFR 50, Appendix B Criteria were identified in the subject inspection report.

Meetings were held on February 23, 1979 and March 5, 1979 at the NRC Region III office to discuss the circumstances associated with the settlement of the Diesel Generator Building at the Midland facility. The NRC staff stated that it's concerns were not limited to the narrow scope of the settlement on the Diesel Generator Building, but extended to various buildings, utilities and other structures located in and on the plant area fill. In addition, the staff expressed concern with the Consumers Power Company Quality Assurance Program. Under the authority of Section 182 of the Atomic Energy Act of 1954, as amended, and Section 50.54(f) of 10 CFR Part 50, additional information was requested regarding the adequacy of the fill and the quality assurance program for the Midland site in order for the Commission to determine whether enforcement action such as license modification, suspension or revocation should be taken. Question 1 of the 50.54(f) letter dated March 21, 1979 requested information regarding the quality assurance program. On April 24, 1979, Consumers Power Company submitted the initial response to the 50.54(f) request, Questions 1 through 22. As a result of the NRC staff review of Question 1, the NRC concluded that the information provided was not sufficient for a complete review. Subsequently, on September 11, 1979, the NRC issued a request for additional quality assurance information (Question 23). On November 13, 1979, Consumers Power Company submitted Revision 4 to the 50.54(f) responses which included response to Question 23. As a result of the Region III investigation report and CPCo responses, the NRC issued an Order modifying construction Permits No. CPPR-81 and No. CPPR-82, dated December 6, 1979. This order prohibited further soils related activities until the submission of an admendment to the application seeking approval of the Remedial Soils work with the provision that the order would not become effective in the event that the licensee requested a hearing. Due to the licensee's decision to request a hearing this order forms the basis for the ongoing ASLB Hearings.

During 1979, the licensee continued soil boring operations in order to identify and develop the quality of material in the plant area fill and beneath safety related structures. The licensee completed a program regarding the application of a surcharge of sand material in and around the Diesel Generator Building. This surcharge was an attempt to accelerate any future settlement of the Diesel Generator Building by consolidating the foundation material.

Additional developments in this matter are discussed in the 1980 section of this report, Paragraph J.9.

J. 1980

Thirty-seven inspection reports were issued in 1980 of which two pertained to meetings at the licensee's corporate office, one to a meeting in Glen Ellyn, two to investigations, and thirty-two to onsite inspections. A total of twenty-one items of noncompliance were identified during 1980. Two significant construction problems were identified involving quality assurance problems at the Zack Company (see Paragraph 7) and deficient reactor vessel anchor studs (see Paragraph 8). These items/problems are described below:

1. Two items of noncompliance and one deviation were identified in Inspection Report Nos. 50-329/80-01 and 50-330/80-01. These items regarded: (1) a welder welding on material of thickness which exceeded his qualified range; (2) failure to date and sign the cleanliness inspection of Unit 2 Service Water System valve; and (3) failure to implement a design change or prepare a Field Change Request. Licensee corrective actions in regards to the items of noncompliance included: (1) testing and qualification of the subject welder; (2) reinstruction of QC engineer; (3) review of the inspection records for additional valves; and (4) the revision of applicable turnover procedures. The licensee's actions in regards to these items were subsequently reviewed and the items closed by the NRC as documented in Inspection Report Nos. 50-329/80-20, 50-330/80-21, 50-329/82-04 and 50-330/82-04.

2. One item of noncompliance was identified in Inspection Report No. 50-329/80-09 concerning the failure to maintain levelness requirements during core support assembly lifts. The licensee's corrective actions in response to the item of noncompliance included the issuance of a nonconformance report and the commitment to ensure compliance with Quality Control procedures. The licensee's corrective actions in regards to this matter will be reviewed during subsequent NRC inspections.

3. One item of noncompliance was identified in Inspection Report Nos. 50-329/80-20 and 50-330/80-21 concerning the failure of a Bechtel purchase order for E7018 welding rods to specify the applicable codes. Licensee commitments in regards to corrective actions included an audit of the ordering and receiving records of weld filler material. The licensee's corrective actions in regards to this matter will be reviewed during subsequent NRC inspections.

4. One item of noncompliance was identified in Inspection Report Nos. 50-329/80-21 and 50-330/80-22 concerning the failure to perform an audit of Photon Testing, Inc. for services to qualify Zack Company welders. Licensee corrective actions included an audit of Photon Testing, Inc. The licensee's actions in regards to this matter were subsequently reviewed and the item closed by the NRC as documented in Inspection Report Nos. 50-329/81-03 and 50-330/81-03.

5. One item of noncompliance was identified in Inspection Report Nos. 50-329/80-28 and 50-330/80-29 concerning the bypassing of a hold point on a Pressure Surge System weld. The inspection report further identifies that action had been taken to correct the identified noncompliance and to prevent recurrence. The item is closed.

6. One item of noncompliance was identified in Inspection Report Nos. 50-329/80-31 and 50-330/80-32 concerning substantial delays by the licensee in making 10 CFR Part 21 reportability determinations. Licensee corrective actions included training sessions for key personnel in recognizing 10 CFR 21 reporting obligations. The licensee's actions in regards to this matter were subsequently reviewed and the item closed by the NRC as documented in Inspection Report Nos. 50-329/81-07 and 50-330/81-07.

7. A significant construction problem involving quality assurance problems at the Zack Company, the heating, ventilating, and air condition contractor was identified in 1980. Details of the Zack problem follow:

   During March and April, 1980 the NRC received numerous allegations pertaining to the Zack Company. The Zack Company is the heating, ventilation and air conditioning (HVAC) subcontractor at the Midland construction site. The allegations dealt with material traceability, violations of procedures, falsification of documents, and the training of quality control inspectors.

   As the result of the allegations, an investigation was initiated by the NRC. During the initial phases of the investigation, the NRC determined that Consumers Power Company had issued a Management Corrective Action Request (MCAR), dated January 8, 1980, pertaining to the Zack Company. The MCAR showed that Zack had failed to initiate corrective action in a timely manner on a large number of nonconformance reports and audit findings and had failed to address other requirements and commitments of the quality program.

   Consumers Power Company had issued seven nonconformance reports during the period of May 23 to October 2, 1979 all of which recommended 100% reinspection of work as a corrective action. The investigation determined that as of March 19, 1980, corrective action had not been completed on any of the nonconformance reports.

   Based on preliminary findings during the investigation, which revealed some instances of continued nonconformance in the implementation of Zack's Quality Assurance Program, an Immediate Action Letter (IAL) was issued to the licensee on March 21, 1980. The IAL stated the NRC's understanding that a Stop Work Order had been issued to the Zack Corporation for all its safety related construction activities.

Seventeen examples of noncompliance involving eight different 10 CFR 50, Appendix B, criteria were identified during the investigation. The investigation findings are documented in Inspection Report Nos. 50-329/80-10 and 50-330/80-11. The licensee's actions in regards to the items of noncompliance were subsequently reviewed and the items closed by the NRC as documented in Inspection Report Nos. 50-329/82-15 and 50-330/82-15.

On June 30, 1980, the NRC received from the licensee a letter documenting a Program Plan for resumption of safety related work by the Zack Company. The licensee identified that corrective actions required prior to lifting the Stop Work included: (1) the review and approval of all Field Quality Control Procedures and specific Weld Procedure Specifications; (2) the review and approval of the revised Zack QA Manual; (3) the training and certification of the QC personnel; and (4) the training of site production personnel.

Subsequent to followup NRC inspections to determine the effectiveness of licensee corrective actions, it was determined by the NRC, on August 14, 1980 that HVAC safety related work could resume.

The Bechtel Power Corporation released the Zack Company from the Stop Work Order by letter dated August 14, 1980.

As a result of the aforementioned investigation findings, the NRC imposed a Civil Penalty, on January 7, 1981, on Consumers Power Company for the amount of $38,000.

8. The second significant construction problem involved reactor pressure vessel anchor stud failures. Details are as follows:

On September 14, 1979, Consumers Power Company personnel notified the NRC of the discovery of a broken reactor vessel anchor stud on the Midland Unit 1 reactor vessel. On October 12, 1979, this condition was reported under the requirements of 10 CFR 50.55(e). Two other studs were subsequently found to be broken. As this condition reflected a significant deficiency, an NRC investigation was initiated in February 1980 to review the materials, manufacturer, and installation of the studs.

The investigation findings, as documented in Inspection Report Nos. 50-329/80-13 and 50-330/80-14, indicate several Quality Assurance deficiencies: (1) lack of licensee involvement; (2) failure to advise the heat treater of different heats of material; (3) inadequate document review; (4) failure to respond to indications that the studs were deficient; (5) failure to review materials previously purchased when the purchase specification was revised; and (6) miscalculation of

the stud stress area resulting in a slight over-specification stressing of the studs (this item was identified by the licensee).

Three items of noncompliance were identified in the inspection report. These items regarded: (1) failure to identify Subsection NF of the ASME Code as the applicable requirement for the reactor vessel anchor bolts; (2) failure to establish measures to assure that purchased material conforms to the procurement documents; and (3) failure to establish measures to assure that heat treating and nondestructive tests were controlled in accordance with applicable codes and specifications. Licensee commitments in regards to corrective actions included: (1) a commitment to conduct a review to confirm that safety related low alloy steel bolting and/or component support materials, which have been tempered and quenched and are 7/8" or greater in diameter, have been procured in accordance with proper codes and standards; (2) a commitment to obtain NRR approval of the acceptability of the Unit 2 reactor vessel anchor bolts and (3) a commitment that actual plant modifications to compensate for the defective bolts would not be started on Unit 1 until approval of the design concept was received from NRR.

The stud failure mechanism was identified as stress corrosion cracking which propagated to the point that the studs failed by cleavage fracture. Tests indicated that some studs utilized in Unit 2, although of different material and heat treatment, have above specification surface hardness readings.

The final report per 50.55(e) requirements was submitted by the licensee on December 1, 1981.

NRR has the lead responsibility for evaluation and approval of the licensee's proposals for resolution of this matter.

9. A special inspection was conducted in December, 1980 at the Bechtel Power Company Ann Arbor, Michigan offices to verify implementation of the specific commitments and action items reflected in Consumers Power Company response to 10 CFR 50.54(f) questions (regarding excessive settlement of the Diesel Generator Building foundations). The results of this inspection were documented in Inspection Report Nos. 50-329/80-32 and 50-330/80-33. Two items of noncompliance were identified regarding: (1) failure to provide adequate corrective actions with regard to identified audit results; and (2) inadequate design control. Licensee corrective actions included: (1) revision of procedures; (2) revision of specification; and (3) audit of FSAR sections. The licensee actions were subsequently reviewed and the items closed by the NRC as documented in Inspection Report Nos. 50-329/81-12, 50-330/81-12, 50-329/81-19 and 50-330/81-19.

