PG&E **Pacific Gas and Electric Company**

DEPARTMENT OF NUCLEAR PLANT OPERATIONS
DIABLO CANYON POWER PLANT UNIT NO(S) 1 AND 2
RADIATION CONTROL PROCEDURE
TITLE: PERSONNEL CONTAMINATION CONTROL

NUMBER RCP G-4
REVISION 1
DATE 7/22/82
PAGE 1 OF 9

APPROVED: [signature] 9/22/82
PLANT MANAGER DATE

SCOPE

This procedure describes radiological protective clothing, personnel contamination checks, handling the decontamination of personnel, and the disposition of contaminated personal effects.

BASIS

Radiation Control Standard No. 3 specifies personal clothing and personal effects which are permitted to be taken into Controlled Areas of the plant. The RWP or SWP authorizing a Controlled Area entry, among other things, specifies the radiological protective clothing required for the entry. Protective clothing provides a barrier between the skin of the wearer and loose radioactive contamination which may be present in the Controlled Area. Protective clothing does not afford complete protection from contamination, but a high degree of protection can be obtained if the individual exercises reasonable care to avoid becoming contaminated.

Precautionary contamination surveys when leaving the work area are used as a contamination control measure. If skin or personal effects are found to be contaminated, accepted decontamination procedures are to be used.

PROCEDURE

1. Personal Effects

On occasion, the personal effects which are necessary to the individual working in the Controlled Area may become contaminated despite the normal precautions. Such an item will be turned over to the Company. The item will then be decontaminated by, or under the direction of, Radiation Protection personnel to below "Unconditional Release" limits (see RCP G-5) and returned to the individual. If decontamination cannot be accomplished, the item shall be disposed of as radwaste. If an item cannot be returned to the individual, he shall be reimbursed for the replacement cost of the item.

The Company is not responsible for unauthorized personal effects in Controlled Areas (refer to Radiation Control Standard No. 3).

A survey form shall be filled out by Radiation Protection personnel for each occasion of personal effects contamination.

2. Radiological Protective Clothing

a. The Radiation Protection Supervisor is responsible for maintaining an adequate inventory of protective clothing and equipment. Only clothing and equipment approved by him may be used for radiological protection purposes.

b. Radiological protective clothing will be marked or otherwise identified to make it easily distinguishable. Such clothing may not be used for non-radiological work. For example, coveralls and rubbers are identified by yellow color.

c. Clean protective clothing shall be used by each individual for each entry into the contaminated area. This clothing should be placed in the hampers provided at the exit area.

d. Items reading greater than 50 mrads/hr surface dose rate will be disposed of as contaminated waste.

e. Protective clothing which is damaged to the extent that it no longer gives adequate protection will be repaired or disposed of as waste material.

3. Personnel Contamination Checks

a. Normally, most areas of the plant will be maintained clean and no protective clothing is required. Contaminated areas will be identified with the appropriate signs and barriers, step-off pads and survey instruments. When leaving each controlled area, each individual must survey his personal clothing and skin to prevent spreading contamination to other areas of the plant. This survey is conducted at the exit of the contaminated area.

b. Contamination areas within the controlled area are isolated by contamination control points. These consist of a series of required action stations (step-off pads) with color coding to indicate potentially contaminated areas, cleaner action stations, and cleanest area. The color "red" indicates the contaminated area. Striped yellow and magenta tape indicates the first entrace to cleaner action areas. Each individual will perform the action required by the next station before moving to it. The color "green" indicates the entrance to the cleanest area. See Figure 1.

c. Secondary step-off pads may be established within contamination areas to separate two areas, each having different contamination levels. These pads will consist of a single step-off pad with red tape indicating the higher contamination level and striped yellow and magenta tape indicating the action area. Green tape will indicate the lower contamination level area. See Figure 2.

c. Ordinarily, friskers are not set up at secondary step-off pads except when special conditions warrant close contamination control. Survey stations in addition to the regular survey stations may be established on an as need basis for further checks before leaving the access control area.

d. As a final check, portal monitors are located at the exit of Access Control into the locker room and at the exit of the security building. If appropriate contamination surveys are made in access control, these monitors should never alarm. Contact Radiation Protection personnel if alarm is sounded.

4. Decontamination of Personnel

The objectives of personnel decontamination techniques are to reduce radiation exposure promptly, to minimize absorption or radionuclides into the body, and to prevent the spread of localized contamination. Contamination should be removed from skin and/or clothing whenever it is found in amounts greater than the release limits; however, there are some cases where contamination can be allowed to decay away after the radioactive material has been identified. Most cases of skin contamination are low level and can be readily removed through a simple soap or detergent and water wash. All decontamination waste liquids should be disposed of in the hot sink or shower in the access control area.

All cases of personnel contamination must be recorded on a Skin and Clothing Contamination Record form, and the form must include all pertinent information, including contamination levels before decontamination, the reason decontamination was stopped, and actions taken if all contamination was not removed. Be sure to indicate skin condition after decontamination.

a. Decontamination Supplies

Decontamination supplies will be maintained in the access control area. Some of the items stocked are:

Rubber surgeons' gloves	Soft brush
Applicators, cotton tipped	Plastic bags
Sponges, 4x4 cotton	Wiping tissues
Tongue blades	Towel
Skin decontamination soap	Scissors
Lanolin cream or hand cream	Paper cups

b. Skin Decontamination Procedures

1) General

a) Observe the condition of the skin before decontamination. The Radiation Protection Supervisor will be contacted concerning any injury in a Controlled Area. If there are breaks or abrasions observed, flush with copious amounts of water. Pat dry and resurvey.

b) Medical attention to serious injuries shall take priority over the removal of contamination

c) These procedures are intended as guides. Other decon methods and materials may be specified by Radiation Protection.

d) When water is used, it should be near body temperature. This will tend to open the body pores and release any contamination trapped. Do not use high water pressure since it may embed the particles.

2) Localized Skin Decontamination

Step 1

a) Position the affected area so as to minimize the spread of contamination to other areas of the body.

b) Wash contaminated area with decontaminated soap and warm water.

c) Rinse with clean water, pat dry and resurvey.

d) Repeat if monitoring indicates contamination still exists.

e) Apply lanolin or hand cream to area to prevent chapping (only if contamination has been completely removed).

Step 2

a) Position the affected area so as to minimize the spread of contamination to other areas of the body.

b) If soap and water washing is not sufficient to remove contamination, gently scrub with wash cloth using decontamination soap and warm water. Fingernail brush may be used on fingernails.

c) Care must be taken to not injure the skin. Discontinue if skin begins to redden or chap.

d) Repeat until all detectable contamination is removed, or until there is no further decrease in the level of contamination.

e) Apply lanolin or hand cream to prevent chapping (only if contamination is completely removed).

Step 3

If contamination cannot be removed by the above procedures, contact the Radiation Protection Supervisor.

NOTE: Check particularly around the fingernails and other skin crevices, as those areas tend to retain contamination.

c. General Body Decontamination

In those cases where surveys indicate general contamination over the whole body, the person should be instructed to shower, using decontamination soap and water. Extreme care must be taken to prevent spreading contamination to the eyes, inside ears, nose and mouth. After the shower, pat dry the skin and resurvey. Localized contamination procedures should then be initiated if required.

d. Hair Decontamination

1) Condition 1 - Contamination of the hair or scalp is less than 20,000 cpm

a) Apply the procedure as outlined above under "General Body Contamination".

b) After showering and drying, a body as well as head survey should be made to detect any contamination which may be transferred to other parts of the body.

