



# Westinghouse Electric Corporation

Bettis Atomic Power Laboratory

Box 1468, Pittsburgh 10, Pa

WAPD-MAC-PUR-207A

November 9, 1962

Manager,  
Pittsburgh Naval Reactors Office  
U. S. Atomic Energy Commission  
P. O. Box 1105  
Pittsburgh 30, Pennsylvania

Superfund Records Center

SITE: Shpuck

BREAK: 11.9

OTHER: 209717

Attention: Mr. D. D. Blumenstein

Subject: Additional Information

Dear Sir:

WAPD-MAC-PUR-207, dated November 7, 1962, requested immediate oral approval for issuance of an unnumbered change notice to purchase order 73Y297300-WPT. The following confirms oral replies given in response to your oral queries of November 7, 1962.

Westinghouse analyzed the M & C price for Zircaloy by estimating the amount of weld tab material which would be required, based on use of each tab four times. For only the production plates, with no allowance for reweld, about 150 pounds of finished Zircaloy tabs are required. Since the cost of this quantity would exceed the amount quoted by M & C, no further evaluation was made. In addition, however, weld wire would be required for production, and both tabs and wire are needed for development, qualification and repair work. In view of the above, Westinghouse considers the M & C price fair and reasonable.

M & C has now asked for an increase of 100 pounds in their zirconium allocation, and requested it be placed in an unscheduled category inasmuch as they presently have about 12,000 pounds at RMI which has not yet been committed to conversion. This 12,000 pounds was picked up by RMI, M & C's designee, in error. As noted in my letter, WAPD-MAC-PUR-134, dated June 20, 1962, M & C had requested the 12,000 pounds be placed in an unscheduled category. Westinghouse considers the 100 pound allocation to be a fair and reasonable amount considering the price M & C has quoted and the estimate of weight noted above. The 100 pound sponge allocation increase has been incorporated

[REDACTED]

[REDACTED]

[REDACTED]



by the last paragraph on page 3 of the revised change notice (Attachment 2).

Westinghouse intends to handle the disposition of material from the five scrap Westinghouse furnished natural elements per Article 27, paragraph (g)(3), page 34, of the General Provisions, Attachment 1 to the order.

M & C has noted that the welding fixture is an item of special tooling, while the miscellaneous tooling items are copper chills, which are expendable and charged direct to the job. Their TX on this subject is attached.

Please note in the attached TX that M & C has requested immediate release for seal welding development. Your immediate oral approval is requested for placement of the revised unnumbered change notice transmitted by WAPD-NAC-PUR-207A.

Very truly yours,

*[Signature]*  
for Jos. E. Heeke, Jr., Purchasing Agent  
Naval Cores Department

JAS/jc

Attachments:

- #1 - M & C TX of 11/3/62
- #2 - Revised unnumbered change notice

Comments of AS, C.

*Confirms oral approval of 11/13/62*

*[Signature]*

11/13/62  
DATE

NOT FOR 1200 REPRESENTATIVE



FROM: BETTIS ATOMIC POWER LABORATORY  
P.O. BOX 1468, PITTSBURGH 30, PA.

REFER TO  
WAPD-NAC-PUR-121

DATE  
7/19/63

P.O. OR INQ. NO.  
73-Y-297800-MPT

TO: ☒ MANAGER-PNROO  
☐ BSTR-BETTIS LABORATORY  
USAEC  
P.O. BOX 1105 PITTSBURGH 30, PA.

CC: CUSTOMER TECH. (ATTACH)  
CUSTOMER PROJECT  
PROJECT MGR.  
ENGR. OR REQ'R.  
PUR. & STORES MGR.  
OTHERS

A. R. Sabol	J. A. Hecke, Jr.
H. H. Hoffman	F. W. Bassett
K. W. Schwaneckamp	H. B. Hunter
E. T. Cox	H. M. Schadel, Jr.
P. F. Dundon	G. G. Ritter
L. B. Prus	J. C. Halbling

ATTN: Mr. D. D. Blumenstein

YOUR APPROVAL IS REQUESTED FOR THE FOLLOWING PURCHASING ACTION: ☐ P.O. ☒ C/N ☐ INQ.

DESCRIPTION:

Processing of Westinghouse-furnished elements  
which do not meet all order quality requirements.

REQ. DEPT.

Naval Cores Department

PRIME CONTRACT NO.

CHG. NO.

AT-11-1-GEN-14

116C067B01

END USE

(Description of  
Order is CRD)

P.O. 73-Y-297800-MPT

DWG/SPEC. NO.

None

1. PUR. ORDER OR INQ. IN NEGOTIATING THIS PURCHASING ACTION, QUOTATIONS WILL BE OR WERE OBTAINED FROM THE FOLLOWING SUPPLIERS

SUPPLIER	PRICE	DELIVERY

Metals and Controls, Inc.

SELECTED SUPPLIER:

TOTAL PRICE:

2. CHANGE NOTICE PREVIOUS AMOUNT OF THIS ORDER CHANGE IN AMOUNT BY THIS C/N ~~INCREASE DECREASE~~ No Change NEW TOTAL PRICE

EXPLANATION:

Please see attached sheets

NOTE: (A) VERBAL APPROVAL: ☐ (GRANTED)/ ☒ (REQUESTED) ON July 19, 1963  
(B) TECH. APPROVAL: ☐ GRANTED PER ☐ REQUESTED ON ☐ NOT REQUIRED.  
IF TECHNICAL APPROVAL HAS NOT BEEN GRANTED, APPROVAL OF THIS PURCHASE DOES NOT CONSTITUTE APPROVAL OF DESIGN.  
(C) TECH. & ADM. EXCEPTIONS ☐ RESOLVED ☐ NOT RESOLVED ☒ NONE

ATTACHMENTS:

1. Proposed Change Notice

BUYER

V. W. Lehtonen

PURCHASING AGENT

Jos. A. Hecke, Jr.

VICE PRESIDENT & GENERAL MANAGER

COMMENTS OF APPROVING AGENCY

Approved. It is understood that the Commission will report advised on status of elements ordered in same manner as by B & W order.

SIGNATURE

D. D. Blumenstein

DATE APPROVED

7/23/63

JUL 24 1963

Based on the approval granted on letter WAPD-WAC-FUR-405, Change Notice 133 was issued to permit processing of Westinghouse furnished elements on which some or all of the inspection data, certifications, and fabrication histories were not furnished concurrently with the elements.

It is necessary that the provisions of Change Notice 133 be expanded to include elements that deviate from contractual requirements. Westinghouse has furnished EC, pursuant to the purchase order provisions, two (2) H-7 type poison elements that have been fully certified, but are defective in that the [REDACTED]. While the deviations were identified in Westinghouse approved DMR's, which were forwarded to the vendor in the "paper packages", the elements are rejectable by EC because the deviations are quality characteristics for which they assume responsibility upon accepting the elements. Westinghouse is of the opinion there is a good probability these elements can be utilized in the core.

Since EC is aware of the deviations through our DMR's and since they are contractually responsible for this characteristic upon accepting the elements, EC refuses to process the elements unless Westinghouse assumes the liability for labor expended in processing should the elements subsequently be rejected. Consequently, Westinghouse proposes to issue the attached unnumbered change notice, which authorizes EC to perform the operations listed in Order Attachment No. 3 at Westinghouse's risk. Upon the completion of step 1.3.1.q. per attachment No. 3, EC will be able to determine whether or not the elements can be welded into subassemblies and meet subassembly and cluster requirements.

The proposed change notice is written to include the processing of [REDACTED] covered by Westinghouse-approved DMR's, within the limit of 75 elements established by Change Notice 133, dated July 10, 1963. Consequently, the maximum total Westinghouse liability, for processing elements (1) without complete "paper packages" being available and (2) which do not meet all order quality requirements, remains at \$10,577.50.

The language of the proposed change notice is broad enough to include any quality deviation in any fuel or poison element furnished by Westinghouse. We feel this coverage is necessary to allow sufficient flexibility in our efforts to utilize deviated elements in the core which would otherwise require scrapping. However, Westinghouse does not intend to ship deviated elements to EC unless we are technically assured that there is a good possibility the elements can be used in the core after processing. The only elements not meeting order quality requirements which are presently at EC and which Westinghouse desires to place in process at this time are the two (2) H-7 type poison elements referred to above. However, there is a very good possibility that several of the 54 H-7 type poison elements scheduled to be shipped on July 19, 1963, will also have [REDACTED].