Additional information regarding this matter is discussed in the 1981 section of this report, Paragraph K.6.

K. 1981

Twenty-three inspection reports were issued in 1981 of which one pertained to a management meeting and twenty-two to onsite inspections. A total of twenty-one items of noncompliance were identified during 1981. One significant construction problem was identified involving deficiencies in piping suspension system installations (see Paragraph 4). These items/problems are described below:

1. Two items of noncompliance were identified in Inspection Report Nos. 50-329/81-04 and 50-330/81-04. These items regarded: (1) failure to account for all tools and materials used in a controlled clean room area; and (2) inadequate procedure for the installation of the Unit 2 vent valves in the core support assembly. Licensee corrective actions included: (1) the upgrading of personnel and equipment logs; (2) the addition of new logs; (3) issuance of a formal Stop Work Order for further work on the installation of vent valves; (4) the revision of installation procedures; (6) training and indoctrination of personnel performing vent valve installations; and (5) the revision of the overview inspection plan. The licensee's actions in regards to these items were reviewed and it was determined that action had been taken to correct the identified noncompliances and to prevent recurrence. This determination is documented in Inspection Report Nos. 50-329/81-04 and 50-330/81-04.

2. One item of noncompliance was identified in Inspection Report Nos. 50-329/81-08 and 50-330/81-08 regarding the failure to provide adequate storage conditions for Class 1E equipment. Licensee corrective actions included: (1) additional training for Bechtel maintenance engineers; (2) an audit of maintenance activities; and (3) reinspections of affected equipment. The licensee's actions in regards to this matter were subsequently reviewed and the item closed by the NRC as documented in Inspection Report Nos. 50-329/81-23 and 50-330/81-23.

3. Four items of noncompliance were identified in Inspection Report Nos. 50-329/81-11 and 50-330/81-11. These items regarded: (1) inadequate procedures for the temporary support of cables and for the routing of cables into equipment; (2) failure of QC inspectors to identify inadequate cable separation; (3) inadequate control of nonconforming raceway installations; and (4) failure to translate the FSAR requirements into instrumentation specifications. Licensee corrective actions in regards to (1) and (2) above, included: (1) the revision of cable pulling procedures;

(2) the repair of damaged cables; (3) training given to the termination personnel and the involved QC inspector; and (4) the revision of the cable termination procedure. The licensee's actions in regards to these items were subsequently reviewed and the items closed by the NRC as documented in Inspection Report Nos. 50-329/81-20, 50-330/81-20, 50-329/82-03 and 50-330/82-03. Licensee commitments in regards to corrective actions pertaining to items (3) and (4), above, included: (1) the addition of required barriers on pertinent raceway drawings; (2) the revision of Project Quality Control Instruction; (3) and the revision of the instrumentation specification. The licensee's actions in regards to these items will be reviewed during subsequent NRC inspections.

4. Eight items of noncompliance were identified during a special indepth team inspection to examine the implementation status and effectiveness of the Quality Assurance Program. The results of the inspection are documented in Inspection Report Nos. 50-329/81-12 and 50-330/81-12. Three of the items of noncompliance regarded: (1) failure to take adequate corrective action concerning the trend analysis procedure; (2) failure of QC inspections to identify a nonconforming cable bend radius; and (3) failure to take adequate corrective action in regards to the lack of rework procedures. Licensee corrective actions in regards to items (1) and (2) above, included: (1) the issuance of a new procedure for trending; (2) the revision of cable termination procedures; and (3) additional training given to the responsible QC inspector. The licensee's actions in regards to these items were subsequently reviewed and the items closed by the NRC as documented in Inspection Report Nos. 50-329/82-02, 50-330/82-02, 50-329/82-03 and 50-330/82-03. The licensee's commitments in regards to corrective actions pertaining to item (3) above, included: (1) the development of Administrative Guidelines and Instructions for rework; and (2) the revision of field procedures. The licensee's actions in regards to this item will be reviewed during subsequent NRC inspections.

The remaining five items of noncompliance identified in Inspection Report Nos. 50-329/81-12 and 50-330/81-12 are considered to be a significant construction problem. Safety related pipe support and restraint installations and QC inspection deficiencies in regard to those installations were identified. The five items of noncompliance pertaining to this issue regarded: (1) failure to install large bore pipe restraints, supports and anchors in accordance with design drawings and specifications; (2) failure of QC inspectors to reject large bore pipe restraints, supports and anchors that were not installed in accordance with design drawings and specifications; (3) failure to prepare,

review and approve small bore pipe and piping suspension system designs performed onsite in accordance with design control procedures; (4) failure to adequately control documents used in site small bore piping design activities; and (5) failure of audits to include a detailed review of system stress analysis and to follow up on previously identified hanger calculation problems. Licensee corrective actions in regards to items (3) through (5) included: (1) the review and upgrading of small bore piping calculations (2) audits of small bore piping activities; (3) revision of Engineering Directive; (4) additional training in QA procedures; and (5) audits of document control. The licensee's actions in regards to these items were subsequently reviewed and the items closed by the NRC as documented in Inspection Report Nos. 50-329/82-07 and 50-330/82-07.

As a result of the adverse findings, an Immediate Action Letter (IAL) was issued by the NRC on May 22, 1981 acknowledging the NRC's understanding that the licensee would not issue fabrication and construction drawings for the installation of the safety related small bore pipe and piping suspension systems until requirements identified in the IAL had been completed and audited.

The IAL requirements were subsequently reviewed and determined to have been satisfactorily addressed. This is documented in Inspection Report Nos. 50-329/81-14 and 50-330/81-14.

The licensee's actions in regards to noncompliance items (1) and (2) above, are discussed in Paragraph 1 of the following report section for 1982(L).

5. One item of noncompliance was identified in Inspection Report Nos. 50-329/81-14 and 50-330/81-14 concerning inadequate design controls involving the Bechtel Resident Engineer's review of the field engineers redline drawings for small bore piping. Licensee corrective actions included: (1) a 100% review of all questionable systems; and (2) the revision of a Project Instruction. The licensee's actions in regards to this matter were subsequently reviewed and the item closed by the NRC as documented in Inspection Report Nos. 50-329/82-07 and 50-330/82-07.

6. In January, 1981 an inspection was conducted by the NRC to verify whether adequate corrective actions had been implemented as described in the Consumers Power Company response to Questions 1 and 23 of 10 CFR 50.54(f) submittals (regarding excessive settlement of the Diesel Generator Building foundation). The findings during this inspection, which include three items of noncompliance and one deviation, are documented in Inspection Report Nos. 50-329/81-01 and

50-330/81-01. The items of noncompliance and the deviation regarded: (1) failure to develop test procedures for soils work activities; (2) failure to have soils laboratory records under complete document control; (3) failure to have explicit instructions for the onsite Geotechnical Engineer's review of test results; and (4) failure to have a qualified Geotechnical Engineer onsite. Licensee corrective actions included: (1) revision of Quality Control Procedures and Specification; (2) development of new Quality Control Procedures; and (3) the addition of a qualified Geotechnical Engineer. The licensee's actions in regards to these items were subsequently reviewed and the items closed by the NRC as documented in Inspection Report Nos. 50-329/81-12 and 50-330/81-12.

7. In March 1981, an inspection was initiated by the NRC to verify the licensee's Quality Assurance Program for the ongoing soil borings. The soil borings were performed by the licensee in response to a request from the Corps of Engineers for additional soil information for their review of the licensee's 10 CFR 50.54(f) answers. The findings of this inspection, which includes one item of noncompliance, are documented in Inspection Report Nos. 50-329/81-09 and 50-330/81-09. The noncompliance regards the lack of evaluation of Woodward-Clyde technical capabilities prior to the commencement of drilling operations. Licensee commitments in regards to corrective actions included: (1) the review, for compliance, of Midland Project major procurements and contracts; and (2) the review and revision of pertinent procedures. The licensee's corrective actions in regards to these items will be reviewed during subsequent NRC inspections.

L. 1982

Fourteen inspection reports have been issued during 1982 covering the period through June 30, 1982 of which two pertain to management meetings, one to an investigation, one to the SALP meeting, and ten to onsite inspections. During this period of time seven items of noncompliance were identified. One significant construction problem was identified involving electrical cable misinstallations (see Paragraph 2). These items/problems are discussed below:

1. The licensee conducted reinspections to determine the seriousness of the safety related support and restraint installation and QC inspection deficiencies identified in Inspection Report Nos. 50-329/81-12 and 50-330/81-12. The results of the reinspections are documented in Inspection Report Nos. 50-329/82-07 and 50-330/82-07. From a sample size of 123 safety related supports and restraints installed and inspected by Quality Control, approximately 43% were identified by the licensee as rejectable.

On August 30, 1982, the licensee was informed of the NRC's position that the licensee shall reinspect all the supports and restraints installed prior to 1981 and perform sample reinspections of the components installed after 1981. The licensee has agreed to perform the reinspections.

2. One significant construction problem was identified during 1982. It involved electrical cable misinstallations. Details are as follows:

   During the special team inspection conducted in May 1981, the NRC identified concerns in regards to the adequacy of inspections performed by electrical Quality Control inspectors. These concerns were the result of the NRC's review of numerous Nonconformance Reports (NCR) issued by Midland Project Quality Assurance Department (MPQAD) personnel during reinspections of items previously inspected and accepted by Bechtel QC inspectors. The NRC required the licensee to perform reinspections of the items previously inspected by the QC inspectors associated with the MPQAD NCRs. The licensee, in reports submitted to the NRC in May and June 1982, reported that of the 1084 electrical cables reinspected, 55 had been determined to be misrouted in one or more vias. This concern was upgraded to an item of noncompliance and is documented in Inspection Report Nos. 50-329/82-06 and 50-330/82-06.

   On September 2, 1982, the licensee was informed by the NRC that a 100% reinspection of class 1E cables installed or partially installed before March 15, 1982 was required. In addition, the licensee was required to develop a sample reinspection program for those cables installed after March 15, 1982. The licensee has agreed to perform the reinspections.

3. Three examples of noncompliance to one 10 CFR 50 Appendix B Criterion were identified in Inspection Report Nos. 50-329/82-03 and 50-330/82-03. These examples regarded: (1) failure to follow procedures concerning drawing changes; (2) inadequate specification resulting in the undermining of BWST No. 2 valve pit; and (3) inadequate control of changes to procedures. The licensee's response to the identified item of noncompliance is presently under review. Corrective actions taken by the licensee in regards to this item will be reviewed during future inspections.