2) Condition 2 - Contamination level exceeds 20,000 cpm

a) Have the man remove all outer clothing and put on a pair of surgeons' gloves.

b) Wrap a towel snugly around his neck.

c) Bend his head well forward over the decontamination sink and wash hair with decontamination soap and warm water.

d) Have man massage soap mixture into hair with gloved hands.

e. Rinse lather from hair twice with clean water.

f) Survey of hair following decontamination should be made only after hair is dry. A survey of the face and neck should be included.

g) If contamination cannot be removed by three successive applications of the above procedure, notify the Radiation Protection Supervisor.

e. Mouth Decontamination

If the mouth is generally contaminated, begin flushing immediately with tap water. Keep head bent down to prevent water from reaching the throat and being swallowed. Save as much water as practical from the rinsings in a clean container for radiochemical analysis. Contact the Radiation Protection Supervisor immediately.

f. Eye Decontamination

Apply the same principles as for mouth decontamination, using eye flushing attachment. It will not be possible to save rinsings. Survey eye with end window GM tube. Contact the Radiation Protection Supervisor immediately.

g. Nose Decontamination

1) Obtain a direct radiation measurement at the nostrils before man blows nose or otherwise clears it. This measurement should be made while exhaling.

2) Obtain nasal smears using "Q" tips. Two smears should be taken in each nostril. The first one dry and the second wet. Place in a plastic bag and mark for gamma analysis.

3) Contact the Radiation Protection Supervisor immediately.

4) Collect all data that is pertinent to the exposure such as air samples, etc., so that the Supervisor can fully analyze the exposure.

5. Personal Effects Decontamination

All cases of contamination of personal effects must be recorded on a survey form, noting all pertinent information.

a. Shoes

1) If it is suspected that the contaminant is particulate matter, masking tape may remove it. Press the gummy side of the tape

to the area of the shoe that is contaminated. Remove and repeat until no substantial reduction in radiation level is observed or until the shoe is free of contamination.

2) If the contamination cannot be removed with tape, leather soles should be scraped with a wire brush or emery paper until clean. Keep dust and filings from flying into the air. DO NOT USE WATER OR LIQUIDS ON LEATHER because the leather will swell up and stiffen.

3) If contamination cannot be removed with tape, rubber soles may be scrubbed with decontamination soap. (DO NOT USE ON LEATHER SOLES OR UPPERS.) A wire or stiff bristle brush should be used. Wipe off, rinse, dry and resurvey. Repeat if necessary.

b. Personal Clothing

If contamination above releasable limits is detected on personal clothing, the Radiation Protection Supervisor shall evaluate the problem. In general, the following steps shall be taken:

1) Clothing will be confiscated.

2) A body survey for skin contamination will be made.

3) Clothing may be laundered under the direction of the Radiation Protection Supervisor.

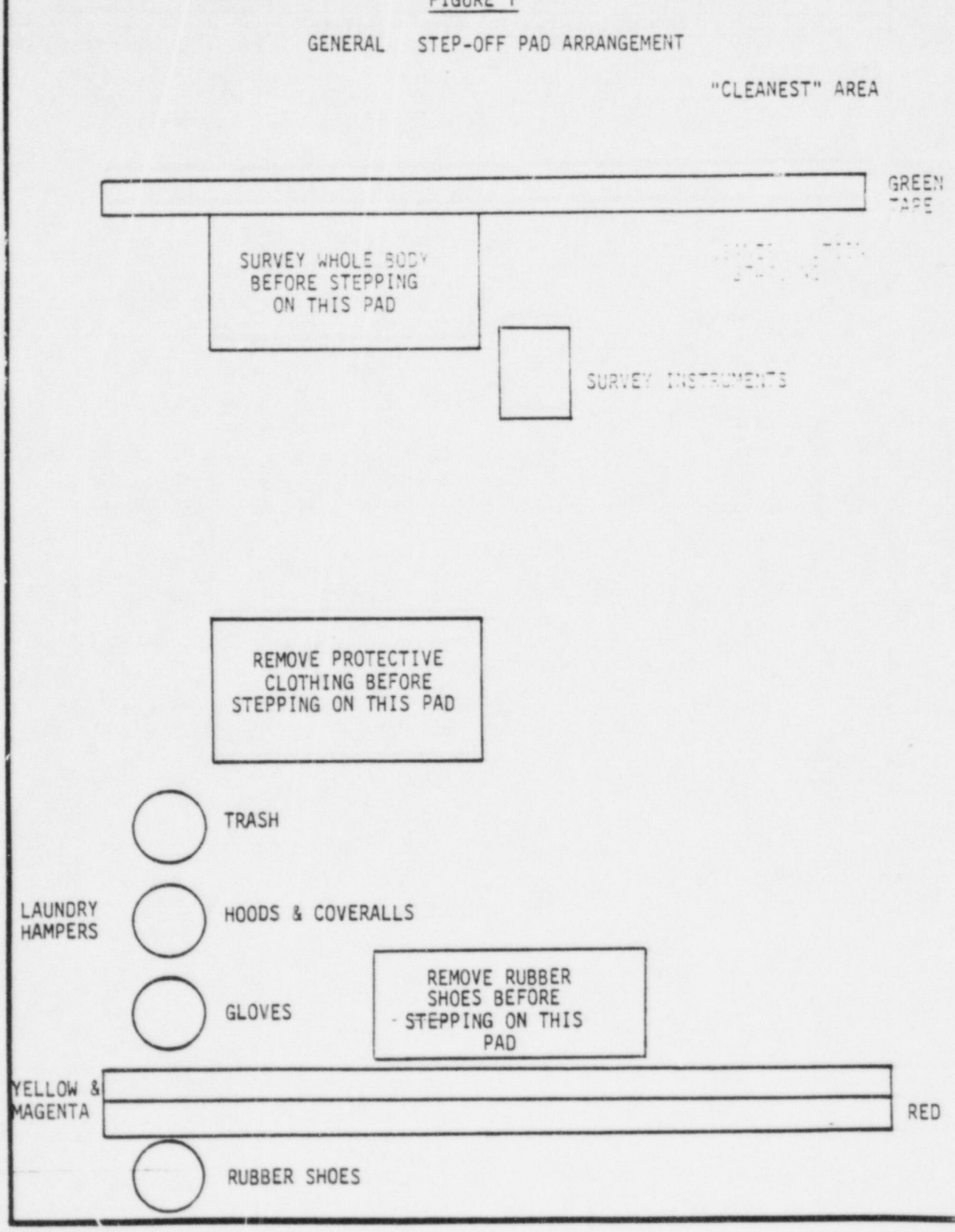
4) Disposition of all clothing that will not meet releasable limits will be left to the discretion of the Radiation Protection Supervisor.

ATTACHMENT

1. Form 18-9392, "Skin and Clothing Decontamination".

FIGURE 1

GENERAL STEP-OFF PAD ARRANGEMENT



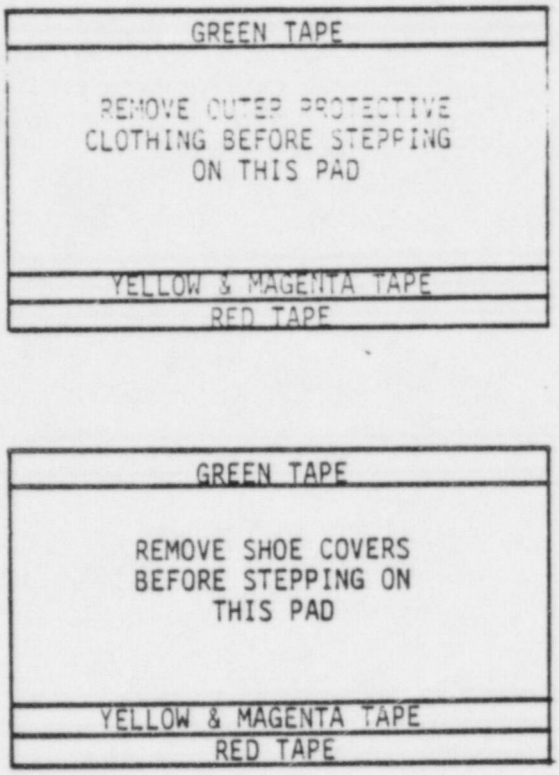


FIGURE 2

TWO EXAMPLES OF TYPICAL SECONDARY STEP-OFF PADS

18-9392 7/81 (100)