To data we have shipped [REDACTED]

Westinghouse intends to disposition only those A-7 type elements, on an approved MEX, which we feel can be used in the final product. Consequently, it is imperative that NS proceed with the operations listed in Order Attachment No. 3 at Westinghouse's risk. Therefore, it is advisable that the proposed change notice be issued immediately.

15-  
3

METALS & CONTROLS INC. P. O. BOX 898 - ATTLEBORO, MASS. - CASTLE 2-3800

A CORPORATE DIVISION OF TEXAS INSTRUMENTS INCORPORATED

November 6, 1963

File w  
CN 13

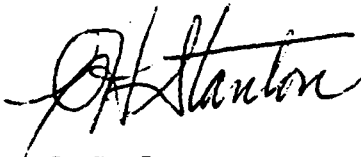
Mr. J. A. Spangler  
Westinghouse Electric Corporation  
Bettis Atomic Power Laboratory  
P. O. Box 1468  
Pittsburgh 30, Pennsylvania

Reference: Westinghouse Letter WAPD-NAC-PA-3515

Dear Mr. Spangler:

In response to the referenced letter, M&C has transferred 156.6 pounds of Zr filler wire from P.O. 73-Y-297800-MPT to Contract AT(36-1)-98. This amount constitutes all the wire originally transferred into the order in accordance with Change Notice No. 13.

Sincerely,



C. H. Stanton  
Contract Administrator  
Navy Nuclear Products

CHS/bs

TO MR J A SPANGLER BETTIS W

*Add to att 3 8/30/63*

REUR TWX OF 8/27, M AND C HEREBY REVISES PROPOSAL LTR DTD 8/20/63 FOR  
P-104-3 AS FOLLOWS

A M AND C PROPOSAL OF AUG20, 1963 DID NOT ASSESS THE COST OF ACCEPTING  
THE LATENT DEFECT PROVISIONS OF PAGE 2 IN YR P-104-3 LTR. IF WE ARE TO  
BE RESPONSIBLE FOR LATENT DEFECTS PROCUREMENT COST MUST BE INCREASED  
\$8,000. THIS \$8,000 NEED NOT BE ADDED IN PROVIDED WE REPLACE ANY MATERIAL  
HAVING LATENT DEFECTS UP TO THE TIME OF FINAL DELY. PRESENT MATERIAL  
IS NOT ACCEPTABLE PER ORD REQUIREMENTS.

B BASED ON APPROVAL OF A M AND C WILL AGREE TO RETURNING 13" LONG FULL  
WIDTH PC OF MATERIAL PLUS TWO 8" LONG FULL WIDTH PCS WITH ROUNDED ENDS.  
THE 85" PC WILL MAKE 5 OF 958D559 AND THE 95" PC WILL MAKE 5 OF 958D  
540 PLUS ONE YIELD PC EQUIVALENT TO 958D559 BEFORE RETURNING PCS NOTED  
ABOVE.

R L CHURCHILL  
END MARSHA

*Far add to Att 3*

END/

117

BETTIS

METAL AND CONTROLS INC 46 017-222-1259

9-4-68 420PMEDT ATTIL MASS

TO MR E A FRANGLER BETTIS W

CONFIRMING PHONECON THIS DATE RE P-104-3, FOLLOWING IS LISTING OF SIGNIFICANT REMIDUES FROM CUTTING ZIRCALOY SLAB

- 1 - 4" X 14" X 12" ✓
- 1 - 4" X 14" X 19" ✓
- 5 - 3" X 4" X 15" ✓
- 4 - 3" X 4" X 9"

WE WILL BE GLAD TO RETURN ALL OR PART OF THE ABOVE. WE KNOW OF NO POTENTIAL USE FOR THE 3" WIDE PCS. ROLLING THEM DOWN, CHOPPING, AND USING FOR WELD STOCK WUD COST AS MUCH AS THE MATERIAL IS WORTH. PLS ADV BY RETURN INSTRUCTIONS. ABOVE LISTING SUPERSEDES THAT IN LTR OF 8/8 /68.

R L CHAMILL

SC: CORRECT FOURTH LINE TO READ

- 1 - 4" X 14" X 19"

A CORPORATE DIVISION OF **TEXAS INSTRUMENTS** INCORPORATED

April 19, 1963

FILE: WAPD-203

Mr. J. A. Spangler  
WESTINGHOUSE ELECTRIC CORPORATION  
Bettis Atomic Power Laboratory  
Post Office Box 1468  
Pittsburgh 30, Pennsylvania

Subject: PROPOSED CHANGES P-80 AND P-83 TO P.O. 73-Y-297800-MPT

Reference: WESTINGHOUSE LETTER WAPD-NAC-PA-2753 AND 2759, DATED 2/28/63

Dear Mr. Spangler:

In response to the referenced letters, MEC will incorporate proposed changes P-80 and P-83 for a fixed price of \$6,613. In P-80, only piece No. 1 on the Spacer Ring (Dwg. 911F669 - Rev. 2) has been included in this quotation. The positioning pin drawing (P-83) has been changed to delete the chrome plating requirement since the pieces are zircaloy and must be corrosion tested. We had recognized this fact during previous quotes and had not planned to meet the chrome plating requirement. Consequently, there is no cost difference. We also assume that the note referencing MR-5 on Positioning Pin - Dwg. 910B485 - Rev. 2, will not apply, and should be changed to reference only the corrosion test requirements of L-500, or the reference be eliminated entirely since MIL-Z-B also applies.

Page 2  
 April 19, 1963  
 Mr. J. A. Spangler  
 WESTINGHOUSE ELECTRIC CORPORATION

The detailed cost and price breakdown for P-80 and P-83 are set forth below:

A. Cost Breakdown

1. Incorporation of Change

<u>Item</u>	<u>Q.C. Labor</u>	<u>Eng. Labor</u>	<u>Procurement Cost</u>
P-80 - Spacer Ring (Pc. 1 only)	6 Hrs.	16 Hrs.	\$4,493
P-83 - B1, D1 Support Nut (Pc. 1)	0	2	66
B2, D2, D4 Support Nut (Pc. 1)	0	2	106
C Positioning Pin	<u>0</u>	<u>0</u>	<u>0</u>
Subtotal	6	20	\$4,765

2. Assessment of Change

<u>Reproduction Cost</u>	<u>Q.C. Labor</u>	<u>Eng. Labor</u>	<u>Procurement Cost</u>
\$21	1 Hr.	8 Hrs.	0

B. Price Breakdown

<u>Item</u>	
Quality Control Labor @ 4.86 per Hr.	\$ 34.00
Engineering Labor @ \$7.35 per Hr.	206.00
Procurement Cost	<u>4,765.00</u>
Product Cost	\$5,005.00
D & A E - 40.5% of Labor	98.00
16.0% of Procurement	<u>763.00</u>
Operating Cost	\$5,866.00
Corp. G & A @ 1.1%	65.00
Reproduction Cost	<u>21.00</u>
Total Cost	5,952.00
Profit	<u>661.00</u>
	\$6,613.00

Page 3  
April 19, 1963  
Mr. J. A. Spangler  
WESTINGHOUSE ELECTRIC CORPORATION

We must have immediate release on the Spacer Ring (P-80) to insure that it be included in the lead module. The new revision to the Support Nut Drawings (P-83) must be incorporated immediately to avoid delays and obsoleted components. Please transmit an appropriate change notice by return mail.

Sincerely yours,

R. L. CHURCHILL, Contract Administrator, Navy Nuclear Products

ca

UNCLASSIFIED

Invitation No. PGH-62-2  
Enclosure No. 8

 REACTOR CORES

GENERAL PROVISIONS

UNCLASSIFIED



U N C L A S S I F I E D

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U N C L A S S I F I E D

## GENERAL PROVISIONS

*obsolete*

## 1. DEFINITIONS

As used throughout this contract, the following terms shall have the meanings set forth below:

- (a) The term "Commission" means the United States Atomic Energy Commission or any duly authorized representative thereof, including the Contracting Officer except for the purpose of deciding an appeal under the Article entitled "Disputes."
- (b) The term "Contracting Officer" means the person executing this contract on behalf of the Government, and any other officer or civilian employee who is a properly designated Contracting Officer; and the term includes, except as otherwise provided in this contract, the authorized representative of a Contracting Officer acting within the limits of his authority.
- (c) Except as otherwise provided in this contract, the term "subcontracts" includes purchase orders under this contract.
- (d) The term "item," unless another meaning is indicated by the context, means and refers to the numbered item or items listed on the face sheet of this contract.