4. Four examples of noncompliance to one 10 CFR 50 Appendix B Criterion and a deviation were identified in Inspection Report Nos. 50-329/82-05 and 50-330/82-05. The examples of noncompliance and the deviation regarded: (1) failure to review and approve a Mergentine (the soils contractor) field procedure prior to initiation of work; (2) inadequate control of specification changes; (3) inadequate acceptance

criteria for dewatering specification; (4) inadequate instruction to prepare or implement reinspection plans; and (5) inadequately qualified remedial soils staff. The corrective actions taken by the licensee in regards to this item will be reviewed during future inspections.

5. One item of noncompliance was identified in Inspection Report Nos. 50-329/82-06 and 50-330/82-06 concerning the licensee's failure to establish a QA program to provide controls over the installation of remedial soils instrumentation. This item resulted in the issuance of a letter by the licensee on March 31, 1982 confirming the licensee's suspension of all underpinning instrumentation installation activities until: (1) approved, controlled drawings and procedures or instructions were developed to prescribe underpinning instrumentation installation activities; (2) plans were established to inspect and audit instrumentation installation activities; and (3) Region III had concurred that (1) and (2), above, were acceptable.

   A followup inspection by Region III in April 1982 identified that the licensee had developed acceptable drawings, procedures, and instructions for underpinning instrumentation installations such that instrumentation installation activities could be resumed. An additional followup inspection on August 23, 1982 determined that the installation of underpinning instrumentation for the Auxiliary Building was complete and acceptable. This item will remain open pending the licensee's development of drawings, procedures, and instructions for the future installation of underpinning instrumentation for the Service Water Building.

6. One item of noncompliance and a deviation were identified in Inspection Report Nos. 50-329/82-11 and 50-330/82-11. The items regarded: (1) inadequate anchor bolt installation; and (2) the use of unapproved installation/coordination forms during remedial soils instrumentation installations. The licensee's responses to the identified items of noncompliance are presently under review. Corrective actions taken by the licensee in regards to these items will be reviewed during future inspections.

The ASLB issued an order modifying Construction Permits No. CPPR-81 and No. CPPR-82, dated April 30, 1982. This order suspended all remedial soils activities on "Q" soils for which the licensee did not have prior explicit approval. The ASLB issued another order, dated May 7, 1982 clarifying the April 30, 1982 order. This order only includes those activities bounded by the limits identified on Drawing C-45.

As a result of past Region III findings, the Region III Administrator created a special Midland Section staffed with individuals assigned solely to the Midland project. Since the formation of the Midland Section a work authorization procedure has been developed by Region III and the licensee to control work and ensure compliance to the ASLB Order.

Remedial Soils activities performed by the licensee thus far in 1982 involve: (1) the drilling of a number of wells which function as part of the temporary and permanent dewatering systems; (2) the installation of the freeze wall associated with the Auxiliary Building Underpinning activity; (3) the completion of the initial work on the access shaft; and (4) the completion of the Auxiliary Building instrumentation for remedial soils activities.

CONSTRUCTION PROJECT EVALUATION
OF CONSUMERS POWER COMPANY
MIDLAND ENERGY CENTER PROJECT
UNITS 1 AND 2

CONSTRUCTION PROJECT EVALUATION

SPECIFIC AREAS BEING EVALUATED

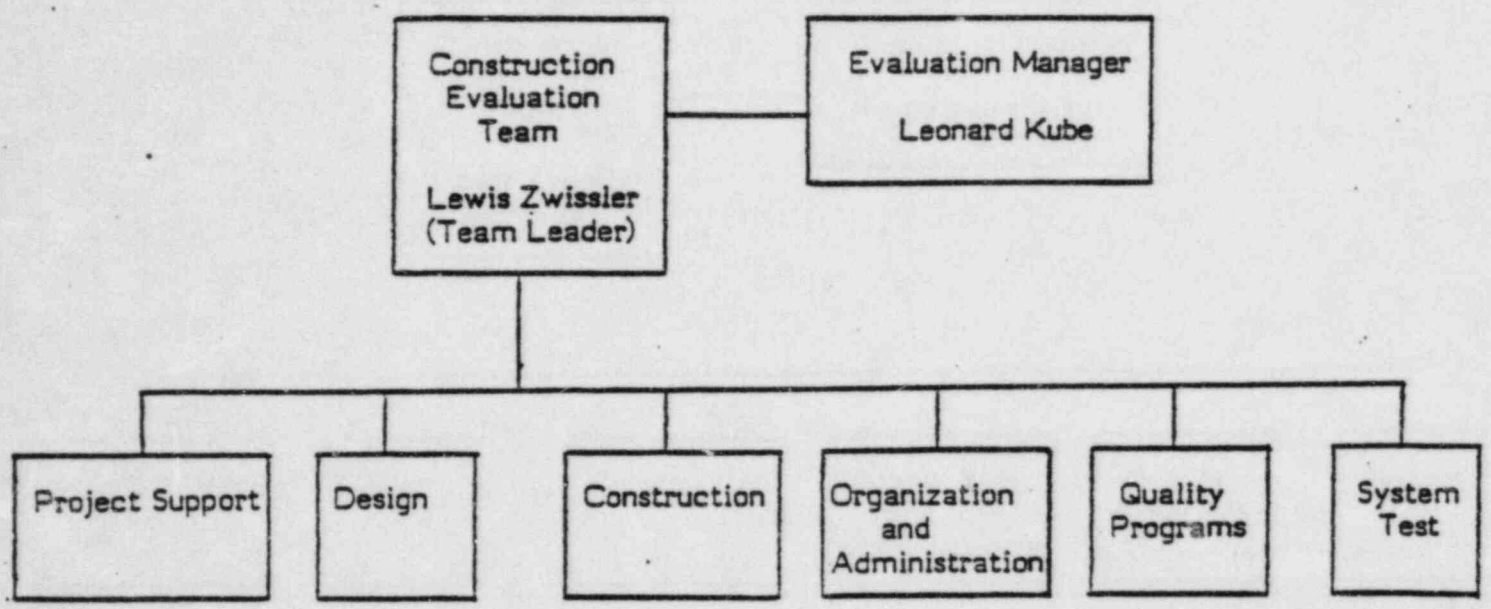
- ORGANIZATION AND ADMINISTRATION
- DESIGN CONTROL
- CONSTRUCTION CONTROL
- PROJECT SUPPORT
- TRAINING
- QUALITY PROGRAMS
- TEST CONTROL

REQUIREMENTS FOR SUCCESS

- CLEARLY DEFINED TEAM LEADERSHIP
- A SELECT TEAM WITH COMPLIMENTARY CREDENTIALS
- SUFFICIENT TRAINING
- DETAIL PLANNING
- SUFFICIENT PRE-REVIEW OF DOCUMENTATION
- SUPPORT OF UTILITY MANAGEMENT
- PRE-BRIEFING OF CONSTRUCTION/ENGINEERING STAFF AS TO PROGRAM OBJECTIVES AND MANAGEMENT'S SUPPORT
- PERFORMING EVALUATION AND SUMMARIZING RESULTS CONSISTENT WITH INPO FORMAT
- COOPERATION FROM MANAGEMENT IN THE HANDLING OF FINDINGS

TABLE 2

MIDLAND CONSTRUCTION PROJECT EVALUATION TEAM



Project Support	Design	Construction	Organization and Administration	Quality Programs	System Test
J. Briskin	K. Horst	V. Johnson	J. Briskin	J. Copley	D. Hubbard
D. Hubbard	L. Kube	R. Kelley	L. Kube	W. Friedrich	A. Robeson
	R. Lee	L. Kube	L. Zwissler	L. Zwissler	
	E. Schlinger				

	Project Support	Design	Construction	Organization & Administration	Quality	System Test
Primary Responsibility	PS.2 ↓ PS.6 TN.1 TN.2 TN.4	DC.1 ↓ DC.5 CC.1	CC.2 ↓ CC.7 PS.1 TN.3	OA.1 OA.2 OA.3	QP.1 ↓ QP.4	TC.1 ↓ TC.6
Secondary Responsibility	OA.2 OA.3 CC.3 CC.6 PS.1	OA.2 OA.3 PS.2 PS.6 TN.3 TC.3	OA.2 OA.3 DC.4 CC.1 PS.2 PS.3 PS.4 TC.3	TN.1 TN.2 TC.2	CC.5 CC.6 CC.7 PS.4 PS.6 TN.3	
Possible Input	TC.3 CC.7	TC.3 CC.7	DC.5 PS.6 TC.4	PS.5	DC.3 PS.5 TC.5	

EVALUATION TEAM RESPONSIBILITY MATRIX

PROJECT SUPPORT TEAM

PRIMARY RESPONSIBILITY

- PS.2 PROJECT PLANNING
- PS.3 PROJECT CONTROL
- PS.4 PROJECT PROCUREMENT PROCESS
- PS.5 CONTRACT ADMINISTRATION
- PS.6 DOCUMENT MANAGEMENT
- TN.1 TRAINING MANAGEMENT SUPPORT
- TN.2 TRAINING ORGANIZATION AND ADMINISTRATION
- TN.4 TRAINING FACILITIES, EQUIPMENT, & MATERIAL

SECONDARY RESPONSIBILITY

- QA.2 MANAGEMENT INVOLVEMENT AND COMMITMENT TO QUALITY
- QA.3 THE ROLE OF FIRST-LINE SUPERVISORS AND MIDDLE MANAGERS
- DC.5 DESIGN CHANGES
- CC.3 MATERIAL CONTROL
- CC.6 CONSTRUCTION CORRECTIVE ACTIONS
- PS.1 INDUSTRIAL SAFETY

POSSIBLE INPUT

- TC.3 TEST PLAN
- CC.7 TEST EQUIPMENT CONTROL

DESIGN TEAM

PRIMARY RESPONSIBILITY

- DC.1 DESIGN INPUTS
- DC.2 DESIGN INTERFACES
- DC.3 DESIGN PROCESS
- DC.4 DESIGN OUTPUT
- DC.5 DESIGN CHANGES
- CC.1 CONSTRUCTION ENGINEERING

SECONDARY RESPONSIBILITY

- QA.2 MANAGEMENT INVOLVEMENT AND COMMITMENT TO QUALITY
- QA.3 THE ROLE OF FIRST-LINE SUPERVISORS AND MIDDLE MANAGERS
- PS.2 PROJECT PLANNING
- PS.6 DOCUMENT MANAGEMENT
- TN.3 GENERAL TRAINING AND QUALIFICATION
- TC.5 TEST PROCEDURES AND TEST DOCUMENTS