DIABLO CANYON POWER PLANT

SKIN AND CLOTHING DECONTAMINATION

NAME				DATE	TIME OF OCCURRENCE	AM / PM
UNIT	ELEV.	BLDG.	ROOM	AIR SAMPLE LOG NUMBER	SURVEY LOG NUMBER	

ITEM NO.	LOCATION OF CONTAMINATION	TIME OF SURVEY	INITIAL SURVEY RESULTS	SURVEY INSTRUMENT

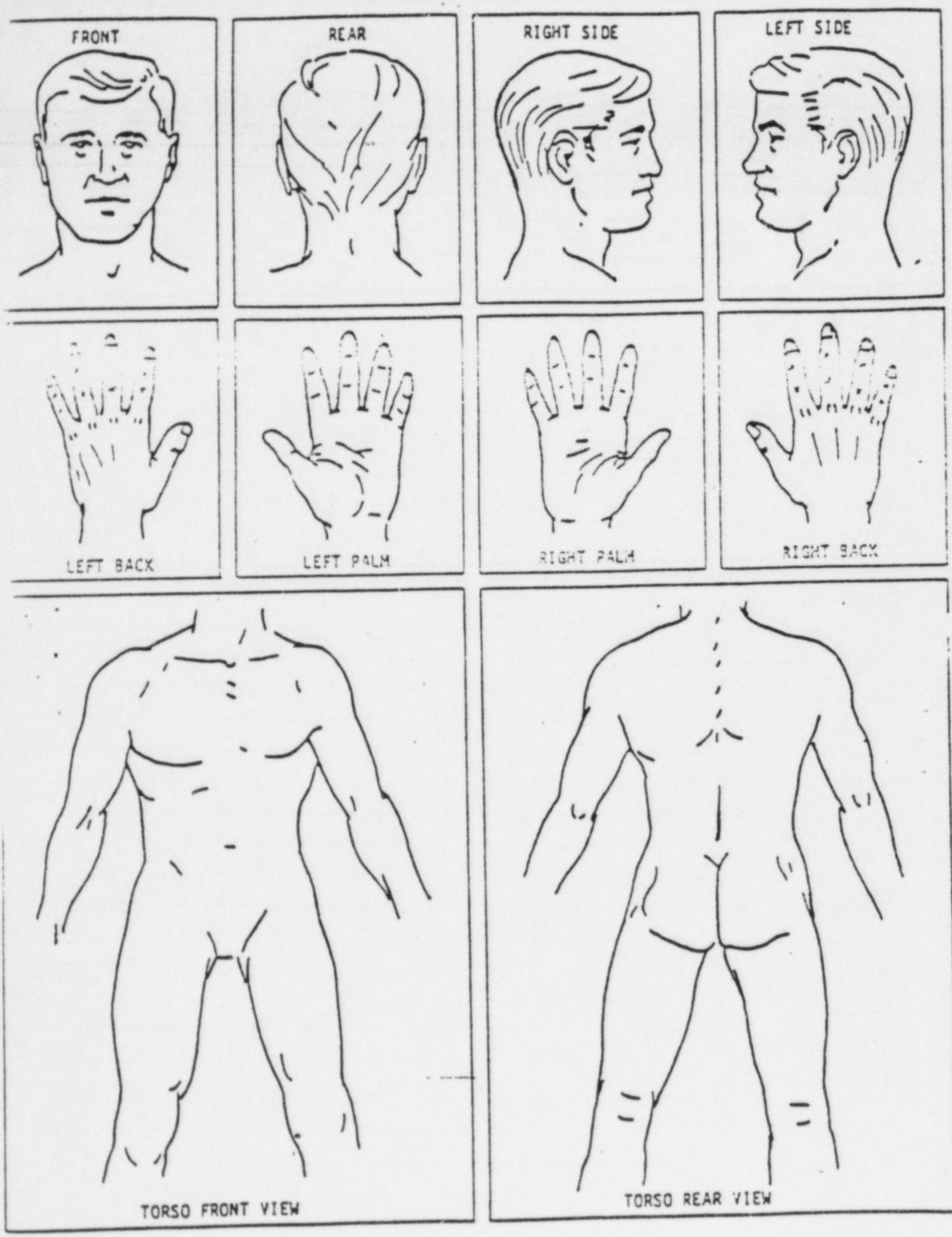
DECONTAMINATION INFORMATION

ITEM NO.	DECONTAMINATION AGENT USED	TIME	SURVEY		SKIN CONDITION AFTER TREATMENT
			INSTRUMENT	RESULTS	

REMARKS

SIGNATURE: _____

6



☐ SKIN ☐ PROTECTIVE CLOTHING ☐ PERSONAL CLOTHING

QA-3

PAGE 1

PULLMAN POWER PRODUCTS
QUALITY ASSURANCE DEPARTMENT

INSPECTION REPORT

RECEIVING REPORT NO 3233

JOB NO. 7172

APPLICABLE TO: (CHECK) RECEIVING ☒ SUBCONTRACTOR ☐

HOLD
☐ MILL TEST REPORTS ☐ X-RAYS
☐ OTHERS

VENDOR Abser P.O. NO. 7172-11067 DATE 10-25-82

MANUFACTURER INSPECTED BY RC Kling DATE 10.28.82

ITEM	PART NAME	QUANTITY	MATERIAL
A	3/32" Coated Electrodes	5000 #	C.S. E7018
B	1/8 ↓ ↓	2500 #	↓ ↓

ITEM OR DWG. NO.	QUANTITY	HEAT NO. OR SYMBOL	IDENTIFICATION VERIFIED	DOCUMENTATION VERIFIED	RADIOGRAPHS APPROVED	REMARKS
A	5000 #	401T9221	RCK 10.25.82	RCK 10-28-82		CLASS 1
B	2500#	43259131	↓	↓		* 1 can of 1/8" damaged in Transit

FOR INFORMATION ONLY

D--14

PULLMAN POWER PRODUCTS
A WHEELABRATOR-FRYE COMPANY

FIELD REQUISITION - PURCHASE ORDER - RECEIVING REPORT

JOB NO.	DATE	SHEET NO.
7177	8-26-82	1 of 4

DISCOUNT TERMS | SHIPPING TERMS

VIA

SHIPPING ADDRESS: PULLMAN POWER PRODUCTS
C/O Pacific Gas & Electric Company
Diablo Canyon Power Plant
7 Miles North of Avila Beach, CA 93424

VENDOR: ABSCO
570 ALASKA AVE.
TORRANCE, CA. 90503

REQ.- P.O.- NO. F- R.R.- 7177- 11067

JOB COST CODE: 7 122

SUBCONTRACT NO. 3233

MAIL 4 COPIES OF INVOICES TO:
P.O. Box 367
Avila Beach, CA 93424

ITEM (LETTER)	QTY. REQ/D.	DESCRIPTION	UNIT PRICE	TOTAL	DATE REC'D.	QTY. REC'D.
A	5000#	3/32" Ø C/S COATED ELECTRODE E-7018	.827	4,135 00		
B	2500#	1/8" Ø C/S COATED ELECTRODE E-7018	.588	1,470 00		
		TESTING CHARGES PER DIAMETER	360 00	720 00		
		NOTE: SEE SPECIAL REQUIREMENTS ATTACHED				
		NOTE: THE ALL WELD MATERIAL TENSION TEST FOR THIS SIZE MATERIAL MAY BE PERFORMED ON A .250 (±) .005 SPECIMEN INSTEAD OF THE .505 SPECIMEN NOTED IN SPECIAL REQUIREMENT #W 11.				
			TOTAL PRICE	6,325 00		

FOR DIABLO CANYON

NEEDED FOR: UNIT II

DATE NEEDED:

DATE ORDERED: 9-1-82

DATE PROMISED: 6-8 WEEKS

DWG(S) ATTACHED:

PREPARED BY: R. KING

APPROVED BY:

PURCHASED BY:

IMPORTANT: THIS ORDER IS SUBJECT TO ALL OF THE TERMS AND CONDITIONS PRINTED ON THE REVERSE SIDE HEREOF.