## 2. CHANGES

The Contracting Officer may at any time, by a written order, and without notice to the sureties, make changes, within the general scope of this contract, in any one or more of the following: (i) drawings, designs, or specifications, where the supplies to be furnished are to be specially manufactured for the Government in accordance therewith; (ii) method of shipment or packing; and (iii) place of delivery. If any such change causes an increase or decrease in the cost of, or the time required for, the performance of any part of the work under this contract, whether changed or not changed by any such order, an equitable adjustment shall be made in the contract price or delivery schedule, or both, and the contract shall be modified in writing accordingly. Any claim by the Contractor for adjustment under this clause must be asserted within 30 days from the date of receipt by the Contractor of the notification of change: Provided, however, That the Contracting Officer, if he decides that the facts justify such action, may receive and act upon any such claim asserted at any time prior to final payment under this contract. Where the cost of property made obsolete or excess as a result of a change is included in the Contractor's claim for adjustment, the Contracting Officer shall have the right to prescribe the manner of

disposition of such property. Failure to agree to any adjustment shall be a dispute concerning a question of fact within the meaning of the clause of this contract entitled "Disputes." However, nothing in this clause shall excuse the Contractor from proceeding with the contract as changed.

3. EXTRAS

Except as otherwise provided in this contract, no payment for extras shall be made unless such extras and the price therefor have been authorized in writing by the Contracting Officer.

4. VARIATION IN QUANTITY

No variation in the quantity of any item called for by this contract will be accepted unless such variation has been caused by conditions of loading, shipping, or packing, or allowances in manufacturing processes, and then only to the extent, if any, specified elsewhere in this contract.

5. INSPECTION

(a) All supplies (which term throughout this clause includes without limitation raw materials, components, intermediate assemblies, and end products) shall be subject to inspection and test by the Government or its designees, to the extent practicable at all times and places including the period of manufacture, and in any event prior to acceptance.

(b) In case any supplies or lots of supplies are defective in material or workmanship or otherwise not in conformity with the requirements of this contract, the Government shall have the right either to reject them (with or without instructions as to their disposition) or to require their correction. Supplies or lots of supplies which have been rejected or required to be corrected shall be removed, or, if permitted or required by the Contracting Officer, corrected in place by and at the expense of the Contractor promptly after notice, and shall not thereafter be tendered for acceptance unless the former rejection or requirement of correction is disclosed. If the Contractor fails promptly to remove such supplies or lots of supplies which are required to be removed, or promptly to replace or correct such supplies or lots of supplies, the Government either (i) may by contract or otherwise replace or correct such supplies and charge to the Contractor the cost occasioned the Government thereby, or (ii) may terminate this contract for default as provided in the clause of this contract entitled "Default." Unless the Contractor corrects or replaces such supplies within the delivery schedule, the Contracting Officer may require the delivery of such supplies at a reduction in price which is equitable under the circumstances. Failure to agree to such reduction of price shall be a dispute concerning a question of fact within the meaning of the clause of this contract entitled "Disputes."

(c) If any inspection or test is made by the Government on the premises of the Contractor or a subcontractor, the Contractor without additional charge shall provide all reasonable facilities and assistance for the safety and convenience

of the Government inspectors in the performance of their duties. If Government inspection or test is made at a point other than the premises of the Contractor or a subcontractor, it shall be at the expense of the Government except as otherwise provided in this contract: Provided, That in case of rejection the Government shall not be liable for any reduction in value of samples used in connection with such inspection or test. All inspections and tests by the Government shall be performed in such a manner as not to unduly delay the work. The Government reserves the right to charge to the Contractor any additional cost of Government inspection and test when supplies are not ready at the time such inspection and test is requested by the Contractor or when reinspection or retest is necessitated by prior rejection. Acceptance or rejection of the supplies shall be made as promptly as practicable after delivery, except as otherwise provided in this contract; but failure to inspect and accept or reject supplies shall neither relieve the Contractor from responsibility for such supplies as are not in accordance with the contract requirements nor impose liability on the Government therefor.

(d) The inspection and test by the Government of any supplies or lots thereof does not relieve the Contractor from any responsibility regarding defects or other failures to meet the contract requirements which may be discovered prior to acceptance. Except as otherwise provided in this contract, acceptance shall be conclusive except as regards latent defects, fraud, or such gross mistakes as amount to fraud.

(e) Inspection and test requirements specifically required by this contract are for the convenience of the Government and do not relieve the Contractor of his responsibility to provide a high quality product and one which meets all applicable contract specifications. If during the Government's own test or inspection of the equipment after its delivery, any condition is uncovered which fails to meet all the applicable contract specifications, the Contractor is financially responsible, in accordance with the provisions of Article 30 - Guarantees, for correcting these conditions; this requirement applies irrespective of the extent of testing or inspection specifically required of the Contractor by the contract.

(f) The Contractor shall provide and maintain an inspection system acceptable to the Government covering the supplies hereunder. Records of all inspection work by the Contractor shall be kept complete and available to the Government during the performance of this contract and for such longer period as may be specified elsewhere in this contract.

## 6. RESPONSIBILITY FOR SUPPLIES

Except as otherwise provided in this contract, (i) the Contractor shall be responsible for the supplies covered by this contract until they are delivered at the designated delivery point, regardless of the point of inspection; (ii) after delivery to the Government at the designated point and prior to acceptance by the Government or rejection and giving notice thereof by the Government, the Government shall be responsible for the loss or destruction of or damage to the supplies only if such loss, destruction, or damage results from the negligence

of officers, agents, or employees of the Government acting within the scope of their employment; and (iii) the Contractor shall bear all risks as to rejected supplies after notice of rejection, except that the Government shall be responsible for the loss, or destruction of, or damage to the supplies only if such loss, destruction or damage results from the gross negligence of officers, agents, or employees of the Government acting within the scope of their employment.

## 7. PAYMENTS

(a) Progress payments, as requested by the Contractor and approved by the Contracting Officer, based on the percentage or stage of completion of each item to be supplied under this contract will be made as the work progresses, at the end of each calendar month, or as soon thereafter as practicable, provided the total amount paid as progress payments shall not exceed the actual costs incurred by the Contractor for work under this contract plus a prorata share of the estimated profit to cover the work completed. Value of materials, supplies, and subcontracted parts, to the extent paid for by the Contractor, shall be considered in determining the percentage or stage of completion. The Contractor shall furnish information as required by the Contracting Officer to substantiate each progress payment. Progress payments based on percentage or stage of completion may be made at more frequent intervals if approved by the Contracting Officer.

(b) In making such progress payments, 10% of the amount due, as approved by the Contracting Officer, shall be retained by the Commission until final completion and acceptance of all work required to complete each item supplied hereunder; provided, however, that the Contracting Officer, at any time after 50% of such work has been completed, if he finds that satisfactory progress is being made, may make any of the remaining progress payments in full.

(c) All material and work covered by progress payments made shall thereupon become the sole property of the Government, but this provision shall not be construed as relieving the Contractor from the sole responsibility for all materials and work upon which payments have been made or the restoration of any damaged work, or as a waiver of the right of the Government to require the fulfillment of all the terms of the contract.

(d) Upon completion and acceptance of each item supplied hereunder, the amount due the Contractor for such item will be paid upon the presentation of a properly executed voucher or invoice therefor, after the Contractor shall have furnished the Government with a release, if required, in such form and with such exceptions as may be approved by the Contracting Officer, of any and all claims against the Government which may have accrued prior to the date of such release. If the Contractor is required to furnish a release hereunder, such release shall have no effect as to claims arising out of or resulting from risks against which the Government has indemnified the Contractor under this contract. If the Contractor's claim to amounts payable under the contract has been assigned under the Assignment of Claims Act of 1940, as amended (41 U.S.C. 15), a release may also be required of the assignee at the option of the Contracting Officer.

**8. ASSIGNMENT**

Neither this contract nor any interest therein nor claim thereunder shall be assigned or transferred by the Contractor except as expressly authorized in writing by the Contracting Officer.

**9. ASSIGNMENT OF CLAIMS**

(a) Pursuant to the provisions of the Assignment of Claims Act of 1940, as amended (31 U.S. Code 203, 41 U.S. Code 15), if this contract provides for payments aggregating \$1,000 or more, claims for monies due or to become due the Contractor from the Government under this contract may be assigned to a bank, trust company, or other financing institution, including any Federal lending agency, and may thereafter be further assigned and reassigned to any such institution. Any such assignment or reassignment shall cover all amounts payable under this contract and not already paid, and shall not be made to more than one party, except that any such assignment or reassignment may be made to one party as agent or trustee for two or more parties participating in such financing. Unless otherwise provided in this contract, payments to an assignee of any monies due or to become due under this contract shall not, to the extent provided in said Act, as amended, be subject to reduction or set-off.