POSSIBLE INPUT

- TC.3 TEST PLAN
- CC.7 TEST EQUIPMENT CONTROL

CONSTRUCTION TEAM

PRIMARY RESPONSIBILITY

- CC.2 CONSTRUCTION FACILITIES AND EQUIPMENT
- CC.3 MATERIAL CONTROL
- CC.4 CONTROL OF CONSTRUCTION PROCESSES
- CC.5 CONSTRUCTION QUALITY INSPECTIONS
- CC.6 CONSTRUCTION CORRECTIVE ACTIONS
- CC.7 TEST EQUIPMENT CONTROL
- PS.1 INDUSTRIAL SAFETY
- TN.3 GENERAL TRAINING AND QUALIFICATION

SECONDARY RESPONSIBILITY

- QA.2 MANAGEMENT INVOLVEMENT AND COMMITMENT TO QUALITY
- QA.3 THE ROLE OF FIRST-LINE SUPERVISORS AND MIDDLE MANAGERS
- DC.4 DESIGN OUTPUT
- CC.1 CONSTRUCTION ENGINEERING
- PS.2 PROJECT PLANNING
- PS.3 PROJECT CONTROL
- PS.4 PROJECT PROCUREMENT PROCESS
- TC.3 TEST PLAN

POSSIBLE INPUT

- DC.5 DESIGN CHANGES
- PS.6 DOCUMENT MANAGEMENT
- TC.4 SYSTEM TURNOVER FOR TEST

ORGANIZATION AND ADMINISTRATION TEAM

PRIMARY RESPONSIBILITY

- OA.1 ORGANIZATION STRUCTURE
- OA.2 MANAGEMENT INVOLVEMENT AND COMMITMENT TO QUALITY
- OA.3 THE ROLE OF FIRST-LINE SUPERVISORS AND MIDDLE MANAGERS

SECONDARY RESPONSIBILITY

- TN.1 TRAINING MANAGEMENT SUPPORT
- TN.2 TRAINING ORGANIZATION AND ADMINISTRATION
- TC.2 TEST GROUP ORGANIZATION AND STAFFING

POSSIBLE INPUT

- PS.5 CONTRACT ADMINISTRATION

QUALITY PROGRAM TEAM

PRIMARY RESPONSIBILITY

- QP.1 QUALITY PROGRAMS
- QP.2 PROGRAM IMPLEMENTATION
- QP.3 INDEPENDENT ASSESSMENTS
- QP.4 CORRECTIVE ACTIONS

SECONDARY RESPONSIBILITY

- CC.5 CONSTRUCTION QUALITY INSPECTIONS
- CC.6 CONSTRUCTION CORRECTIVE ACTIONS
- CC.7 TEST EQUIPMENT CONTROL
- PS.4 PROJECT PROCUREMENT PROCESS
- PS.6 DOCUMENT MANAGEMENT
- TN.3 GENERAL TRAINING AND QUALIFICATION

POSSIBLE INPUT

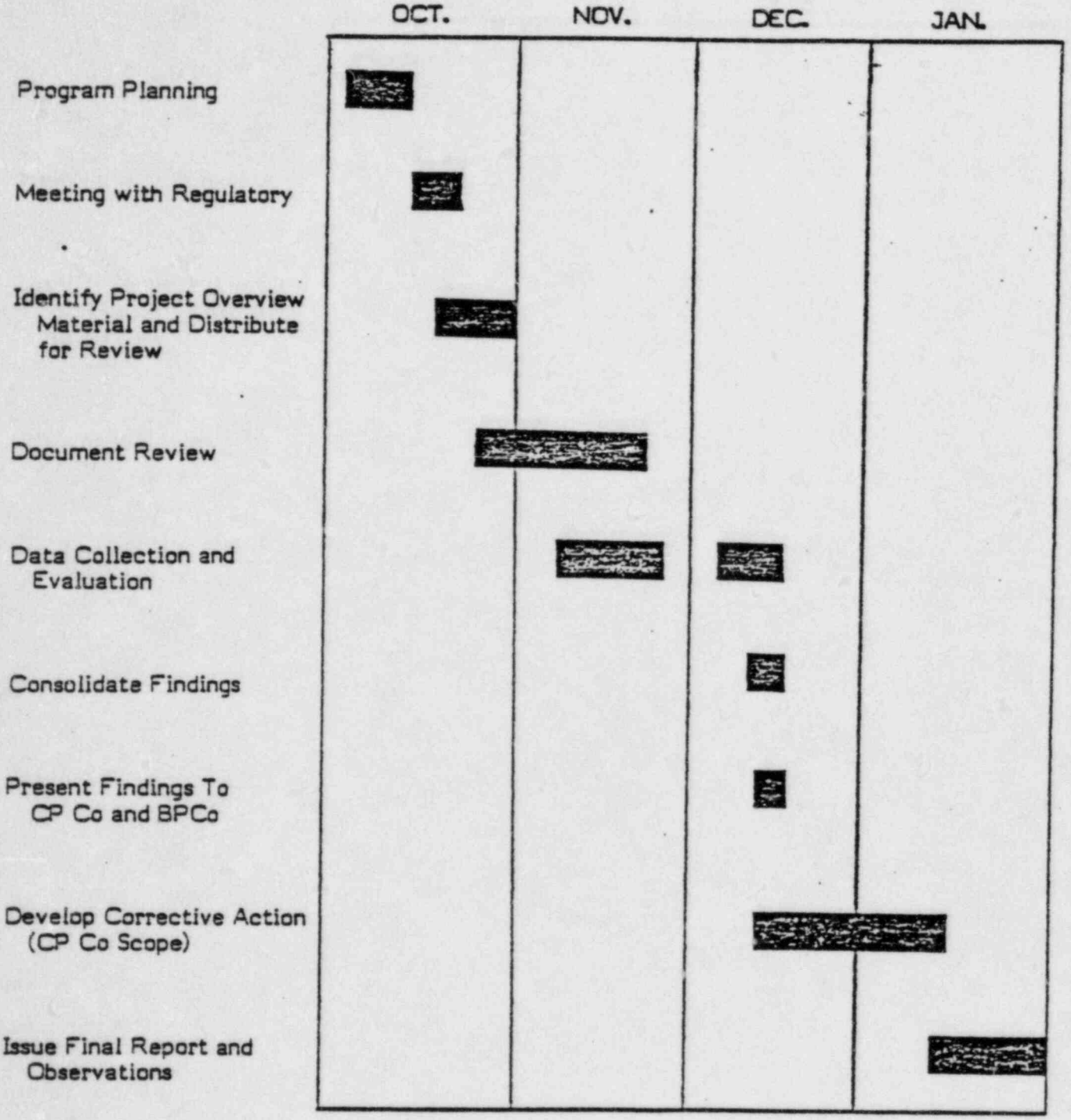
- DC.3 DESIGN PROCESS
- PS.5 CONTRACT ADMINISTRATION
- TC.5 TEST PROCEDURES AND TEST DOCUMENTS

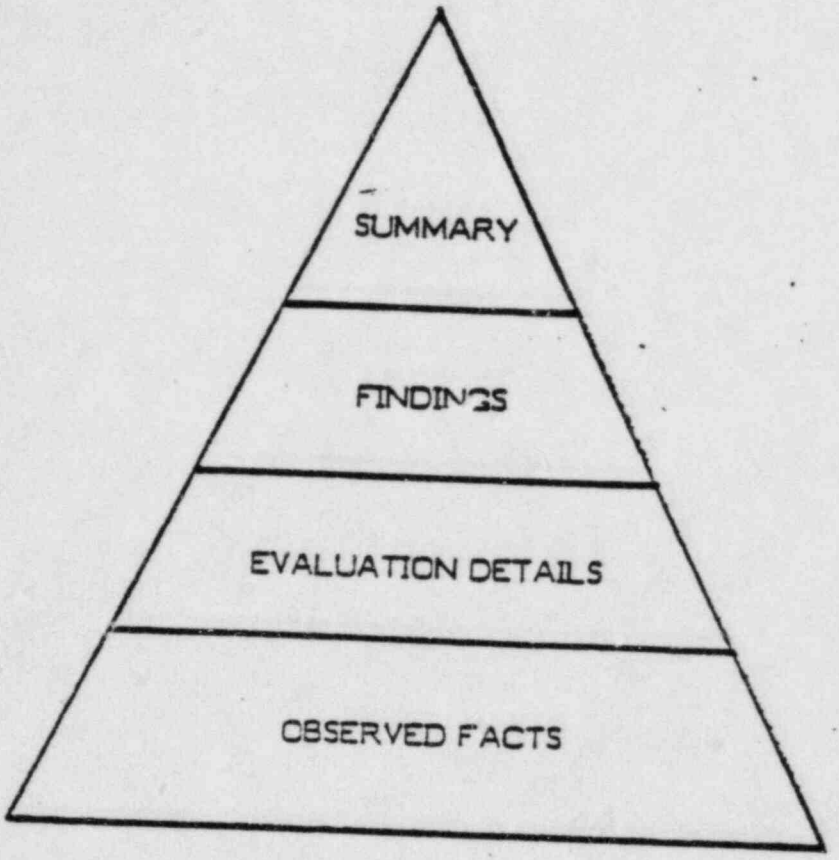
SYSTEM TESTING TEAM

PRIMARY RESPONSIBILITY

TC.1 TEST PROGRAM
TC.2 TEST GROUP ORGANIZATION AND STAFFING
TC.3 TEST PLAN
TC.4 SYSTEM TURNOVER FOR TEST
TC.5 TEST PROCEDURES AND TEST DOCUMENTS
TC.6 SYSTEM STATUS CONTROLS

TABLE 3
MIDLAND CONSTRUCTION PROJECT EVALUATION SCHEDULE





DEVELOPMENT OF AN EVALUATION

(By Performance Objective)

REPORTING METHODOLOGY

- WEAKNESSES WERE REPORTED IF ANY NON-COMPLIANCE WITH A PERFORMANCE OBJECTIVE WAS IDENTIFIED.
- SOME WEAKNESSES ARE INTER-RELATED DUE TO OVERLAP IN PERFORMANCE OBJECTIVE CRITERIA.
- GOOD PRACTICES WERE REPORTED ONLY IF THEY WERE SIGNIFICANT AND APPLIED SUCCESSFULLY.

Major Strengths

- The space control program for interface checking prior to release of design changes is excellent.
- The program for scheduling and tracking testing activities is comprehensive and well staffed.