OUR ORDER NUMBER MUST APPEAR ON ALL INVOICES, BILLS OF LADING, EXPRESS RECEIPTS AND CORRESPONDENCE. MARK ALL SHIPPING TAGS

REMARKS

REIMBURSABLE

CLASS 1

RECEIVING DEPARTMENT

CARRIER:

COMPLETE ☐ PARTIAL ☐

PREPAID: $

COLLECT: $

RECEIVED BY:

Pullman Power Products
Division of Pullman Incorporated

74-10-38 REV 4/16/79

FIELD REQUISITION - PURCHASE ORDER - RECEIVING REPORT

JOB NO.	DATE	SHEET NO.	SHIPPING ADDRESS	REQ.- P.O.- R.R.-
7177	8-26-82	2 of 4	PULLMAN POWER PRODUCTS c/o Pacific Gas & Electric Company Diablo Canyon Power Plant 7 Miles North of Avila Beach, CA 93424	NO. F- 7177-11067

DISCOUNT TERMS:
SHIPPING TERMS:
VIA:

JOB COST CODE: 122
SUBCONTRACT NO. 3233

VENDOR: ABSCO
570 ALASKA AVE.
TORRANCE, CA. 90503

MAIL 4 COPIES OF INVOICES TO:
P. O. Box 367
Avila Beach, CA 93424

FOR INFORMATION ONLY

SPECIAL REQUIREMENTS WELDING MATERIALS

W1. Supplier shall furnish three copies of a Mill Test Report.

W2. Mill Test Reports shall be traceable to our P.O. Item No.

W3. All required documentation shall be sent on the day of each shipment to PULLMAN POWER PRODUCTS, P.O. Box 367, Avila Beach, CA 93424 Attn: Q.A. Dept.

W4. Any nonconformance to the requirements of the P. O. will be considered just cause for return of materials without cost to buyer.

W5. Welding material shall be manufactured in accordance with 1971, Sec. III, Paragraph NB 2130 and NB 2400. Actual Mill Test Reports shall indicate all the requirements of 1971, Sec. III, Paragraph NB 2130 and NB 2400 and ASME Sec. II, Part C, 1971 SFA 5.1.

W6. All coated rod shall be furnished in hermetically sealed containers.

W7. Test reports and containers shall be identified by our P.O. Number, our Item Number, the Size, and Heat and Lot Number.

W8. Flag and tag both ends of all bare wires.

W9. Separate actual test shall be made for each size and heat or lot number.

The number of heats or lots shall be kept to a minimum (one for each size).

W10. Containers shall be marked in accordance with NB 2152 and SFA 5.1.

Continued on Next Page

NEEDED FOR:

DATE NEEDED:
DATE ORDERED: 9-1-82
DATE PROMISED:
DWG(S) ATTACHED:
PREPARED BY:
APPROVED BY: [signature] J. Gammon
PURCHASED BY: D. Reeder

REMARKS

REIMBURSABLE

CLASS 1

RECEIVING DEPARTMENT

CARRIER:

COMPLETE ☐ PARTIAL ☐

PREPAID: $
COLLECT: $

RECEIVED BY:

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Pullman Power Products
Division of Pullman Incorporated

74-70-38 REV 6/15/78

FIELD REQUISITION - PURCHASE ORDER - RECEIVING REPORT

JOB NO.	DATE	SHEET NO.
7177	8-26-82	3 of 4

DISCOUNT TERMS | SHIPPING TERMS

VIA

SHIPPING ADDRESS: PULLMAN POWER PRODUCTS
c/o Pacific Gas & Electric Company
Diablo Canyon Power Plant
7 Miles North of Avila Beach, CA 93424

VENDOR: ABSCO
570 ALASKA AVE.
TORRANCE, CA. 90503

REQ.- P.O.- R.R.- NO. F- 7177- 11067

JOB COST CODE: 122

SUBCONTRACT NO. 3233

MAIL 2 COPIES OF INVOICES TO:
P. O. Box 367
Avila Beach, CA 93424

W11.	Test reports shall include the following:
	RADIOGRAPHY: In accordance with SFA 5.1, include results in test report.
	CHEMISTRY: Actual chemical analysis from undiluted weld deposit or from undeposited electrode from each heat of steel.
	CHARPY IMPACT: Five (5) standard 10 X 10 X 55 M.M "V" notch charpy impacts. Discard the high and low specimen and report the average of the middle three specimens. Perform test at temperature shown for electrode designation (see below).
	TENSION TEST: One .505 specimen using all weld metal.
	NOTE: 1. Two sets of charpy impact test and two tension tests are required. One set in the STRESS RELIEVED CONDITION. Stress relieve at 1125 degree F, plus or minus 25 degree F. Hold for eight hours, furnace cool to 600 degree F; then cool in still air. Heating rate and cooling rate to be per ASME Sec. III, 1971, NB 4623.2 and NB 2623.5 Copy of stress chart to be included in documentation.

COMPLETE

NEEDED FOR:

DATE NEEDED: | DATE ORDERED: 9-7-82 | DATE PROMISED:

DWG(S) ATTACHED:

PREPARED BY: | APPROVED BY: | PURCHASED BY:

IMPORTANT: THIS ORDER IS SUBJECT TO ALL OF THE TERMS AND CONDITIONS PRINTED ON THE REVERSE SIDE HEREOF.

OUR ORDER NUMBER MUST APPEAR ON ALL INVOICES, BILLS OF LADING, EXPRESS RECEIPTS AND CORRESPONDENCE. MARK ALL SHIPPING TAGS

REMARKS

REIMBURSABLE

CLASS 1

RECEIVING DEPARTMENT

CARRIER:

COMPLETE ☐ PARTIAL ☐

PREPAID: $ COLLECT: $

RECEIVED BY:

Pullman Power Products
Division of Pullman Incorporated

74-70-38 REV 6/15/79

FIELD REQUISITION - PURCHASE ORDER - RECEIVING REPORT

JOB NO.	DATE	SHEET NO.
7177	8-26-82	4 of 4

DISCOUNT TERMS | SHIPPING TERMS

VIA

SHIPPING ADDRESS: PULLMAN POWER PRODUCTS
c/o Pacific Gas & Electric Company
Diablo Canyon Power Plant
7 Miles North of Avila Beach, CA 93424

VENDOR: ABSCO
570 ALASKA AVE.
TORRANCE, CA. 90503

REQ.- P.O.- R.R.- NO. F- 7177 11067

JOB COST CODE: 122

SUBCONTRACT NO 3233

MAIL 4 COPIES OF INVOICES TO:
P. O. Box 367
Avila Beach, CA 93424

FOR ENGINEERING

NOTE: (cont) 2. Charpy Impact test temperature (per Sec. II, Part C, ASME Code 1971). E7018 -20 degree F (SFA - 5.1)
E70S3 0 degree F (SFA)5.18)

W12. Items set forth in this Purchase Order are for use in nuclear safety related components subject to reporting requirements pursuant to Section 206 of the Energy Reorganization Act of 1974, as implemented by 10 CFR 2. Notice of any defects identified by Vendor pursuant to such law shall be immediately made to the Director of Quality Assurance, PULLMAN POWER PRODUCTS, P.O. Box 3308 Williamsport, PA 17701.