(b) In no event shall copies of this contract or of any plans, specifications, or other similar documents relating to work under this contract, if marked "Top Secret," "Secret," or "Confidential," be furnished to any assignee of any claim arising under this contract or to any other person not entitled to receive the same. However, a copy of any part or all of this contract so marked may be furnished, or any information contained therein may be disclosed, to such assignee upon the prior written authorization of the Contracting Officer.

**10. BOND SECURITY**

If required by the Contracting Officer, the Contractor will furnish Performance and Payment Bonds, or both, in form and amount and with sureties satisfactory to the Contracting Officer. The Contractor represents that neither its proposal nor the contract price herein provided for includes any amount representing the cost of Performance or Payment Bonds. The cost of any bonds required will be reimbursed to the Contractor on submission of satisfactory evidence of the payment thereof.

**11. ADDITIONAL BOND SECURITY**

If any surety upon any bond furnished in connection with this contract becomes unacceptable to the Government, or if any such surety fails to furnish reports as to his financial condition from time to time as requested by the Government, the Contractor shall promptly furnish such additional security as may be required from time to time to protect the interests of the Government and of persons supplying labor or materials in the prosecution of the work contemplated by this contract.

12. FEDERAL, STATE, AND LOCAL TAXES

(a) As used throughout this clause, the term "tax inclusive date" means the date of negotiated contracts and the date set for the opening of bids for contracts entered into through formal advertising. As to additional supplies or services procured by modification to this contract, the term "tax inclusive date" means the date of such modification.

(b) Except as may be otherwise provided in this contract, the contract price includes all Federal, State, and local taxes and duties in effect and applicable to this contract on the tax inclusive date, except taxes from which the Government, the Contractor, or the transactions or property covered by this contract are then exempt. Unless specifically excluded, duties are included in the contract price.

(c) (1) If the Contractor is required to pay or bear the burden (i) of any tax or duty, which either was not to be included in the contract price pursuant to the requirements of paragraph (b), or was specifically excluded from the contract price by a provision of this contract; or (ii) of an increase in rate of any tax or duty, whether or not such tax or duty was excluded from the contract price; or of any interest or penalty thereon, the contract price shall be correspondingly increased: Provided, That the Contractor warrants in writing that no amount for such tax, duty or rate increase was included in the contract price as a contingency reserve or otherwise: And provided further, That liability for such tax, duty, rate increase, interest, or penalty was not incurred through the fault or negligence of the Contractor or its failure to follow instructions of the Contracting Officer.

(2) If the Contractor is not required to pay or bear the burden, or obtains a refund or drawback, in whole or in part, of any tax, duty, interest, or penalty which (i) was to be included in the contract price pursuant to the requirements of paragraph (b), (ii) was included in the contract price, or (iii) was the basis of an increase in the contract price, the contract price shall be correspondingly decreased or the amount of such relief, refund, or drawback shall be paid to the Government, as directed by the Contracting Officer. The contract price also shall be correspondingly decreased if the Contractor through its fault or negligence or its failure to follow instructions of the Contracting Officer, is required to pay or bear the burden, or does not obtain a refund or drawback of any such tax, duty, interest, or penalty. Interest paid or credited to the Contractor incident to a refund of taxes shall inure to the benefit of the Government to the extent that such interest was earned after the Contractor was paid or reimbursed by the Government for such taxes.



- (3) Invoices or vouchers covering any adjustment of the contract price pursuant to this paragraph (c) shall set forth the amount thereof as a separate item and shall identify the particular tax involved.
- (4) Nothing in this paragraph (c) shall be applicable to social security taxes; net income taxes; excess profit taxes; capital stock taxes; unemployment compensation taxes; or any State and local taxes, except those levied on or measured by the contract or sales price of the services or completed supplies furnished under this contract, including gross income taxes, gross receipts taxes, sales and use taxes, excise taxes, or franchise or occupation taxes measured by sales or receipts from sales.
- (5) No adjustment of less than \$100 shall be made in the contract price pursuant to this paragraph.

(d) Unless there does not exist any reasonable basis to sustain an exemption, the Government agrees upon request of the Contractor, without further liability except as otherwise provided in this contract, to furnish evidence appropriate to establish exemption from (i) any Federal tax, which the Contractor warrants in writing was excluded from the contract price, or (ii) any State or local tax: Provided, That evidence appropriate to establish exemption from duties will be furnished, and Government bills of lading will be issued, only at the discretion of the Contracting Officer. In addition, the Contracting Officer may furnish evidence appropriate to establish exemption from any tax that may, pursuant to this clause, give rise to either an increase or decrease in the contract price.

- (e) (1) The Contractor shall promptly notify the Contracting Officer of all matters pertaining to Federal, State, and local taxes and duties that reasonably may result in either an increase or decrease in the contract price.
- (2) Whenever an increase or decrease in the contract price may be required under this clause, the Contractor shall take action as directed by the Contracting Officer, and the contract price shall be equitably adjusted to cover the costs of such action, including any interest, penalty, and reasonable attorney's fees.

(f) For the purpose of this contract, under this Article 12, personal property, which is acquired by the Contractor or furnished by the Government, and used in the performance of this contract, title to which on the tax assessment date is vested in the Government, and any interest which the Contractor may have in such property, are considered exempt from personal property taxes. Further, the provisions of paragraph (c) of this Article shall be applicable to personal property taxes that may be assessed on such property or the Contractor's interest therein, and the contract price shall be increased or decreased in accordance with the provisions of such paragraph (c) for such taxes or the allocable portion thereof, and any interest or penalty thereon which would otherwise be subject to adjustment under paragraph (c). The Contractor warrants that the prices in this contract do not include any amounts as a contingency reserve or otherwise on account of any such taxes on personal property or any interest therein.

13. DEFAULT

(a) The Government may, subject to the provision of paragraph (c) below, by written notice of default to the Contractor, terminate the whole or any part of this contract in any one of the following circumstances:

- (1) If the Contractor fails to make delivery of the supplies or to perform the services within the time specified herein or any extension thereof; or
- (ii) If the Contractor fails to perform any of the other provisions of this contract, or so fails to make progress as to endanger performance of this contract in accordance with its terms, and in either of these two circumstances does not cure such failure within a period of 10 days (or such longer period as the Contracting Officer may authorize in writing) after receipt of notice from the Contracting Officer specifying such failure.

(b) In the event the Government terminates this contract in whole or in part as provided in paragraph (a) of this clause, the Government may procure, upon such terms and in such manner as the Contracting Officer may deem appropriate, supplies or services similar to those so terminated, and the Contractor shall be liable to the Government for any excess costs for such similar supplies or services: Provided, That the Contractor shall continue the performance of this contract to the extent not terminated under the provisions of this clause.

(c) Except with respect to defaults of subcontractors, the Contractor shall not be liable for any excess costs if the failure to perform the contract arises out of causes beyond the control and without the fault or negligence of the Contractor. Such causes may include, but are not restricted to, acts of God or of the public enemy, acts of the Government in either its sovereign or contractual capacity, fires, floods, epidemics, quarantine restrictions, strikes, freight embargoes, and unusually severe weather; but in every case the failure to perform must be beyond the control and without the fault or negligence of the Contractor. If the failure to perform is caused by the default of a subcontractor, and if such default arises out of causes beyond the control of both the Contractor and subcontractor, and without the fault or negligence of either of them, the Contractor shall not be liable for any excess costs for failure to perform, unless the supplies or services to be furnished by the subcontractor were obtainable from other sources in sufficient time to permit the Contractor to meet the required delivery schedule.

(d) If this contract is terminated as provided in paragraph (a) of this clause, the Government, in addition to any other rights provided in this clause, may require the Contractor to transfer title and deliver to the Government, in the manner and to the extent directed by the Contracting Officer, (i) any completed supplies, and (ii) such partially completed supplies and materials, parts, tools, dies, jigs, fixtures, plans, drawings, information, and contract rights (hereinafter called "manufacturing materials") as the Contractor has specifically produced or specifically acquired for the performance of such part of this contract as has been terminated; and the Contractor shall, upon direction of the Contracting Officer, protect and preserve property in possession of the Contractor in which the Government has an interest. Payment for completed supplies delivered to and accepted by the Government shall be at the contract

price. Payment for manufacturing materials delivered to and accepted by the Government and for the protection and preservation of property shall be in an amount agreed upon by the Contractor and the Contracting Officer; failure to agree to such amount shall be a dispute concerning a question of fact within the meaning of the clause of this contract entitled "Disputes."