Major Weaknesses

- Considerable effort is required in identifying and retrieving design criteria documentation.
- There has not been sufficient consideration given for constructability, maintainability and inspectability.
- Work instructions to the field are sometimes incomplete and conflicting.
- Construction inspection procedures and criteria for acceptance are not always clearly defined.
- Inadequate planning coordination of QA inspections with construction activities.
- QA/QC requirements for acceptability are not clearly defined and documented.

TABULATION OF EVALUATION RESULTS

EVALUATION AREA	NUMBER PERFORMANCE OBJECTIVES	NUMBER OF WEAKNESSES	NUMBER OF GOOD PRACTICES
ORGANIZATION AND ADMINISTRATION	3	3	0
DESIGN CONTROL	5	11	5
CONSTRUCTION CONTROL	7	8	2
PROJECT SUPPORT	6	7	3
TRAINING	4	1	4
QUALITY PROGRAMS	4	5	0
TEST CONTROL	6	1	1

DESIGN METHODOLOGY

FINDING	DESCRIPTION OF GOOD PRACTICE
DC.1-4	DOCUMENTATION OF DESIGN REQUIREMENTS AND INPUTS ON SOME DESIGN ACTIVITIES WAS EXCELLENT
DC.3-2	DOCUMENTATION OF INFORMATION FLOW AND INTERFACE DEFINITION WAS EXCEPTIONAL ON A NUMBER OF DESIGN ACTIVITIES
DC.4-4	MANAGEMENT SPONSORSHIP OF QUALITY IMPROVEMENT PROGRAMS HAS BEEN COMMENDABLE
DC.4-5	RECORDING CALCULATION IDENTIFICATION NUMBER ON 'HELBA' RESTRAINT DRAWINGS IS A GOOD PRACTICE

DESIGN CHANGE CONTROL

FINDING	DESCRIPTION OF GOOD PRACTICE
DC.5-3	METHOD OF CHECKING FOR INTERFERENCES IN THE DESIGN CHANGE PROCESS IS VERY GOOD

CONSTRUCTION ACTIVITIES - GENERAL

FINDING	DESCRIPTION OF GOOD PRACTICE
CC.2-2	PRACTICES USED IN EQUIPMENT RIGGING WERE EXCEPTIONAL
CC.7-1	TEST EQUIPMENT FACILITY AND SYSTEM WERE EXCELLENT
PS.1-2	GOOD SAFETY PRACTICES ARE BEING ENFORCED
PS.1-3	INSPECTION OF RIGGING EQUIPMENT WAS EXTENSIVE
PS.1-4	IMPLEMENTING A GOOD EQUIPMENT TAGGING PROGRAM

ORGANIZATION/ADMINISTRATION

FINDING	DESCRIPTION OF GOOD PRACTICE
TNI.1-1	MANAGEMENT SUPPORT OF TRAINING PROGRAMS WAS EXCEPTIONAL
TC.3-1	A LARGE AND EXPERIENCED STAFF IS BEING APPLIED IN THE TEST PROGRAM PLAN DEVELOPMENT

TRAINING

FINDING	DESCRIPTION OF GOOD PRACTICE
TN.2-2	TRAINING PROGRAM DEVELOPED JOINTLY BY BECHTEL AND CP CO WAS EXCELLENT
TN.3-1	NEW HIRE ORIENTATION AND TRAINING WAS EXCEPTIONAL
TN.4-1	TRAINING FACILITIES, EQUIPMENT AND MATERIAL WERE ABOVE AVERAGE

DESIGN METHODOLOGY

FINDING	DESCRIPTION OF WEAKNESS
DC.1-1	REQUIREMENTS FOR ACCESSIBILITY AND MAINTAINABILITY NOT SPECIFIC
DC.1-2	DIFFICULTY IN IDENTIFYING DESIGN REQUIREMENTS APPLIED IN THE DESIGN PROCESS
DC.1-3	NEED TO IMPROVE FACTORING INDUSTRY EXPERIENCE INTO DESIGN
DC.2-1	MISSING INFORMATION/DATA FLOW AND INTERFACE DESCRIPTIONS FOR DESIGN/REDESIGN EFFORTS
DC.2-2	INTERDISCIPLINE TRANSMITTALS NOT READILY RETRIEVABLE
DC.3-1	LACK OF EMPHASIS DURING DESIGN REVIEWS ON ASSUMPTIONS, METHODS AND MEETING DESIGN CRITERIA
DC.4-1	INSUFFICIENT EMPHASIS ON CONSTRUCTABILITY AND MAINTAINABILITY
DC.4-2	FIELD CHANGES NOT BEING ADEQUATELY REVIEWED FOR ROOT CAUSES OF THE CHANGE

DESIGN CHANGE CONTROL

FINDING	DESCRIPTION OF WEAKNESS
DC.4-2	FIELD CHANGES NOT BEING ADEQUATELY REVIEWED FOR ROOT CAUSES OF THE CHANGE
DC.5-1	INCORPORATION OF REDLINES (A DRAWING CHANGE METHOD) NOT BEING HANDLED IN A CONSISTANT MANNER
DC.5-2	IDENTIFICATION OF OUTSTANDING REDLINES NOT IN THE PROJECT DRAWING STATUS REPORTING SYSTEM
PS.6-1	SOME STICK FILES WERE FOUND OUT-OF-DATE

QUALITY ACTIVITIES

FINDING	DESCRIPTION OF WEAKNESS
QA.2-1	LACK OF PRODUCTION PERSONNEL INVOLVEMENT IN DISPOSITIONING CORRECTIVE ACTION
QP.4-1	CURRENT METHOD FOR TRACKING CORRECTIVE ACTION WAS NOT EFFECTIVE
QP.4-2	SIGNIFICANT CONDITIONS ADVERSE TO QUALITY ARE NOT ALWAYS VISIBLE IN TREND REPORT

CONSTRUCTION WORK INSTRUCTIONS

FINDING	DESCRIPTION OF WEAKNESS
CC.1-2	INSUFFICIENT INPUT INTO DESIGN/CONSTRUCTION PACKAGES RELATED TO INTERFERENCES, INSPECTION AND PROCEDURES
CC.4-1	CRAFT'S WORK INSTRUCTION PACKAGES HAVING INSUFFICIENT OR CONFLICTING INFORMATION
CC.5-1	WORK INSTRUCTION PACKAGES LACKING CLEAR INSPECTION PROCEDURES AND CRITERIA
QP.2-1	LACK OF STANDARDIZATION IN QA/QC INTERPRETATION OF INSPECTION REQUIREMENTS

CONSTRUCTION ACTIVITIES - GENERAL

FINDING	DESCRIPTION OF WEAKNESS
CC.2-1	BULK LAYDOWN AREA WAS NOT ADEQUATE
CC.3-1	MAINTENANCE/INSPECTION PROCEDURES ON INSTALLED EQUIPMENT NOT BEING FOLLOWED
CC.3-2	INSTALLED EQUIPMENT BEING DEGRADED/ DAMAGED
PS.1-1	POTENTIAL FIRE DAMAGE RESULTING FROM USE OF NON-FIRE RETARDANT WOOD
PS.1-5	AREAS WHERE CONSTRUCTION CONGESTION PREVENTED SAFE REGRESS

ORGANIZATIONAL/ADMINISTRATION

FINDING	DESCRIPTION OF WEAKNESS
OA.2-1	LACK OF PRODUCTION PERSONNEL INVOLVEMENT IN DESPOSITIONING CORRECTIVE ACTION
QP.A-1	CURRENT METHOD FOR TRACKING CORRECTIVE ACTION WAS NOT EFFECTIVE
QP.A-2	SIGNIFICANT CONDITIONS ADVERSE TO QUALITY ARE NOT ALWAYS VISIBLE IN TREND REPORT

(15t)

QAR

F-189

(Pulled by Vince P.)

Soil Pins

EUP-1 THRU

EUP-81

E~~UP~~- ~~2074, 2075~~,
2077, 2078, 2079

Taken from Duke Olivier by Bob

JOB 7220 MIDLAND PROJECT

BECHTEL POWER CORP.

TRANSMITTAL FORM

No 27483

PLEASE RECEIPT AND RETURN BLUE COPY IMMEDIATELY

DATE September 21, 1982

*** ACTION**

ACTION FOR VENDORS	ACTION FOR OTHERS
1. ☐ APPROVED. MFG. MAY PROCEED	6. ☐ FOR APPROVAL
2. ☐ APPROVED SUBMIT FINAL DWG. MFG. MAY PROCEED	7. ☐ CONSTRUCTION
3. ☐ APPROVED EXCEPT AS NOTED, MAKE CHANGES AND SUBMIT FINAL DWG. MFG MAY PROCEED AS APPROVED	8. ☐ PRELIMINARY USE
4. ☐ NOT APPROVED. CORRECT AND RESUBMIT	9. ☐ REFERENCE
5. ☐ REVIEW NOT REQUIRED MFG. MAY PROCEED.	10. ☒ Complete Response

SUBJECT	CODE
☐ BECHTEL DRAWINGS	B
☐ VENDOR DRAWINGS	V
☐ MATERIAL REQUISITION	MR
☐ SPECIFICATIONS	S
☐ BID REQUEST	BR
☐ QUOTATIONS	Q
☐ PURCHASE ORDER	PO
☐ CONFERENCE NOTES	CN
☐ BID SUMMARY	BS
☐ SUBCONTRACTS	SC
☐ _____	X
☐ _____	Y

ATTENTION VENDORS: ALL FINAL DRAWINGS SUBMITTED TO BECHTEL MUST BE CERTIFIED TRANSPARENCIES.

QTY.	F P PREFIX / BECHTEL FOREIGN PR. NO. ☐ / BECHTEL DRAWING NO. ☐	REV. NO.	TITLE	VENDOR NO.	ACTION	CODE
			CPCO QAR F-189, Rev. 1			
			FE A.I. J-124A			
			QA A.I. S-1611			

RECEIVED

FIELD QUALITY ASSURANCE

	ORIGINAL	PRINTS
ACTION		DWP
INFO		MLC
ROUTE		
FILE	16.0	
COPIES SENT AS ADDRESSED		

THIS COPY FOR

COMMENTS: _____

TO

B.W. Marguglio - CPCO Jackson

cc: W. Bird
D. Turnbull

FROM

L.E. Davis - Midland Jobsite

☐ VENDOR PRINT
☐ OTHER

BY L.E. Davis

BBS FORM 16751

ORIGINAL

FE-AI- J-124A

CPCo QAR-F-189, Revision 1 QA AI-S-1611

Each project group and person expects adequate and clearly defined requirements on time to support the project schedule. Construction, therefore, expects clearly defined program requirements, (procedures and guidelines), in order to perform field activities as effectively as possible.