W13. Shipped Direct From Alloy Rods Division, Allegheny Ludlum Industries Inc., Hanover, PA.

NEEDED FOR:

DATE NEEDED: | DATE ORDERED: 9-1-82 | DATE PROMISED:

DWG(S) ATTACHED:

PREPARED BY: | APPROVED BY: | PURCHASED BY:

IMPORTANT: THIS ORDER IS SUBJECT TO ALL OF THE TERMS AND CONDITIONS PRINTED ON THE REVERSE SIDE HEREOF.

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REMARKS

REIMBURSABLE

CLASS 1

RECEIVING DEPARTMENT

CARRIER:

COMPLETE ☐ PARTIAL ☐

PREPAID: $ COLLECT: $

RECEIVED BY:

Pullman Power Products

RR-3233

PRODUCT ENGINEERING DEPARTMENT

QUALITY ASSURANCE AND DOCUMENTATION REQUIREMENTS

	REQ'D	APPROVED BY CUSTOMER	VERIFIED BY P.P.P. Q.C.
1. Vendor Quality Assurance Program - ASME Section III	✓		✓
2. Certified Drawings for Approval			
3. Qualified Procedures for Approval			
a. Welding			
b. Weld Repairs			
c. Heat Treatment			
d. Ultrasonic			
e. Radiograph			
f. Magnetic Particle			
g. Liquid Penetrant			
h. Eddy Current			
4. Documentation	✓		✓
a. Mill Reports	✓		✓
b. Impact Tests	✓		
c. Ultrasonic	✓		✓
d. Radiograph			
e. Magnetic Particle			
f. Liquid Pentrant			
g. Eddy Current Results			
h. Hydrostatic			
i. Partial Data Reports ASME Section			
j. NDT Personnel Qualifications			
k. Manufacturers C of C			
5. Marking per P.P.P. Standard	✓		✓

* This material must be shipped directly from a Corps approved vendor

FOR INFORMATION ONLY

P.O. 7177-11067

ALLOY RODS DIVISION
ALLEGHENY LUDLUM INDUSTRIES INC. ALL

RC King 10-28-82

CLASS 1

PREPARED BY RC King

APPROVED BY [signature]

DATE OF ISSUE 8-31-82

PAGE ___ of ___

RP-323

ARCAIR ROBO DIVISION
CHEMETRON CORPORATION

SOLD TO:
• WEST-ARC
• DIVISION CHEMETRON CORP
• 4601 GRISSOM ST
• BAKERSFIELD CA 93309

SHIP TO:
• PULLMAN POWER PRODUCTS
• C/O PG & E DIABLO CAN.
• 7 MI. NORTH AVILA BEACH
• AVILA BEACH, CA 93424

DATE ORDERED	ORDER TYPE	ROUTING	FREIGHT PAYMENT	CUSTOMER REFERENCE	CONTROL NO.	LOC.	DATE PREPARED	DATE SHIPPED
09/07/82			PPD/CHARGE	BK6159	214009 1	99H	09/29/82	9/30/82

REFER INQUIRIES TO CUSTOMER SERVICE	SHIPPED VIA:	CARRIER NO.	B/L NO.	DELIVERY COST:
800-233-7070		~~10/08/82~~ 9/29/82		

QUANTITY ORDERED	QUANTITY BACK ORDERED	DESCRIPTION	STOCK NUMBER	QUANTITY SHIPPED (AND/U/M)	ESTIMATED SHIP DATE
5000		ATOM ARC 7018 3/32 50# HSC TEST CHARGE	25-501331-0	5000 LB	
2500		ATOM ARC 7018 1/8 50# HSC TEST CHARGE	25-501181-9	2500 LB	
ORDER TRAILER		ACTUAL TESTS REQ'D PER ~~PULLMAN P.O.~~ ~~NF-7177-11067~~ ~~P-7177-10789~~ 3 C/ABS REQ'D. W/SHIPMENT ASME SFA 5.1 SEC II PART C SEC III S.R. 8 HRS. @ 1125 +/-25 DEG. F. IMPACTS REQ'D. 3 COPIES CERTS TO: PULLMAN POWER PRODUCTS P.O. BOX 367 AVILA BEACH, CA 93424 ATTN: QA DEPT.			

FOLD

GENERAL CONSTRUCTION
Diablo Canyon
Date OCT 14 1982 Rec'd.
Checked
P. G. and E. Co.

CLASS 1

RECEIVED
OCT 14 1982
N POWER PRODUCTS
AVILA BEACH, CALIF.

"Notwithstandi ... Different or Additional Terms that may be embodied in Buyer's Order, This Acknowledgment of B... Order is Expressly Conditional Upon Assent By Buyer to the terms and conditions set forth above a... the reverse side hereo...

RIP-3233

City FREIGHT LINES

22560 LUCERNE STREET • P.O. BOX 6238 • CARSON, CA. 90745

A Complete Transportation Service

DIVISIONS: Anaheim Truck & Transfer
Atlantic Transfer
City Transfer

CTIL

FREIGHT BILL NO. 8816383

PLEASE RETURN ONE COPY OF THIS FREIGHT BILL WITH YOUR REMITTANCE

DIVISION

TLR	DATE	SHIPPER OR GBL NO.
TCC	10 12 82	101704

SHIPPER

ALLOY WOODS DIV.
HANOVER, PA. 17331

CONSIGNEE

PULLMAN POWER PRODS
P G & E DIABLO CYN
7 MI N.AVILA BEACH
AVILA BEACH, CA. 93424

CLASS 1

CODE 2040

PRODUCTS
BLO CAN.
ILA BEACH
CA 93424

182 7/30/82

ARED | DATE SHIPPED | PA

/L NO. | DELIVERY COST:

ROUTING OR PREVIOUS FREIGHT BILL REFERENCE	CODE	AMOUNT	CODE	CFL	CODE	C/L
PMT, 270-217575 10/4	2051		444 3302	226.94	2032	

NUMBER OF PACKAGES AND DESCRIPTION	WEIGHT	RATE	TOTAL CHARGES
3 PLT C 15 CANS	7806	1472 DISC TIL	1149.04 241.30 907.74 PPD

GENERAL CONSTRUCTION
Diablo Canyon
Date OCT 1 1982 Rec'd.
Checked
P. G. and E. Co.

RECEIVED
OCT 14 1982
N POWER PRODUC'S
AVILA BEACH, CALIF.

ICC + PUC REGULATIONS REQUIRE PAYMENT OF FREIGHT BILL WITHIN SEVEN DAYS OF PRESENTATION

PLEASE CHECK IF BACK USED

RECEIVED ABOVE DESCRIBED PROPERTY IN GOOD CONDITION EXCEPT AS NOTED

FIRM:

BY:

SHOW COMPLETE COMPANY NAME AND SIGNATURE — INITIALS NOT ACCEPTED.

DATE DELIVERED | TIME DELIVERED | A.M. P.M.

DRIVER | PIECES

558-20-0623 (3) 10/13/82

1125 +/-25 DEG. F.
IMPACTS REQRD.
3 COPIES CERTS TO:
PULLMAN POWER PRODUCTS
P.O. BOX 367
AVILA BEACH, CA 93424
ATTN: QA DEPT.