(e) If, after notice of termination of this contract under the provisions of paragraph (a) of this clause, it is determined that the failure to perform this contract is due to causes beyond the control and without the fault or negligence of the Contractor or subcontractor pursuant to the provisions of paragraph (c) of this clause, such notice of default shall be deemed to have been issued pursuant to the clause of this contract entitled "Termination for Convenience of the Government," and the rights and obligations of the parties hereto shall in such event be governed by such clause. (Except as otherwise provided in this contract, this paragraph (e) applies only if this contract contains such clause.)

(f) The rights and remedies of the Government provided in this clause shall not be exclusive and are in addition to any other rights and remedies provided by law or under this contract.

#### 14. DISPUTES

(a) Except as otherwise provided in this contract, any dispute concerning a question of fact arising under this contract which is not disposed of by agreement shall be decided by the Contracting Officer, who shall reduce his decision to writing and mail or otherwise furnish a copy thereof to the Contractor. The decision of the Contracting Officer shall be final and conclusive unless within 30 days from the date of receipt of such copy, the Contractor mails or otherwise furnishes to the Contracting Officer a written appeal addressed to the Commission. The decision of the Commission or its duly authorized representative for the determination of such appeals shall be final and conclusive unless determined by a court of competent jurisdiction to have been fraudulent, or capricious, or arbitrary, or so grossly erroneous as necessarily to imply bad faith, or not supported by substantial evidence. In connection with any appeal proceeding under this clause, the Contractor shall be afforded an opportunity to be heard and to offer evidence in support of its appeal. Pending final decision of a dispute hereunder, the Contractor shall proceed diligently with the performance of the contract and in accordance with the Contracting Officer's decision.

(b) This "Disputes" clause does not preclude consideration of law questions in connection with decisions provided for in paragraph (a) above: Provided, That nothing in this contract shall be construed as making final the decision of any administrative official, representative, or board on a question of law.

15. CONVICT LABOR

In connection with the performance of work under this contract, the Contractor agrees not to employ any person undergoing sentence of imprisonment at hard labor.

16. EIGHT-HOUR LAW OF 1912 - OVERTIME COMPENSATION

This contract, to the extent that it is of a character specified in the Eight-Hour Law of 1912, as amended (40 U.S. Code 324-326) and is not covered by the Walsh-Healey Public Contracts Act (41 U.S. Code 35-45), is subject to the following provisions and exceptions of said Eight-Hour Law of 1912 as amended, and to all other provisions and exceptions of said Law:

No laborer or mechanic doing any part of the work contemplated by this contract, in the employ of the Contractor or any subcontractor contracting for any part of said work contemplated, shall be required or permitted to work more than eight hours in any one calendar day upon such work, except upon the condition that compensation is paid to such laborer or mechanic in accordance with the provisions of this clause. The wages of every laborer and mechanic employed by the Contractor or any subcontractor engaged in the performance of this contract shall be computed on a basic day rate of eight hours per day; and work in excess of eight hours per day is permitted only upon the condition that every such laborer and mechanic shall be compensated for all hours worked in excess of eight hours per day at not less than one and one-half times the basic rate of pay. For each violation of the requirements of this clause a penalty of five dollars shall be imposed for each laborer or mechanic for every calendar day in which such employee is required or permitted to labor more than eight hours upon said work without receiving compensation computed in accordance with this clause, and all penalties thus imposed shall be withheld for the use and benefit of the Government.

17. WALSH-HEALEY PUBLIC CONTRACTS ACT

If this contract is for the manufacture or furnishing of materials, supplies, articles, or equipment in an amount which exceeds or may exceed \$10,000 and is otherwise subject to the Walsh-Healey Public Contracts Act, as amended (41 U.S. Code 35-45), there are hereby incorporated by reference all representations and stipulations required by said Act and regulations issued thereunder by the Secretary of Labor, such representations and stipulations being subject to all applicable rulings and interpretations of the Secretary of Labor which are now or may hereafter be in effect.

18. NONDISCRIMINATION IN EMPLOYMENT

In connection with the performance of work under this contract, the Contractor agrees as follows:

(a) The Contractor will not discriminate against any employee or applicant for employment because of race, creed, color, or national origin. The Contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, creed, color, or national origin. Such action shall include, but not be limited

to, the following: Employment, upgrading, demotion or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided by the Contracting Officer setting forth the provisions of this nondiscrimination clause.

(b) The Contractor will, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without regard to race, creed, color, or national origin.

(c) The Contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice, to be provided by the agency Contracting Officer, advising the said labor union or workers' representative of the Contractor's commitments under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

(d) The Contractor will comply with all provisions of Executive Order No. 10925 of March 6, 1961, and of the rules, regulations, and relevant orders of The President's Committee on Equal Employment Opportunity created thereby.

(e) The Contractor will furnish all information and reports required by Executive Order No. 10925 of March 6, 1961, and by the rules, regulations, and orders of the said Committee, or pursuant thereto, and will permit access to his books, records, and accounts by the contracting agency and the Committee for purposes of investigation to ascertain compliance with such rules, regulations, and orders.

(f) In the event of the Contractor's non-compliance with the nondiscrimination clauses of this contract or with any of the said rules, regulations, or orders, this contract may be cancelled in whole or in part and the Contractor may be declared ineligible for further Government contracts in accordance with procedures authorized in Executive Order No. 10925 of March 6, 1961, and such other sanctions may be imposed and remedies invoked as provided in the said Executive Order or by rule, regulation, or order of The President's Committee on Equal Employment Opportunity, or as otherwise provided by law.

(g) The Contractor will include the provisions of the foregoing paragraphs (a) through (f), in every subcontract or purchase order unless exempted by rules, regulations, or orders of The President's Committee on Equal Employment Opportunity issued pursuant to Section 303 of Executive Order No. 10925 of March 6, 1961, so that such provisions will be binding upon each subcontractor or vendor. The Contractor will take such action with respect to any subcontract or purchase order as the contracting agency may direct as a means of enforcing such provisions, including sanctions for non-compliance: Provided, however, that in the event the Contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the contracting agency, the Contractor may request the United States to enter into such litigation to protect the interests of the United States.

19. PRIORITIES, ALLOCATIONS AND ALLOTMENTS

The Contractor agrees, in the procurement and use of materials required for the performance of this contract, to comply with the provisions of all applicable rules and regulations of the Business and Defense Services Administration, including Defense Materials System regulations. Priority Rating DO-E-2 is certified for use under this contract and shall be shown on all purchase orders and subcontracts issued hereunder.

20. OFFICIALS NOT TO BENEFIT

No member of or delegate to Congress or resident commissioner, shall be admitted to any share or part of this contract, or to any benefit that may arise therefrom; but this provision shall not be construed to extend to this contract if made with a corporation for its general benefit.

21. COVENANT AGAINST CONTINGENT FEES

The Contractor warrants that no person or selling agency has been employed or retained to solicit or secure this contract upon an agreement or understanding for a commission, percentage, brokerage, or contingent fee, excepting bona fide employees or bona fide established commercial or selling agencies maintained by the Contractor for the purpose of securing business. For breach or violation of this warranty the Government shall have the right to annul this contract without liability or in its discretion to deduct from the contract price or consideration, or otherwise recover, the full amount of such commission, percentage, brokerage, or contingent fee.

22. EXAMINATION OF RECORDS

(a) The Contractor agrees that the Commission and the Comptroller General of the United States or any of their duly authorized representatives shall have access to and the right to examine any directly pertinent books, documents, papers, and records of the Contractor involving transactions related to this contract until the expiration of three years after final payment under this contract.

(b) The Contractor further agrees to include in all his subcontracts hereunder a provision to the effect that the subcontractor agrees that the Comptroller General of the United States or any of his duly authorized representatives shall, until the expiration of three years after final payment under the subcontract, have access to and the right to examine any directly pertinent books, documents, papers, and records of such subcontractor, involving transactions related to the subcontract. The term "subcontract" as used in this clause excludes (i) purchase orders not exceeding \$2,500 and (ii) subcontracts or purchase orders for public utility services at rates established for uniform applicability to the general public.

(c) Nothing in this contract shall be deemed to preclude an audit by the General Accounting Office of any transaction under this contract.