The installation ot the Auxiliary Building underpinning instrumentation monitoring system was performed without benefit of these two prerequisites. The installation and program requirements for the instrumentation system changed constantly during installation. Changing Installation Requirements caused major changes in both design and installation procedures after a large part of the installation was started and/or complete. It can be expected that, under constantly changing requirements, a large number of Field Change Requests, In Process Inspection Notices, and Non-Conformance Reports will result.

Construction will continue to assure, that construction activities are performed properly the first time, when they are given clear design and program requirements the first time.

Therefore, Construction has determined that requested corrective action number one, training, is unnecessary. Concerning requested corrective action number two, Construction has always monitored, and will continue to monitor, work in process. The 81 In Process Inspection Notices issued are indicative of this close monitoring, and confirm that the program works, rather than signalling an adverse trend in quality. Therefore, no further action is appropriate.

T/N 27483

QUALITY ACTION REQUEST

WRB...d
ML...runner
JWCook
MLCurland
MADietrich
MJuister
GSKeeley
BWMarguglio
REMcCue
DBMiller
J... Jone...
JARutg...
TKSubramanian
RAWells
ALAB(2)
JMeisenheimer
DWPuhalla
DEHorn
JRSchaub

Action Item # S-1611
Priority - ~~01~~ 03 7-22-82
Trend Code - ~~B10~~ B3
SUS: PGM000

From: David W. Puhalla (1)	
To: L E Davis (2)	Control Document ref.: Drwgs- C-1490 Rev.2 & C-1491 Rev.1 (3)
QAR Ident. No.: F-189, Rev 1 (4)	

Action Requested: (5) ~~Twenty Six Q.C. In Process Inspection Notices (I.P.I.N.s E-2075 thru E-2079 and E UP 1 thru E UP 21), identifying 71 individual deficiencies relevant to the installation of underpinning instrumentation, have been issued between 7/6/82 and 7/19/82. Repetitive deficiencies, although identified by QC in accordance with their program, are contrary to the jobsite policy of doing the job right the first time (see attached).~~

~~Construction Supervision and Field Engineering are requested to provide corrective action to assure that construction activities are performed properly the first time and to avoid repetition of the performance noted by the above I.P.I.N.s. This corrective action is requested to include, as a minimum:~~

~~1) Training of Craft, Supervision, and Field Engineering and~~

~~2) Monitoring of work in process to assure that on going work is in compliance with the specified requirements.~~

RECEIVED
AUG 20 1982
BECHTEL POWER CORP.
JOB 7220
Per 4049E 0605

- See Page 2 for Revision DWP 8/19/82

Signature: (6) Brian Palmer for D.W. Puhalla	Date: (7) 7-21-82	Reply Requested by: (8) MLC 8-23-82

Reply: (9)

JOB 7220 ROUTING

Signature: (10)	Date: (11)
Action Verified: (12)	Date: (13)

8/2/74

ACTION REQUESTED:

Eighty-one QC In Process Inspection Notices (E-UP-1 through E-UP-81), identifying 161 individual deficiencies relevant to the installation of underpinning instrumentation have been issued between 7/8/82 and 8/4/82. Repetitive deficiencies, although identified by QC in accordance with their program, are indicative of an adverse trend in work quality, and require corrective action to prevent recurrance.

Construction Supervision and Field Engineering are requested to provide corrective action to assure that construction activities are performed properly the first time and to avoid repetition of the performance noted by the above IPINs. This corrective action is requested to include, as a minimum:

1) Training of Craft, Supervision, and Field Engineering, and

2) Monitoring of work in process to assure that on going work is in compliance with the specified requirements.

DWP 8/19/82
DWP

QUALITY ACTION REQUEST

16.0

CC: WRBird, MJuister, JAMo[illegible]y, JMeisenheimer, JEBrunner, GSKeeley, JARutger, DWPuhalla, JWCook, BWMarguglio, TKSubramanian, DEHorn, MLCurland, REMcCue, RAWells, JRSchaub, MADietrich, DBMiller, ALAB(2)

Action Item # S-1611
Priority - ~~01~~ 03 @ 7-22-82
Trend Code - B10

From: David W. Puhalla (1)		
To: L E Davis (2)	Control Document ref.: Drwgs- C-1490 Rev.2 & C-1491 Rev.1 (3)	QAR Ident. No.: F-189 (4)

Action Requested: Twenty-Six Q.C. In Process Inspection Notices (I.P.I.N.s E-2075 thru E-2079 and E-UP-1 thru E-UP-21), identifying 71 individual deficiencies relevant to the installation of underpinning instrumentation, have been issued between 7/8/82 and 7/19/82. Repetitive deficiencies, although identified by QC in accordance with their program, are contrary to the jobsite policy of doing the job right the first time (see attached). (5)

Construction Supervision and Field Engineering are requested to provide corrective action to assure that construction activities are performed properly the first time and to avoid repetition of the performance noted by the above I.P.I.N.s. This corrective action is requested to include, as a minimum:

1) Training of Craft, Supervision, and Field Engineering, and

2) Monitoring of work in process to assure that on going work is in compliance with the specified requirements.

Signature: Brian Pahuas for D.W. Puhalla (6)	Date: 7-21-82 (7)	Reply Requested by: MZL 8-23-82 (8)

Reply: (9)

Signature: (10)	Date: (11)	
Action Verified: (12)	Date: (13)	

8/2/74

040917

Bechtel Power Corporation

Inter-office Memorandum

To Distribution

Date September 1, 1981

Subject Midland Plant Units 1 and 2
Bechtel Job 7220
Midland Project Quality
Improvement Plan

From J.A. Rutgers

Of Project Management

At Ann Arbor

Copies to

A.J. Boos
L.H. Curtis
L.E. Davis (Site)
M.A. Dietrich
J.A. Rutgers
J. Milandin
L.A. Dreisbach

At another working meeting in Jackson on September 1, 1981, the following policy statement was concluded for use on the Midland project.

> It is our policy on the Midland project to expect each person to do his job right the first time, every time. To provide the opportunity for this, we shall establish requirements for each work activity and we shall work in accordance with these requirements. If we find that the requirements are wrong, we shall change the requirements before we continue the work.

John A. Rutgers

JAR/kes

Distribution: W.D. Greenwell
P.K. Hansen
E.A. Rumbaugh
R.K. Vassar
H.W. Wahl

Route to all QA People

Written Response Requested: No

Com Use: N/A

9/3,

Letter No. _____ File No. _____
Assignment Read _____ Date _____
QA Action Item No. _____

Insp.		
FQAE	Mille.	
Resp. Con.		
Elect (1)		
Elect (2)		
Civil/Meh		
Pipe/Weld		
Inst.		
Trn Ovr		
Trend		
Sect.		

QUALITY ACTION REQUEST

CC: WRBird, JEBrunner, JWCook, MLCurland, MADietrich, MJuister, GSKeeley, BWMarguglio, REMcCue, DBMiller, J. [illegible]ney, JARutgers, TKSubramanian, RAWells, ALAB(2), JMeisenheimer, DWPuhalla, DEHorn, JRSchaub

Action Item # S-1611 [illegible]
Priority - ~~Or~~ 03 ~~B~~ 7-22-82
Trend Code - ~~B10~~ B3
SLS: PGM000

(1) From:
David W. Puhalla

(2) To:
L E Davis

(3) Control Document ref.: Drwgs- C-1490 Rev.2 & C-1491 Rev.1

(4) QAR Ident. No.: F-189, Rev 1

(5) Action Requested: ~~Twenty Six Q.C. In Process Inspection Notices (I.P.I.N.s E-2075 thru E-2079 and E-UP-1 thru E-UP-21), identifying 71 individual deficiencies relevant to the installation of underpinning instrumentation, have been issued between 7/6/82 and 7/19/82. Repetitive deficiencies, although identified by QC in accordance with their program, are contrary to the jobsite policy of doing the job right the first time (see attached).~~

~~Construction Supervision and Field Engineering are requested to provide corrective action to assure that construction activities are performed properly the first time and to avoid repetition of the performance noted by the above I.P.I.N.s. This corrective action is requested to include, as a minimum:~~

~~1) Training of Craft, Supervision, and Field Engineering, and~~

~~2) Monitoring of work in process to assure that on going work is in compliance with the specified requirements.~~

See Page 2 for Revision Ltr 8/19/82

(6) Signature: ~~Cutlow~~ Brian Pahuja for D.W. Puhalla

(7) Date: 7-21-82

(8) Reply Requested by: MZL 8-23-82

(9) Reply:

(10) Signature:

(11) Date:

(12) Action Verified:

(13) Date:

8/2/74

ACTION REQUESTED:

Eighty-one QC In Process Inspection Notices (E-UP-1 through E-UP-81). identifying 161 individual deficiencies relevant to the installation of underpinning instrumentation have been issued between 7/8/82 and 8/4/82. Repetitive deficiencies, although identified by QC in accordance with their program, are indicative of an adverse trend in work quality, and require corrective action to prevent recurrance.

Construction Supervision and Field Engineering are requested to provide corrective action to assure that construction activities are performed properly the first time and to avoid repetition of the performance noted by the above IPINs. This corrective action is requested to include, as a minimum:

1) Training of Craft, Supervision, and Field Engineering, and

2) Monitoring of work in process to assure that on going work is in compliance with the specified requirements.

DWP 8/19/82
DWP

"RECORD COPY"

IN PROCESS INSPECTION NOTICE

1) PROJECT NO. 7220	2) INSPECTION DOCUMENT NAME C-150 EU-EX-9	4) NUMBER EULP-81
	3) ACTIVITY OR TASK 3.4	5) MO DAY YR 8-4-82
6) ITEM LOCATION AREA BLDG 685 Turbine RC AT 7-8 Staire way STARTUP SYSTEM NO.	7) DWG/PART NO. REV FCR 4113 C-1495 0	8) ITEM NAME Protective Cover. EX-9

9) INSPECTION CRITERIA DWG ☒ SPEC ☐ OTHER ☐ EXPLAIN — DOCUMENT NUMBER & TITLE: C-305 Rev 14

10) NO.	11) DESCRIPTION (list serial numbers where applicable)
1.	Spacing of Anchor bolts in protective Cover Do Not Meet the requirments of FCR 4113

12) ORIGINATED BY	13) APPROVED BY	14) RECEIPT ACKNOWLEDGED
James J Long 8-4-82	J W Mella 8-4-82	L. Thomas 08/05/82

15) REMARKS

1) Bolt added, however per DCN #4 to C-1495 Rev 0 it is not required.