GENERAL CONSTRUCTION
Diablo Canyon
Date OCT 14 1982 Rec'd.
Checked
P. G. and E. Co.

CLASS 1

RECEIVED
OCT 14 1982
N POWER PRODUCTS

WELDING EQUIPMENT & SUPPLIES
ABSCO
SERVING CALIFORNIA

570 ALASKA AVE. TORRANCE, CALIF. 90503
(213) 775-6811
MAIL INVOICES IN DUPLICATE TO:
P.O. BOX Q • TORRANCE, CALIF. 90507

RR. 3233

CERTIFICATION OF CONFORMANCE

TO •

DATE OCTOBER 21, 1982

PULLMAN POWER PRODUCTS (28287)
% PACIFIC GAS & ELECTRIC
DIABLO CANYON POWER PLANT
7MILES NO. AVILA BEACH, CA. 93424

GENTLEMEN:

WE HEREBY CERTIFY THAT THE FOLLOWING MATERIAL WAS SUPPLIED BY:

ALLOY RODS DIVISION (CHEMETRON CORPORATION)

AND THAT THEY HAVE TEST REPORTS IN THEIR FILES CERTIFYING THAT THIS MATERIAL MEETS THE REQUIREMENTS AS SET FORTH IN SPECIFICATION ASME SFA 5.1 Sec. II Part C & ASME SEC. Pullman Power Req. F-7177-11067 10 CFR Part 21 applies.

YOUR PURCHASE ORDER NO.	OUR INVOICE NO.	TYPE	SIZE	QUANTITY
F-7177-11067 item 2	6 69455	E-7018	1/8"	2,500 lbs.

CHEMICAL ANALYSIS:

Heat Number	C	Mn	Si	S	P	Mo	Cr	Ni	Cb + Ta	Co
432S9131	.06	.93	.35	.016	.014	.02	.04	.05		

Ti	B	Fe	Zn	W	V	B	N	Mg	Cu	Be	Al
					.01				.02		

OTHERS: _____

APPROVED
M. W. KELLOGG
Q. A.
P.G.&E. Diablo Canyon Project
INITIALS
10-28-82

FOR INFORMATION

CLASS 1

ABSCO

By James K. Anderson
Q.A. MANAGER

RR-3233

WELDING EQUIPMENT & SUPPLIES
ABSCO
SERVING CALIFORNIA

570 ALASKA AVE. TORRANCE, CALIF. 90503
(213) 775-6811
MAIL INVOICES IN DUPLICATE TO:
P.O. BOX Q • TORRANCE, CALIF. 90507

CERTIFICATION OF CONFORMANCE

TO •

DATE OCTOBER 21, 1982

PULLMAN POWER PRODUCTS (28287)
% PACIFIC GAS & ELECTRIC
DIABLO CANYON POWER PLANT
7MILES NO. AVILA BEACH, CA. 93424

GENTLEMEN:

WE HEREBY CERTIFY THAT THE FOLLOWING MATERIAL WAS SUPPLIED BY:

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AND THAT THEY HAVE TEST REPORTS IN THEIR FILES CERTIFYING THAT THIS MATERIAL MEETS THE REQUIREMENTS AS SET FORTH IN SPECIFICATION ASME SFA 5.1 Sec. II Part C & ASME SEC. Pullman Power Req. E-7177-11067 10 CFR Part 21 applies.

YOUR PURCHASE ORDER NO.	OUR INVOICE NO.	TYPE	SIZE	QUANTITY
F-7177-11067 item 2	6 69455	E-7018	1/8"	2,500 lbs.

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432S9131	.06	.93	.35	.016	.014	.02	.04	.05		

Ti	B	Fe	Zn	W	V	B	N	Mg	Cu	Be	Al
					.01				.02		

OTHERS: _____

APPROVED
M. W. KELLOGG
Q. A.
P.G.&E. Diablo Canyon Project
INITIALS
10-28-82

FOR INFORMATION ONLY

CLASS 1

ABSCO
By James K. Anderson
Q. A. MANAGER

ALLOY RODS DIVISION

CHEMETRON CORPORATION

P.O. BOX 517 HANOVER, PA 17331 717/637-8911

CERTIFICATE OF ANALYSIS

RR-3233

CERTIFIED MATERIALS TEST REPORT

Pullman Power Products
c/o PG & E Diablo Can.
7 Mi. North Avila Beach
Avila Beach, CA 93424

Customer Order No. BK6158

Order No. 214009-1

Pullman Power P.O. F-7177-11067
Pullman Power Item 2

This Material Conforms to Specification ASME SFA 5.1 Sec. II Part C & ASME SEC. III Para. NB-2130 and NB-2400 1971 ED.
Pullman Power Req. F-7177-11067
10 CFR Part 21 applies.

Trade Name or Trademark: Atom Arc 18

CLASS 1

Diameter Size: 1/8"

Weight: 2,500 lbs.

Type: E-7018

Lot Number: 2H227Z03

Test No. 2-827-00
Control No. FF087
X-Rays Satisfactory ✓

Heat Number: 432S9131

Moisture @ 1800° F. 0.1%
Concentricity 3%
Type Steel A-285

Carbon	.06 ✓
Manganese	.93 ✓
Chromium	.04 ✓
Nickel	.05 ✓
Silicon	.35 ✓
Columbium+ Tantalum	
Molybdenum	.02 ✓
Tungsten	
Copper	.02
Titanium	
Phosphorus	.014 ✓
Sulphur	.016 ✓
Vanadium	.01 ✓
Cobalt	
Ferrite:	

Test No. Tensiles & Impacts	Full 1	Split 5	Volts 22	Amps 140 DC
Test Results:	As Welded ✓		Stress Relieved 8 hrs. @1150° F.	
Yield	68,300 ✓		59,000 ✓	
Tensile	80,800 ✓		73,700 ✓	
Elongation	34.0% ✓		36.0% ✓	
Red. of Area	77.0%		77.9%	
Charpy V-Notch Impacts Tested @ -20° F.				
Ft. Lbs.	110-107-93 ✓		123-156-112 ✓	
Lat. Exp.	76-74-66		89-87-80	
% Shear	40-40-40		50-60-50	

*Tensile Specimen .252"
Impact Specimen .394" x .394"

Location & Orientation of Charpy-V-Notch/Tensile Specimens is T/A/W ASME NX-2322 and/or AWS/SFA specifications as applicable.

Quality Systems Certificate No. QSC-221
Expiration Date: September 8, 1984

State of Pennsylvania }
County of York } SS

The undersigned certifies that the contents of this report are correct and accurate and that all operations performed by the undersigned or sub contractors are in compliance with requirements of the material specification and ASME Boiler and Pressure Vessel Code Section III Division I Subsection NCA-3800