23. NOTICE OF LABOR DISPUTES

Whenever an actual or potential labor dispute is delaying or threatens to delay the performance of the work the Contractor shall immediately notify the Contracting Officer in writing. Such notice shall include all relevant information concerning the dispute and its background.

24. NOTICE OF SHIPMENTS

At the time of delivery of any shipment of supplies to a carrier for transportation, the Contractor shall give prepaid notice of shipment to the consignee establishment, and to such other persons or installations designated by the Contracting Officer, in accordance with instructions of the Contracting Officer. If such instructions have not been received by the Contractor at least 24 hours prior to such delivery to a carrier, the Contractor shall request instructions from the Contracting Officer concerning the notice of shipment to be given.

25. PACKING AND PROCESSING CHARGES

The prices herein include all charges for packing and processing in accordance with the provisions of this contract.

26. SUBCONTRACTS AND PURCHASES

The Contractor will not subcontract any work nor permit lower-tier subcontracting of any work on any item to be supplied under this contract, without the prior written approval of the Contracting Officer.

27. UTILIZATION OF SMALL BUSINESS CONCERNS

(a) It is the policy of the Government as declared by the Congress that a fair proportion of the purchases and contracts for supplies and services for the Government be placed with small business concerns.

(b) The Contractor agrees to accomplish the maximum amount of subcontracting to small business concerns that the Contractor finds to be consistent with the efficient performance of this contract.

28. UTILIZATION OF CONCERNS IN LABOR SURPLUS AREAS

It is the policy of the Government to place contracts with concerns which will perform such contracts substantially in areas of persistent or substantial labor surplus where this can be done, consistent with the efficient performance of the contract, at prices no higher than are obtainable elsewhere. The Contractor agrees to use his best efforts to place his subcontracts in accordance with this policy. In complying with the foregoing and with paragraph (b) of the clause of this contract entitled "Utilization of Small Business Concerns," the Contractor in placing his subcontracts shall observe the following order of preference:

- (1) persistent labor surplus area concerns which are also small business concerns;
- (2) other persistent labor surplus area concerns;
- (3) substantial labor surplus area concerns which are also small business concerns;
- (4) other substantial labor surplus area concerns; and
- (5) small business concerns which are not labor surplus area concerns.

## 29. TERMINATION FOR CONVENIENCE OF THE GOVERNMENT

(a) The performance of work under this contract may be terminated by the Government in accordance with this Article in whole, or from time to time in part, whenever the Contracting Officer shall determine that such termination is in the best interests of the Government. Any such termination shall be effected by delivery to the Contractor of a Notice of Termination specifying the extent to which performance of work under the contract is terminated, and the date upon which such termination becomes effective.

(b) After receipt of a Notice of Termination, and except as otherwise directed by the Contracting Officer, the Contractor shall (1) stop work under the contract on the date and to the extent specified in the Notice of Termination; (2) place no further orders or subcontracts for materials, services, or facilities except as may be necessary for completion of such portion of the work under the contract as is not terminated; (3) terminate all orders and subcontracts to the extent that they relate to the performance of work terminated by the Notice of Termination; (4) assign to the Government, in the manner, at the times, and to the extent directed by the Contracting Officer, all of the right, title, and interest of the Contractor under the orders and subcontracts so terminated in which case the Government shall have the right in its discretion, to settle or pay any or all claims arising out of the termination of such orders and subcontracts; (5) settle all outstanding liabilities and all claims arising out of such termination or orders and subcontracts, with the approval or ratification of the Contracting Officer, to the extent he may require, which approval or ratification shall be final for all the purposes of this Article; (6) transfer title and deliver to the Government, in the manner, at the times, and to the extent, if any, directed by the Contracting Officer, (i) the fabricated or unfabricated parts, work in process, completed work, supplies, and other material produced as a part of , or acquired in connection with the performance of, the work terminated by the Notice of Termination, and (ii) the completed or partially completed plans, drawings, information, and other property which, if the contract had been completed, would have been required to be furnished to the Government; (7) use its best efforts to sell, in the manner, at the times, to the extent, and at the price or prices directed or authorized by the Contracting Officer, any property of the types referred to in provision (6) of this paragraph, provided, however, that the Contractor (i) shall not be required to extend credit to any purchaser, and (ii) may acquire any such property under the conditions prescribed by and at a price or prices approved by the Contracting Officer; and provided further that the proceeds of any such transfer or disposition shall be applied in reduction of any payments



to be made by the Government to the Contractor under this contract or shall otherwise be credited to the price or cost of the work covered by this contract or paid in such other manner as the Contracting Officer may direct; (8) complete performance of such part of the work as shall not have been terminated by the Notice of Termination and (9) take such action as may be necessary, or as the Contracting Officer may direct, for the protection and preservation of the property related to this contract which is in the possession of the Contractor and in which the Government has or may acquire an interest. At any time after expiration of the plant clearance period (as defined in Chapter 9112 of the AEC Manual), the Contractor may submit to the Contracting Officer a list, certified as to quantity and quality, of any or all items of termination inventory not previously disposed of, exclusive of items the disposition of which has been directed or authorized by the Contracting Officer, and may request the Government to remove such items or enter into a storage agreement covering them. Not later than fifteen (15) days thereafter, the Government will accept title to such items and remove them or enter into a storage agreement covering the same, provided that the list submitted shall be subject to verification by the Contracting Officer upon removal of the items, or if the items are stored, within forty-five (45) days from the date of submission of the lists, and any necessary adjustment to correct the list as submitted shall be made prior to final settlement.

(c) After receipt of a Notice of Termination, the Contractor shall submit to the Contracting Officer its termination claim in the form and with the certification prescribed by the Contracting Officer. Such claim shall be submitted promptly but in no event later than two years from the effective date of termination, unless one or more extensions in writing are granted by the Contracting Officer, upon request of the Contractor made in writing within such two-year period or authorized extension thereof. However, if the Contracting Officer determines that the facts justify such action, he may receive and act upon any such termination claim at any time after such two-year period or any extension thereof. Upon failure of the Contractor to submit its termination claim within the time allowed, the Contracting Officer may determine, on the basis of information available to him, the amount, if any, due to the Contractor by reason of the termination and shall thereupon pay to the Contractor the amount so determined.

(d) Subject to the provisions of paragraph (c), the Contractor and the Contracting Officer may agree upon the whole or any part of the amount or amounts to be paid to the Contractor by reason of the total or partial termination of work pursuant to this Article, which amount or amounts may include a reasonable allowance for profit on work done. The contract shall be amended accordingly, and the Contractor shall be paid the agreed amount. Nothing in paragraph (e) of this Article, prescribing the amount to be paid to the Contractor in the event of failure of the Contractor and the Contracting Officer to agree upon the whole amount to be paid to the Contractor by reason of the termination of work pursuant to this Article, shall be deemed to limit, restrict, or otherwise determine or affect the amount or amounts which may be agreed upon to be paid to the Contractor pursuant to this paragraph (d).

(e) In the event of the failure of the Contractor and the Contracting Officer to agree as provided in paragraph (d) upon the whole amount to be paid to the Contractor by reason of the termination of work pursuant to this Article, the Contracting Officer shall determine, on the basis of information available to him, the amount, if any, due to the Contractor by reason of the termination and shall pay to the Contractor the amounts determined as follows:

- (1) For completed supplies accepted by the Government (or sold or acquired as provided in paragraph (b) (7) above) and not theretofore paid for, a sum equivalent to the aggregate price for such supplies computed in accordance with the price or prices specified in the contract, appropriately adjusted for any saving of freight or other charges;
- (2) The total of --
  - (1) The costs incurred in the performance of the work terminated, including initial costs and preparatory expense allocable thereto, but exclusive of any costs attributable to supplies paid or to be paid for under paragraph (e) (1) hereof;
  - (ii) The cost of settling and paying claims arising out of the termination of work under subcontracts or orders, as provided in paragraph (b) (5) above, which are properly chargeable to the terminated portion of the contract (exclusive of amounts paid or payable on account of supplies or materials delivered or services furnished by subcontractors or vendors prior to the effective date of the Notice of Termination, which amounts shall be included in the costs payable under (i) above).
  - (iii) A sum equal to 2% of that part of the amount determined under (i) which represents the cost of articles and materials not processed by the Contractor, plus a sum equal to 8% of the remainder of such amount, but the aggregate of such sums shall not exceed 6% of the whole of the amount determined under subdivision (i) above, which amount for the purpose of this subdivision (iii) shall exclude any charges for interest on borrowing provided, however, that if it appears that the Contractor would have sustained a loss on the entire contract had it been completed, no profit shall be included or allowed under this subdivision (iii) and an appropriate adjustment shall be made reducing the amount of the settlement to reflect the indicated rate of loss.