16) ACTION COMPLETED	DATE	17) REINSPECTION COMPLETED	DATE
Pam Glass	8/7/82	J W Mella	8-7-82

Responsible Superintendent or Field Engineer

PAGE 7 OF 7

RECORD COPY

IN PROCESS INSPECTION NOTICE

2) INSPECTION DOCUMENT NAME	4) NUMBER
DSB AS-2 C-1.50	EUP-80
3) ACTIVITY OR TASK	**5) MO DAY YR**
3.4	7-30-82

1) PROJECT NO. 7220

6) ITEM LOCATION AREA BLDG	7) DWG/PART NO. REV	8) ITEM NAME
584 Aux Bl. Wing wall STARTUP SYSTEM NO. Under Pinning	C-305 · 14	Anchors. DSB-AS-2

9) INSPECTION CRITERIA DOCUMENT NUMBER & TITLE

DWG ☑ SPEC ☑ OTHER ☐ EXPLAIN C-305 INST. OF EXPANSION ANCHORS

10) NO.	11) DESCRIPTION (list serial numbers where applicable)
1.	Abandoned hole is 3 3/8" From Center of 3/4" Anchor. Note 6 of Table 4.1 and Table 4.1 of C-305 Rev 14 Minimum Distance 4"

12) ORIGINATED BY DATE	13) APPROVED BY DATE	14) RECEIPT ACKNOWLEDGED DATE
J.C. Miller 7-30-82	J.C. Miller 7-30-82	Pam Glass 7-30-82

15) REMARKS:

~~Invalid IPIN. See C-305, Section 4.11, Case III.~~ Pg 8-7-82

Abandoned Hole has been repaired.

16) ACTION COMPLETED	DATE	17) REINSPECTION COMPLETED	DATE
Pam Glass	8/2/82	J.J. Long	8-30-82
Pam Glass	8/7/82		

Responsible Superintendent or Field Engineer

IN PROCESS INSPECTION NOTICE

1) PROJECT NO.	2) INSPECTION DOCUMENT NAME	4) NUMBER
7220	SU6.1 - DMD-7W INST OF UNDERPINNING EQUIP	EUP-79
	3) ACTIVITY OR TASK: 3.3	5) MO DAY YR: 7-27-82

6) ITEM LOCATION AREA BLDG	7) DWG/PART NO.	REV	8) ITEM NAME
AUX BLDG. EL. 628'6" EPA FLOOR STARTUP SYSTEM NO. UNDERPINNING	C-1490	2	LVDT DMD-7W LOCATION

9) INSPECTION CRITERIA — DOCUMENT NUMBER & TITLE

DWG ☐ SPEC ☐ OTHER ☐ EXPLAIN C-1490 INST LOC. AT 634'6"

10) NO.	11) DESCRIPTION (list serial numbers where applicable)
1.	DWG C-1490 Δ SHOWS DMD-7W 9' WEST OF LINE 5.
	ACT. LOC. IS 7' WEST OF LINE 5.

12) ORIGINATED BY DATE	13) APPROVED BY DATE	14) RECEIPT ACKNOWLEDGED DATE
J.C. Miller 7-27-82	J.H. Miller 7-29-82	Pam Glass 7-30-82

15) REMARKS:

4290

① See FCR-C-~~1290~~ pg 8-3-82

16) ACTION COMPLETED DATE	17) REINSPECTION COMPLETED DATE
Pam Glass 8-3-82	Melbourne Tenzuntli 8-3-82

Responsible Superintendent or Field Engineer

IN PROCESS INSPECTION NOTICE

1) PROJECT NO.	2) INSPECTION DOCUMENT NAME	4) NUMBER
7220	EV. 6.1 DMD.-1W	EVP-78
	3) ACTIVITY OR TASK: 3.2, 3.3	5) MO DAY YR: 7-22-82

6) ITEM LOCATION AREA BLDG	7) DWG/PART NO.	REV	8) ITEM NAME
FIVP. A / UNIT EL 642.	C-1490	2	Support only.
STARTUP SYSTEM NO.	C-1491	2	
Underpinning	OP 39	1	DMD-1W

9) INSPECTION CRITERIA — DOCUMENT NUMBER & TITLE

DWG ☐ SPEC ☐ OTHER ☐ EXPLAIN

10) NO.	11) DESCRIPTION (list serial numbers where applicable)
1	Instrument not Identified at location
2.	C-1490 Rev 2. Shows 2" From edge of Mounting plate on Turbine Bldg. parapet to FIVP. As Built is 4½".

12) ORIGINATED BY DATE	13) APPROVED BY DATE	14) RECEIPT ACKNOWLEDGED DATE
Melbourne Longuski 7/29/82	J.W. Miller 7-29-82	Pam Glass 7-30-82

15) REMARKS:

① No requirement for I.D., however location # has been stenciled on cover

② See FCR-C-4299

16) ACTION COMPLETED DATE	17) REINSPECTION COMPLETED DATE
Pam Glass 8-6-82	Melbourne Longuski 8/7/82

Responsible Superintendent or Field Engineer

IN PROCESS INSPECTION NOTICE

2) INSPECTION DOCUMENT NAME	4) NUMBER
PACE E4-6.1	EUP-77
3) ACTIVITY OR TASK	**5) MO DAY YR**
2.1a	7-29-82

1) PROJECT NO. 7220

6) ITEM LOCATION AREA BLDG	7) DWG/PART NO.	REV	8) ITEM NAME
AUX.BLDG. EL 626'-8" B.E. OF 3.6, J STARTUP SYSTEM NO. UNDER PINNING	C 1491 (Q) FCR C4102	2	E4-6.1-DMD-SW

9) INSPECTION CRITERIA
DWG ☒ SPEC ☐ OTHER ☐ EXPLAIN

DOCUMENT NUMBER & TITLE
SEE BLOCK 7

10) NO.	11) DESCRIPTION (list serial numbers where applicable)
1	E/W REACTION ANGLE WIDTH & ANCHOR BOLT
	SPACING NOT PER PRINT.

12) ORIGINATED BY DATE	13) APPROVED BY DATE	14) RECEIPT ACKNOWLEDGED DATE
D.L. Dall 7-29-82	J.W. Miller 7-29-82	Pam Glass 7-29-82

15) REMARKS:
① See FCR-C-4292

16) ACTION COMPLETED DATE	17) REINSPECTION COMPLETED DATE
Pam Glass 8-3-83	J.C. Miller 8-3-82

Responsible Superintendent or Field Engineer

Page _____ Of _____

IN PROCESS INSPECTION NOTICE

"RECORD COPY"

1) PROJECT NO. 7220	2) INSPECTION DOCUMENT NAME Instrn. PQCI EU 1.0-EX2
3) ACTIVITY OR TASK 3.8	4) NUMBER EUP-76
	5) MO DAY YR 7-27-82
6) ITEM LOCATION AREA BLDG Aux. Bldg S.W. of Cont. No. 2 STARTUP SYSTEM NO. Underpinning Instrum.	7) DWG/PART NO. REV Engr. DWG
	8) ITEM NAME Identification of Conduit EX2

9) INSPECTION CRITERIA DOCUMENT NUMBER & TITLE

DWG ☐ SPEC ☐ OTHER ☐ EXPLAIN

10) NO.	11) DESCRIPTION (list serial numbers where applicable)
	PQCI EU 1.0 states conduit shall be identified per Engr. Dwg. Conduit running to EX2 has no I.D.

12) ORIGINATED BY / DATE	13) APPROVED BY / DATE	14) RECEIPT ACKNOWLEDGED / DATE
C.R. Smithpeters 7-27-82	Dale S. Preslar 7-28-82	Pam Glass 7-29-82

15) REMARKS:

Conduit has been identified

Pam Glass 7-29-82 — 16) ACTION COMPLETED / DATE

J.J. Tang 8-2-82 — 17) REINSPECTION COMPLETED / DATE

Responsible Superintendent or Field Engineer

IN PROCESS INSPECTION NOTICE

2) INSPECTION DOCUMENT NAME: EV-6.6 DSB-300 mel 7-25 3W

4) NUMBER: EUP-75

1) PROJECT NO.: 7220

3) ACTIVITY OR TASK: 3.1a

5) MO DAY YR: 7-25-82

6) ITEM LOCATION AREA BLDG: Aux Bldg EL. 614 3'W. OF 5.25 & 8' SOF K-LINE
STARTUP SYSTEM NO.: UNDERPINNING

7) DWG/PART NO. / REV:
C-1490 2
C-1491 2

8) ITEM NAME: PLUNGER REACTION ANGLES

9) INSPECTION CRITERIA: DWG ☑ SPEC ☑ OTHER ☑ EXPLAIN — DOCUMENT NUMBER & TITLE: C-1490 REV. 2 C-1491 REV 2 FCR C4215 FCR C4151

10) NO.	11) DESCRIPTION (list serial numbers where applicable)
1	N-S REACTION ANGLE CAN NOT SEE WELD
	AT BOTTOM OF ANGLE, DUE TO GROUT COVERING WELD
2	F-WA ANGLE WELDS IN CORRENT. BOTH WELDS. mel 7/27/82

12) ORIGINATED BY DATE: Melbourne Ferguson 7/25/82

13) APPROVED BY DATE: Dale G. Preslar

14) RECEIPT ACKNOWLEDGED DATE: Pam Glass 7/27/82

15) REMARKS:

16) ACTION COMPLETED DATE:

17) REINSPECTION COMPLETED DATE: J.C. Miller 7-30-82

Responsible Superintendent or Field Engineer

IN PROCESS INSPECTION NOTICE

1) PROJECT NO.	2) INSPECTION DOCUMENT NAME	4) NUMBER
7220	EU-6.1 DMD3E	EUP-74
	3) ACTIVITY OR TASK: 2.1, 2.1a	5) MO DAY YR: 7-26-82

6) ITEM LOCATION AREA BLDG	7) DWG/PART NO.	REV	8) ITEM NAME
EL. 628'-6" 24' E. OF 9.4 AND 5' N. OF J-LINE STARTUP SYSTEM NO. UNDER PINNING	C-1490 C-1491	2 2	SUPPORT BRACKET REACTION ANGLE

9) INSPECTION CRITERIA
DWG ☒ SPEC ☐ OTHER ☐ EXPLAIN — DOCUMENT NUMBER & TITLE: C-1490 REV 2 C-1491-REV 2. FCR4151

10) NO.	11) DESCRIPTION (list serial numbers where applicable)
1	WELDS FOR INST. MOUNTING ARE IN CORRECT DWG. C-1491 REV. 2 SHORT HANGER. BOTH WELD mel 7/21/82
2	E-W REACTION ANGLES DIMS. FROM EDGE TO ℄ OF HOLES IS 3/4" NOT 2". FRONT EDGE. 7/21/82 mel

12) ORIGINATED BY DATE	13) APPROVED BY DATE	14) RECEIPT ACKNOWLEDGED DATE
McClearns Longwell 7/26/82	Dales Preston 7-26-82	Pam Glass 7/27/82

15) REMARKS:
① Upon re-inspection (by QCE) welds were found to be correct ② See FCR-C-4283.