Subscribed and sworn to before me this 4th day of October, 1982

SEAL Kay Feldman
Notary Public

My Commission expires: 11/22/82

ALLOY RODS DIVISION
Chemetron Corporation

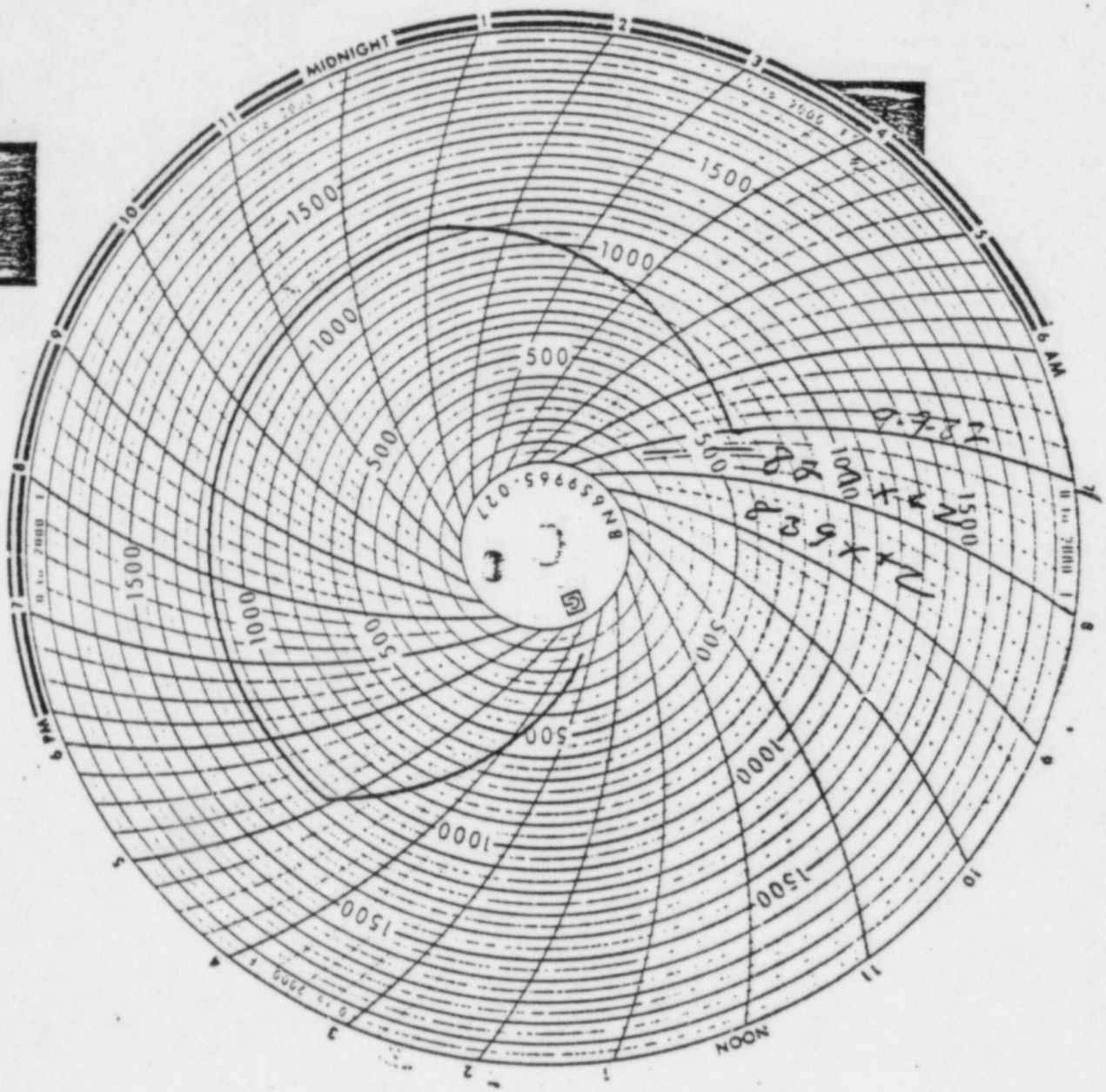
BY D. A. Smith
D. A. Smith
QUALITY ASSURANCE
CONTRACT SPECIALIST

*NOTE: P.O. PARA. W11 .252 tensile accepted for 1/8" in lieu of .505 specimen per memo from David Renner of Pullman

FOR INFORMATION ONLY

APPROVED
M. W. KELLOGG
Q. A.
P.G.&E. Diablo Canyon Project
R C King
INITIALS

RR-3233



CLASS 1

FOR INFORMATION ONLY

APPROVED
M. W. KELLOGG
Q. A.
P.G.&E. Diablo Canyon Project
RC King
10-28-82

WELDING EQUIPMENT & SUPPLIES
ABSCO
SERVING CALIFORNIA

570 ALASKA AVE. TORRANCE, CALIF. 90503
(213) 775-6811
MAIL INVOICES IN DUPLICATE TO:
P.O. BOX Q • TORRANCE, CALIF. 90507

RR-3233

CERTIFICATE OF CONFORMANCE

TO • PULLMAN POWER PRODUCTS (28237)
% PACIFIC GAS & ELECTRIC
DIABLO CANYON POWER PLANT
7MILES NO. AVILA BEACH, CA. 93424

DATE OCTOBER 21, 1982

GENTLEMEN:

WE HEREBY CERTIFY THAT THE FOLLOWING MATERIAL WAS SUPPLIED BY:

ALLOY RODS DIVISION (CHEMETRON CORPORATION)

AND THAT THEY HAVE TEST REPORTS IN THEIR FILES CERTIFYING THAT THIS MATERIAL MEETS THE REQUIREMENTS AS SET FORTH IN SPECIFICATION ASME SFA 5.1 SEC.II PART C & ASME SEC. III, PARA. NB-2130 AND NB-2400 197
ED. PULLMAN POWER'S REQ F-7177-11067. 10 CFR PART 21 APPLIES.

YOUR PURCHASE ORDER NO.	OUR INVOICE NO.	TYPE	SIZE	QUANTITY
F-7177-11067 item	1 6 69455	E 7018	3/32"	5,000 lbs.

CHEMICAL ANALYSIS:

Heat Number	C	Mn	Si	S	P	Mo	Cr	Ni	Cb + Ta	Co
401T9221	.07	1.08	.44	.012	.015	.01	.04	.04	-	

Ti	B	Fe	Zn	W	V	B	N	Mg	Cu	Be	Al
					.01				.04		

OTHERS: _____

CLASS 1

FOR INFORMATION ONLY

APPROVED
M. W. KELLOGG
Q. A.
P.G.&E. Diablo Canyon Project
RC King
INITIALS
10-28-82

RECEIVED
OCT 26 1982
PULLMAN POWER PRODUCTS
AVILA BEACH, CALIF.
JOB No 7177

ABSCO
By Albert K. Anderson
James K. Anderson
Q. A. MANAGER

RR.3233

WELDING EQUIPMENT & SUPPLIES
ABSCO
SERVING CALIFORNIA

570 ALASKA AVE. TORRANCE, CALIF. 90503
(213) 775-6811
MAIL INVOICES IN DUPLICATE TO:
P.O. BOX Q • TORRANCE, CALIF. 90507

CERTIFICATE OF CONFORMANCE

TO • PULLMAN POWER PRODUCTS (29287)
% PACIFIC GAS & ELECTRIC
DIABLO CANYON POWER PLANT
7MILES NO. AVILA BEACH, CA. 93424

DATE OCTOBER 21, 1982

GENTLEMEN:

WE HEREBY CERTIFY THAT THE FOLLOWING MATERIAL WAS SUPPLIED BY:

ALLOY RODS DIVISION (CHEMETRON CORPORATION)

AND THAT THEY HAVE TEST REPORTS IN THEIR FILES CERTIFYING THAT THIS MATERIAL MEETS THE REQUIREMENTS AS SET FORTH IN SPECIFICATION ASME SFA 5.1 SEC.II PART C & ASME SEC. III, PARA. NB-2130 AND NB-2400 19[illegible] ED. PULLMAN POWER'S REQ F-7177-11067. 10 CFR PART 21 APPLIES.

YOUR PURCHASE ORDER NO.	OUR INVOICE NO.	TYPE	SIZE	QUANTITY
F-7177-11067 item	1m.6.69455	E. 7018	3/32"	5,000 lbs.