- (3) The reasonable costs of settlement, including accounting, legal, clerical, and other expenses reasonably necessary for the preparation of settlement claims and supporting data with respect to the terminated portion of the contract and for the termination and settlement of subcontracts thereunder, together with reasonable storage, transportation, and other costs incurred in connection with the protection or disposition of property allocable to this contract.

The total sum to be paid to the Contractor under (1) and (2) of this paragraph (e) shall not exceed the total contract price as reduced by the amount of payments otherwise made and as further reduced by the contract price of work not terminated. Except for normal spoilage, and except to the extent that the Government shall have otherwise expressly assumed the risk of loss, there shall be excluded from the amounts payable to the Contractor as provided in paragraph (e) (1) and paragraph (e) (2) (i), the fair value, as determined by the Contracting Officer, in connection with property which is destroyed, lost, stolen, or damaged so as to become undeliverable to the Government, or to a buyer pursuant to paragraph (b) (7).

(f) Any determination of costs under paragraph (c) or (e) hereof shall be governed by the Statement of Cost Principles for Settlement of Terminated Fixed-Price Contracts set forth in Appendix 9112-042 of AEC Manual Chapter 9112, as in effect on the date of this contract.

(g) The Contractor shall have the right of appeal, under the Article of this contract entitled "Disputes," from any determination made by the Contracting Officer under paragraphs (c) or (e) above, except that if the Contractor has failed to submit its claim within the time provided in paragraph (c) above and has failed to request extension of such time, he shall have no such right of appeal. In any case where the Contracting Officer has made a determination of the amount due under paragraph (c) or (e) above, the Government shall pay to the Contractor the following: (i) if there is no right of appeal hereunder or if no timely appeal has been taken, the amount so determined by the Contracting Officer, or (ii) if an appeal has been taken, the amount finally determined on such appeal.

(h) In arriving at the amount due the Contractor under this Article there shall be deducted (1) all unliquidated advance or other unliquidated payments on account theretofore made to the Contractor, (2) any claim which the Government may have against the Contractor in connection with this contract, and (3) the agreed price for, or the proceeds of sale of, any materials, supplies, or other things acquired by the Contractor or sold, pursuant to the provisions of this Article, and not otherwise recovered by or credited to the Government.

(i) If the termination hereunder be partial, prior to the settlement of the terminated portion of this contract, the Contractor may file with the Contracting Officer a request in writing for an equitable adjustment of the price

or prices specified in the contract relating to the continued portion of the contract (the portion not terminated by the Notice of Termination), and such equitable adjustment as may be agreed upon shall be made in such price or prices.

(j) The Government may from time to time, under such terms and conditions as it may prescribe, make partial payments and payments on account against costs incurred by the Contractor in connection with the terminated portion of this contract whenever in the opinion of the Contracting Officer the aggregate of such payments shall be within the amount to which the Contractor will be entitled hereunder. If the total of such payments is in excess of the amount finally agreed or determined to be due under this Article, such excess shall be payable by the Contractor to the Government upon demand, together with interest computed at the rate of 6% per annum, for the period from the date such excess payment is received by the Contractor to the date on which such excess is repaid to the Government; provided, however, that no interest shall be charged with respect to any such excess payment attributable to a reduction in the Contractor's claim by reason of retention or other disposition of termination inventory until ten days after the date of such retention or disposition.

(k) Unless otherwise provided for in this contract, or by applicable statute, the Contractor, from the effective date of termination and for a period of three years after final settlement under this contract, shall preserve and make available to the Government at all reasonable times at the office of the Contractor but without direct charge to the Government, all its books, records, documents, and other evidence bearing on the costs and expenses of the Contractor under this contract and relating to the work terminated hereunder, or, to the extent approved by the Contracting Officer, photographs, microphotographs, or other authentic reproductions thereof.

### 30. GUARANTEES

(a) The Contractor guarantees that at the time of delivery thereof the supplies provided for under this contract will be free from any defects in material or workmanship and will conform to the requirements of this contract; and further, guarantees that the supplies will be manufactured in accordance with the contract drawings and specifications. The term "contract drawings and specifications" as used in this Article includes Commission-approved process outlines where required by the drawings and specifications. Failure of the Contractor to obtain Commission approval of contract drawings and specifications prior to performance of the work, where such prior approval is required, will subject the affected work to rejection.

(b) Notice of defect or nonconformance with the requirements of this contract shall be given by the Government to the Contractor within one year from the date of start-up for power production of the entire reactor system or systems in which the supplies or part thereof are installed or within

seven years from the date of delivery, whichever shall first occur. As required by the Government within a reasonable time after such notice, the Contractor shall with all possible speed correct or replace such defective or nonconforming supplies or part thereof as are delivered by the Government to the Contractor at the delivery point designated in this contract. Unless otherwise agreed, correction or replacement of defective or nonconforming supplies or parts shall be performed subject to and in accordance with the provisions of this contract. The Contractor's guarantees as provided in this Article shall continue as to corrected or replacing supplies or, if only parts of such supplies are corrected or replaced, to such corrected or replacing parts, for a further period of one year from the date of start-up for power production of the entire reactor system or systems in which such corrected or replacing supplies or parts are installed or seven years from the date of redelivery to the Government of such corrected or replacing supplies or parts, whichever period is shorter. If the Government does not require correction or replacement of defective or nonconforming supplies, the Contractor, if required by the Government within a reasonable time after the notice of defect or nonconformance, shall repay such portion of the contract price of the supplies as is equitable in the circumstances.

(c) Defective or nonconforming supplies or parts thereof delivered to the Contractor for correction or replacement, as provided for in this Article, may have become contaminated with radioactivity through use. Should the level of radioactivity of such supplies or part be sufficient to create by itself a "radiation area" as defined in 10 C.F.R. Sec. 20.202 as in effect on the date of this order, Contractor shall nevertheless promptly correct or replace such supplies or part as directed by the Contracting Officer. In the event Contractor's costs of correction or replacement of any such supplies or part are increased solely by reason of the level of radioactivity thereof which exceeds the level specified in the definition of "radiation area," an equitable adjustment shall be made in the contract price, and such adjustment shall be agreed to in writing. With respect to any such supplies or part having a level of radioactivity sufficient to create by itself a "radiation area," the Government shall have the right at its election to require Contractor to replace such supplies or part at a reasonable price to be mutually agreed upon, taking as a credit against such price Contractor's expected costs of correcting such supplies or part but disregarding Contractor's additional costs which would be incurred solely by reason of the level of radioactivity thereof which exceeds the level specified in the definition of "radiation area." Failure to agree to an equitable adjustment in price or a reasonable price for a replacement item as provided for herein shall be a dispute concerning a question of fact within the meaning of the Article of this contract entitled "Disputes."

(d) The Contractor shall not be liable to the Government for loss by reason of plant shutdown, non-operation or increased expense of operation of other equipment, damage to or destruction of the reactor plant or any other consequential loss or damage.

(e) The guarantees expressed in this Article 30 constitute the sole guarantee made by the Contractor with respect to the work and items called for or supplied under this contract.

31. WORKMANSHIP AND MATERIALS

(a) Grade of Workmanship and Materials. Unless otherwise directed by the Contracting Officer or expressly provided for by specifications issued under this contract:

- (1) all workmanship shall be first class; and
- (2) all articles, equipment and materials incorporated in the work are to be:
  - (i) new and of the most suitable grade of their respective kinds for the purpose; and
  - (ii) in accordance with any applicable drawings and specifications.

Where equipment, materials, or articles are referred to in the specifications as "equal to" any particular standard, the Contracting Officer shall decide the question of equality.

(b) Samples and Test Results. If the Contracting Officer so requires, the Contractor shall submit for approval samples of or test results on any materials proposed to be incorporated in the work before making any commitment for the purchase of such materials.

32. PATENTS

(a) Whenever any invention or discovery is made or conceived by the Contractor or its employees in the course of or under this contract, the Contractor shall furnish the Commission with complete information thereon; and the Commission shall have the sole power to determine whether or not and where a patent application shall be filed, and to determine the disposition of the title to and the rights under any application or patent that may result. The judgment of the Commission on these matters shall be accepted as final; and the Contractor for itself and for its employees agrees that the inventor or inventors will execute all documents and do all things necessary or proper to carry out the judgment of the Commission.