16) ACTION COMPLETED DATE	17) REINSPECTION COMPLETED DATE
Pam Glass 8-3-82	McClearns Longwell 8-4-82

Responsible Superintendent or Field Engineer

IN PROCESS INSPECTION NOTICE

1) PROJECT NO. 7220	2) INSPECTION DOCUMENT NAME: EU6.1 DMD 1-E 3) ACTIVITY OR TASK: 3.2, 3.3	4) NUMBER: EUP-73 5) MO DAY YR: 7-26-82

6) ITEM LOCATION AREA BLDG	7) DWG/PART NO.	REV	8) ITEM NAME
#3 FIVP STARTUP SYSTEM NO. UNDER PINNING	C-1490 C-1491	2 2	LOCATION AND INSTALLATION

9) INSPECTION CRITERIA DWG ☒ SPEC ☐ OTHER ☐ EXPLAIN — DOCUMENT NUMBER & TITLE: C-1490 REV 2, C-1491 REV 2

10) NO.	11) DESCRIPTION (list serial numbers where applicable)
1	DISTANCE FROM TURBINE BLDG. PARAPET IS INCORRECT - AS SHOWEN ON DWG. 1490 REV. 2. DETAIL (1)

12) ORIGINATED BY DATE	13) APPROVED BY DATE	14) RECEIPT ACKNOWLEDGED DATE
Melbourne Tenczynski 7/26/82	Dale E. Preslar 7-26-82	Pam Glass 7/27/82

15) REMARKS:

(1) See FCR-C-4299

16) ACTION COMPLETED	DATE	17) REINSPECTION COMPLETED	DATE
Pam Glass	8/6/82	Melbourne Tenczynski (mail 8-7-82)	8-7-82

Responsible Superintendent or Field Engineer

IN PROCESS INSPECTION NOTICE

1) PROJECT NO. 7220	2) INSPECTION DOCUMENT NAME: EV-6.1-DMD-3W	4) NUMBER: EUP-72
	3) ACTIVITY OR TASK: 2.1a	5) MO DAY YR: 7-25-82

6) ITEM LOCATION AREA BLDG	7) DWG/PART NO.	REV	8) ITEM NAME
EL 628'-6" 24' W OF 3.6 AND 4' N. OF J-LINE AT 3.06	C-1490	2	N.S. REACTION ANGLE
STARTUP SYSTEM NO. UNDER PINNING	C-1491	2	

9) INSPECTION CRITERIA — DOCUMENT NUMBER & TITLE

DWG ☑ SPEC ☐ OTHER ☐ EXPLAIN C-1491 REV. 2 C-1490 REV. 2 FCR 4215

10) NO.	11) DESCRIPTION (list serial numbers where applicable)
1	N.S. REACTION ANGLE COULD NOT INSP. BOTTOM WELD ON ANGLE. DUE TO GROUT COVERING WELD

12) ORIGINATED BY DATE	13) APPROVED BY DATE	14) RECEIPT ACKNOWLEDGED DATE
Melbourne Lengyel 7/28/82	Dale S. Preslar 7-26-82	Pam Glass 7/27/82

15) REMARKS:

Grout removed from weld.

16) ACTION COMPLETED DATE	17) REINSPECTION COMPLETED DATE
Pam Glass 7-28-82	Melbourne Lengyel 7/29/82

Responsible Superintendent or Field Engineer

IN PROCESS INSPECTION NOTICE

1) PROJECT NO. 7226	2) INSPECTION DOCUMENT NAME: EU 6.1 - DSB - 3E	4) NUMBER: EUP-71
	3) ACTIVITY OR TASK: 2.1a	5) MO DAY YR: 7 - 25 - 82

6) ITEM LOCATION AREA BLDG	7) DWG/PART NO.	REV	8) ITEM NAME
EL. 614'0 BETWEEN 7.2 AND 7.8 S. OF Kc LINE STARTUP SYSTEM NO. UNDER PINNING	C-1490 C-1491	2 2	REACTION ANGLE N.S.

9) INSPECTION CRITERIA — DOCUMENT NUMBER & TITLE

DWG ☑ SPEC ☐ OTHER ☐ EXPLAIN C-1490 REV. 2 C-1491 REV. 2 FCR 4215

10) NO.	11) DESCRIPTION (list serial numbers where applicable)
1	mel. 7/26/82 ~~E-W~~ N.S. REACTION ANGLE CAN NOT SEE
	WELD AT BOTTOM OF ANGLE. DUE TO GROUT
	COVERING WELD.

12) ORIGINATED BY DATE	13) APPROVED BY DATE	14) RECEIPT ACKNOWLEDGED DATE
Melbourne Lengquist 7/25/82	Dale E. Preslar 7-26-82	Pam Glass 7/27/82

15) REMARKS:

Grout removed from weld

16) ACTION COMPLETED DATE	17) REINSPECTION COMPLETED DATE
Pam Glass 7-28-82	W. K. Dahl 7-29-82

Responsible Superintendent or Field Engineer

IN PROCESS INSPECTION NOTICE

2) INSPECTION DOCUMENT NAME	4) NUMBER
EU6.1-PMD-5W	EUP-70
3) ACTIVITY OR TASK	**5) MO DAY YR**
2.1a	7-25-82

1) PROJECT NO. 7220

6) ITEM LOCATION AREA BLDG	7) DWG/PART NO.	REV	8) ITEM NAME
EL. 628'6" J-LINE 8'E. OF 3.6	C-1490	2	N.S. REACTION ANGLE
STARTUP SYSTEM NO.	C-1491	2	
UNDERPINNING			

9) INSPECTION CRITERIA DOCUMENT NUMBER & TITLE

DWG ☑ SPEC ☐ OTHER ☑ EXPLAIN C-1490 REV. 2 C-1491 REV 2 FCR4215

10) NO.	11) DESCRIPTION (list serial numbers where applicable)
1	7/25/82 mdf. N.S. ~~REAR~~ REACTION ANGLE COULD NOT INST.
	WELD BOTTOM OF ANGLE. DUE TO GROUT COVERING
	WELD

12) ORIGINATED BY DATE	13) APPROVED BY DATE	14) RECEIPT ACKNOWLEDGED DATE
Melbourne Laycock 7/25/82	Dale E. Pierce 7-26-82	Pam Glass 7/27/82

15) REMARKS:

Grout removed from weld

16) ACTION COMPLETED DATE	17) REINSPECTION COMPLETED DATE
Pam Glass 7-28-82	M.L. Dalal 7-29-82

Responsible Superintendent or Field Engineer

Page 1 of 1 "RECORD COPY"

IN PROCESS INSPECTION NOTICE

1) PROJECT NO. 7220	2) INSPECTION DOCUMENT NAME: EV-6.1 OMD-4W
3) ACTIVITY OR TASK: 2.1a	4) NUMBER: EVP-69
	5) MO DAY YR: 7-25-82

6) ITEM LOCATION AREA BLDG	7) DWG/PART NO.	REV	8) ITEM NAME
EL. 634'-6" K-LINE 3' W. OF 4 AUX BLDG STARTUP SYSTEM NO. UNDERPINNING	C-1490 C-1491	2 2	N.S. REACTION ANGLE

9) INSPECTION CRITERIA DWG ☒ SPEC ☐ OTHER ☒ EXPLAIN — DOCUMENT NUMBER & TITLE: C-1490 REV. 2 C-1491 REV. 2 FLEY215

10) NO.	11) DESCRIPTION (list serial numbers where applicable)
1	N.S. REACTION ANGLE COULD NOT INST. BOTTOM WELD. DUE TO GROUT COVERING WELD

12) ORIGINATED BY DATE	13) APPROVED BY DATE	14) RECEIPT ACKNOWLEDGED DATE
Melbourne Lingenfelter 7/25/82	Dale S. Prieb 7-26-82	Pam Glass 7-27-82

15) REMARKS:

Grout removed from weld

16) ACTION COMPLETED DATE	17) REINSPECTION COMPLETED DATE
Pam Glass 7-28-82	C.L. Pabst 7-29-82

Responsible Superintendent or Field Engineer

4/12/83

Typo only extended entries ✓ #5

QUALITY ASSURANCE

NRC MANAGEMENT RESPONSE

~~RECENT NRC - CPCo INTERFACING~~

*	1/7/81	-- CIVIL PENALTY LEVIED FOR BREAKDOWN IN QA
	08/80	CPCo REVISES QA DEPARTMENT.
	05/18-22/81	RIII SPECIAL QA INSPECTION ON REVISED QA DEPARTMENT EFFECTIVENESS
	07/81	HEARING SESSION ON CHANGES TO MIDLAND QA ORGANIZATION
*	04/82	SALP MEETING REVEALS LOWEST ACCEPTABLE RATING
	05/29/82	ASLB NOTIFIED OF INTENT TO SUPPLEMENT 7/81 TESTIMONY
	07/09/82	NRC LETTER TO CPCo REQUESTS INDEPENDENT DESIGN VERIFICATION PROPOSAL
	07/82	RIII FORMS OFFICE OF SPECIAL CASES FOR MIDLAND AND ZIMMER PLANTS
*	08/26/82	MANAGEMENT MEETINGS. NRC REQUESTS ACTION
	09/02/82	PLAN FOR QA IMPROVEMENTS
	09/12/82	WORK AUTHORIZATION PROCEDURE IMPLEMENTED FOR REMEDIAL SOILS WORK
	09/17/82	CPCo PRESENTS INITIAL ACTION PLANS. PROPOSES ORGANIZATION INDEPENDENT ASSESSMENTS.
*	09/29/82	MANAGEMENT MEETING TO DISCUSS QA IMPROVEMENT PLANS
	10/05/82	CPCo LETTER TO NRC DESCRIBING PROPOSED INDEPENDENT REVIEW PROGRAMS

Just slides - for 4/11/83 Briefing to Mr. Ingram