CHEMICAL ANALYSIS:

Heat Number	C	Mn	Si	S	P	Mo	Cr	Ni	Cb + Ta	Co
401T9221	.07	1.08	.44	.012	.015	.01	.04	.04		

Ti	B	Fe	Zn	W	V	B	N	Mg	Cu	Be	Al
					.01				.04		

OTHERS: _____

APPROVED
M. W. KELLOGG
C. A.
P.G.&E. Diablo Canyon Project
RE King
INITIALS
10-28-82

CLASS 1
FOR INFORMATION ONLY

ABSCO
By _____
James K. Anderson
A [illegible]

ALLOY RODS DIVISION
CHEMETRON CORPORATION
P.O. BOX 517 HANOVER, PA 17331 717/637-8911

CERTIFICATE OF ANALYSIS

RR-3233

CERTIFIED MATERIALS TEST REPORT

Pullman Power Products
c/o PG & E Diablo Can.
7 Mi. North Avila Beach
Avila Beach, CA 93424

PULLMAN POWER P.O. F-7177-11067
P.O. ITEM 1

Trade Name
or Trademark: Atom Arc 7018

Diameter Size: 3/32"

CLASS 1

Weight: 5,000 lbs.

Lot Number: 2S227Z02

Heat Number: 401T9221

Customer Order No. BK6158

Order No. 214009-1

This Material Conforms to Specification ASME SFA 5.1 SEC. II PART C & ASME SEC. III, PARA. NB-2130 AND NB-2400 197 ED. PULLMAN POWER'S REQ F-7177-11067. 10 CFR PART 21 APPLIES.

Type: E 7018

Test No. 2-1010-00
Control No. GG010
X-Rays Satisfactory ✓

Moisture @ 1800° F. 0.1%
Concentricity 3%
Type Steel A-285

Carbon	.07
Manganese	1.08
Chromium	.04
Nickel	.04
Silicon	.44
Columbium+ Tantalum	
Molybdenum	.01
Tungsten	
Copper	.04
Titanium	
Phosphorus	.015
Sulphur	.012
Vanadium	.01
Cobalt	

Ferrite:

Test No. Tensiles & Impacts	Full 1	Split 4	Volts 21	Amps 110 DC+
Test Results:	As Welded		Stress Relieved 8 hrs. @ 1125° F.	
Yield	69,100		60,500	
Tensile	82,300		76,100	
Elongation	31.0%		30.0%	
Red. of Area	77.1%		72.1%	

Charpy V-Notch Impacts Tested @ -20° F.

Ft. Lbs.	129-115-130	133-124-215
Lat. Exp.	77-74-75	77-82-67
% Shear	70-70-70	70-60-100

Tensile Specimen .252"*
Impact Specimen .394" x .394"

*NOTE: P.O. PARA W11 .252 TENSILE ACCEPTED FOR 1/8" IN LIEU OF .505 SPECIMEN PER MEMO FROM DAVID RENNER OF PULLMAN.

Fillets: OK Vertical/Overhead

Location & Orientation of Charpy-V-Notch/Tensile Specimens is I/A/W ASME NX-2322 and/or AWS/SFA specifications as applicable.

Quality Systems Certificate No. QSC-221
Expiration Date: September 8, 1984

State of Pennsylvania }
County of York } SS

The undersigned certifies that the contents of this report are correct and accurate and that all operations performed by the undersigned or sub contractors are in compliance with requirements of the material specification and ASME Boiler and Pressure Vessel Code Section III Division I Subsection NB-3800

Subscribed and sworn to before me this 12th day of October, 1982

Kay Kildoan
SEAL Notary Public

My Commission expires: 11/22/82

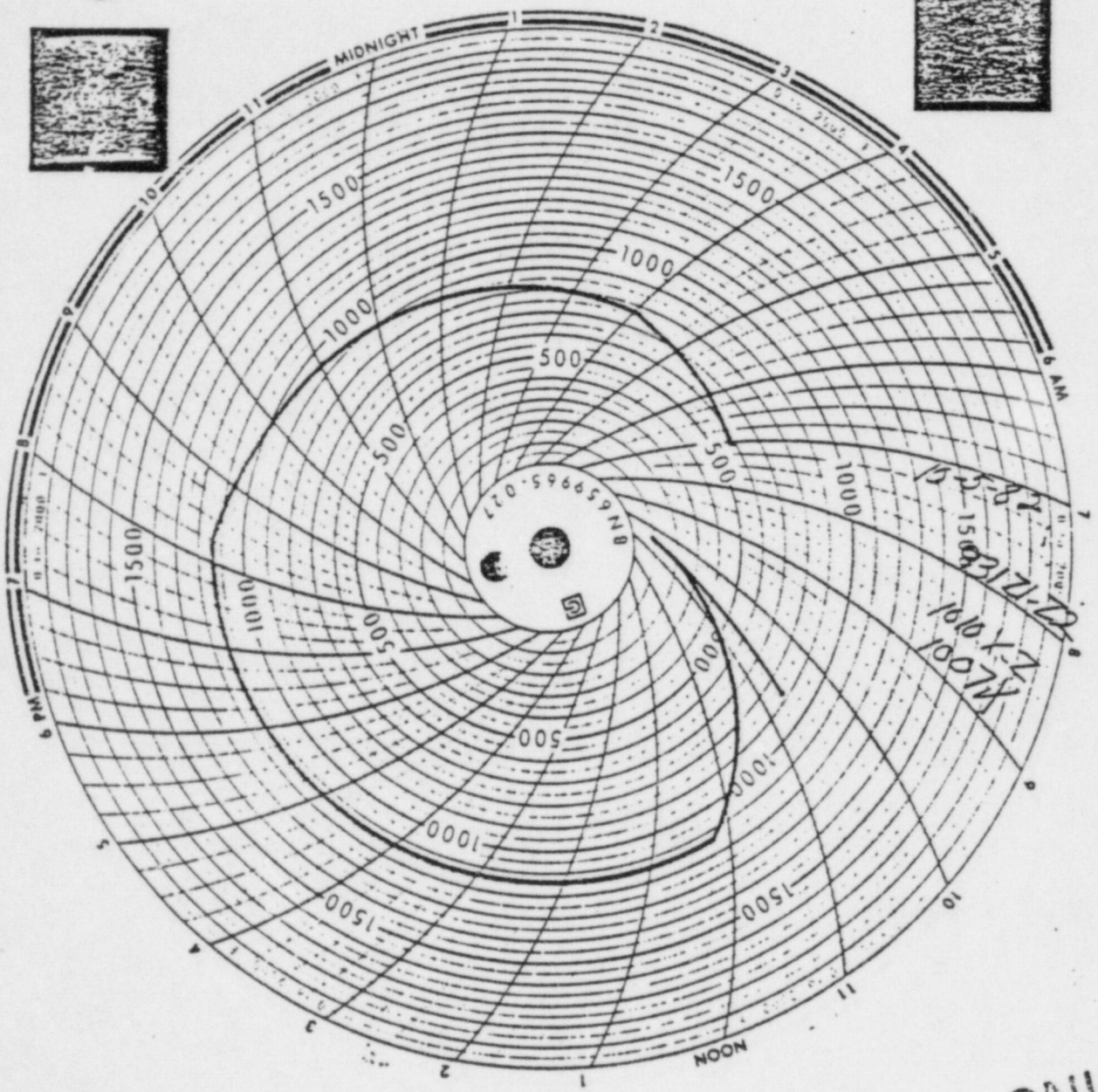
ALLOY RODS DIVISION
Chemetron Corporation

FOR INFORMATION ONLY

D. A. Smith
QUALITY ASSURANCE
CONTRACT SPECIALIST

APPROVED
M. W. KELLOGG
Q.A.
P.G.&E. Diablo Canyon Project
R C King
INITIALS
10-28-82

RK-3233



CLASS 1 FOR INFORMATION ONLY

APPROVED
M. W. KELLOGG
Q. A.
P.G.&E. Diablo Canyon Project
R C King
INITIALS
10-28-82