(b) No claim for pecuniary award or compensation under the provisions of the Atomic Energy Acts of 1946 and 1954 shall be asserted by the Contractor or its employees with respect to any invention or discovery made or conceived in the course of or under this contract.

(c) Except as otherwise authorized in writing by the Commission, the Contractor will obtain patent agreements to effectuate the purposes of paragraphs

(a) and (b) of this Article from all persons who perform any part of the work under this contract, except such clerical and manual labor personnel as will not have access to technical data.

(d) Except as otherwise authorized in writing by the Commission, the Contractor will insert in all subcontracts provisions making this Article applicable to the subcontractor and its employees.

### 33. PATENT INDEMNITY

The Contractor agrees to indemnify the Government, its officers, agents, servants, and employees against liability of any kind (including costs and expenses incurred) for the use of any invention or discovery and for the infringement of any Letters Patent (not including liability arising pursuant to Section 183, Title 35, (1952) U. S. Code, prior to the issuance of Letters Patent) occurring in the performance of this contract or arising by reason of the use or disposal by or for the account of the Government of items manufactured or supplied under this contract, except, however, infringement necessarily resulting from the Contractor's compliance with written specifications or provisions for other than standard parts or components manufactured or supplied by the Contractor or resulting from specific written instructions given by the Commission for the purpose of directing a manner of performance of the contract not normally utilized by the Contractor.

### 34. REPORTS AND RIGHTS IN DRAWINGS, DESIGNS, SPECIFICATIONS, ETC.

(a) The Contractor shall furnish to the Commission full and current reports of the work being performed under this contract. In addition, the Contractor shall submit to the Commission such other reports relating to the work being performed under the contract, as the Commission may from time to time require.

(b) All drawings, sketches, designs, design data, specifications, notebooks, technical and scientific data, and all photographs, negatives, reports, findings, recommendations, data and memoranda of every description relating thereto, as well as all copies of the foregoing relating to the work or any part thereof, including such of the foregoing as are furnished to the Contractor by the Commission and those prepared, developed or furnished by the Contractor in the course of, in connection with or under the contract, shall be subject to inspection by the Commission at all reasonable times (for which inspection the proper facilities shall be afforded the Commission by the Contractor and its subcontractors), shall be the property of the Government and may be used by the Government for any purpose whatsoever without any claim on the part of the Contractor and its subcontractors and vendors for additional compensation and shall be delivered to the Government, or otherwise disposed of by the Contractor either as the Contracting Officer may from time to time direct during the progress of the work or in any event as the Contracting Officer shall direct upon completion or termination of this contract. Provided, however, that any and all such matters relating to novel manipulative techniques and processes which are not patentable inventions shall be the property of the Contractor, subject to the right of the Government to use and have used such techniques and processes for Governmental purposes; and provided further, however, that any knowledge or information relating to such techniques and processes which is proprietary to the Contractor and is so designated in writing by the Contractor at the time of disclosure thereof to the Commission shall not be disclosed to others by the Commission, except that the Commission

may, notwithstanding the foregoing, at any time disclose to others: (1) such knowledge or information necessary in the opinion of the Commission to performance by such others of contracts with the Commission or of subcontracts under such contracts; (2) such knowledge or information obtained by the Commission from sources (including other agencies of the Government) to whom the Contractor has not disclosed such knowledge or information; (3) such knowledge or information already in the possession of the Commission prior to disclosure thereof by the Contractor; and (4) such knowledge or information as may be in the public domain otherwise than as a consequence of a breach of the obligation herein undertaken to maintain such information in a confidential status.

(c) Subject to the security and patent provisions of this contract, the Contractor shall be permitted to retain copies of material referred to in Section (b) of this Article. Use of such material and information, except matters relating to those proprietary techniques and processes designated in writing by the Contractor as provided for in Section (b) hereof, is restricted to the use by the Contractor, its subcontractors and vendors in connection with the work under this contract and, unless prior written approval is obtained from the Contracting Officer, the Contractor, its subcontractors and vendors shall not, at any time during or after the performance of this contract, (1) use any of said Government-owned material or information in the design, manufacture, production, evaluation, testing or sale of equipment or supplies of the kind specified to be delivered under this contract, or of any component parts thereof, or of any model of any such equipment, supplies or component part, or (2) transfer copies of, or otherwise disclose, to others (including corporate affiliates of the Contractor, its subcontractors and vendors) any of said Government-owned material or information. Except as authorized in writing by the Contracting Officer, Contractor shall insert provisions in all subcontracts and purchase orders hereunder which will limit the use and transfer of Government-owned material and information in accordance with the requirements of this Section (c). With respect to those proprietary techniques and processes designated in writing by the Contractor as provided for in Section (b) hereof, the Contractor shall not at any time during or after the performance of this contract disclose to others (including corporate affiliates of the Contractor, its subcontractors and vendors), or permit such others to use, any of said techniques or processes unless prior written approval is obtained from the Contracting Officer.

### 35. SECURITY

(a) Contractor's Duty to Safeguard Restricted Data and Other Classified Information. In the performance of the work under this contract, the Contractor shall, in accordance with the Commission's security regulations and requirements, be responsible for safeguarding restricted data and other classified matter and protecting against sabotage, espionage, loss and theft, the classified documents, materials, equipment, processes, etc., as well as such other material of high



intrinsic or strategic value as may be in the Contractor's possession in connection with performance of work under this contract. Except as otherwise expressly provided in the specifications, the Contractor shall upon completion or termination of this contract transmit to the Commission any classified matter in the possession of the Contractor or any person under the Contractor's control in connection with performance of this contract.

(b) Regulations. The Contractor agrees to conform to all security regulations and requirements of the Commission.

(c) Definition of Restricted Data. The term "Restricted Data," as used in this Article, means all data concerning (1) design, manufacture, or utilization of atomic weapons; (2) the production of special nuclear material; or (3) the use of special nuclear material in the production of energy, but shall not include data declassified or removed from the Restricted Data category pursuant to Section 142 of the Atomic Energy Act of 1954.

(d) Security Clearance of Personnel. Except as the Commission may authorize in accordance with the Atomic Energy Act of 1954, the Contractor shall not permit any individual to have access to Restricted Data until the designated investigating agency shall have made an investigation and report to the Commission on the character, associations, and loyalty of such individual and the Commission shall have determined that permitting such a person to have access to Restricted Data will not endanger the common defense and security. As used in this paragraph, the term "designated investigating agency" means the United States Civil Service Commission or the Federal Bureau of Investigation, or both, as determined pursuant to the provisions of the Atomic Energy Act of 1954. Access to classified information other than Restricted Data shall not be granted unless the recipient possesses appropriate security clearance.

(e) Criminal Liability. It is understood that disclosure of information relating to the work or services ordered hereunder to any person not entitled to receive it, or failure to safeguard any Restricted Data or any Top Secret, Secret, or Confidential matter that may come to the Contractor or any person under the Contractor's control in connection with work under this contract, may subject the Contractor, his agents, employees, and subcontractors to criminal liability under the laws of the United States. (See the Atomic Energy Act of 1954, 68 Stat. 919.) (See also Executive Order 10104 of February 1, 1950, 15 F. R. 597.)

(f) Subcontracts and Purchase Orders. Except as otherwise authorized in writing by the Contracting Officer, the Contractor shall insert provisions similar to the foregoing in all subcontracts and purchase orders under this contract.

### 36. CLASSIFICATION

In the performance of the work under this contract, the Contractor shall assign classifications to all documents, material and equipment originated or generated by the Contractor in accordance with classification guidance furnished to the Contractor by the Commission. Every subcontract and purchase order issued hereunder involving the origination or generation of classified documents, material or equipment, shall include a provision to the effect that in the performance of such subcontract or purchase order the subcontractor or supplier shall assign classifications to all such documents, material and equipment in accordance with classification guidance furnished to such subcontractor or supplied by the Contractor.

(b) In order to prevent public disclosure of classified information, the Contractor agrees to submit to the Contracting Officer for classification review and approval any information or descriptive material related to this contract which the Contractor may desire to release publicly. The Contractor further agrees to insert a provision similar to the foregoing in all his subcontracts and purchase orders under this contract, for other than standard commercial items.

### 37. SPECIAL TOOLING

(a) The term "special tooling" as used in this clause, means all jigs, dies, fixtures, molds, patterns, special taps, special gauges, special test equipment, other special equipment and manufacturing aids, and replacements thereof, acquired or manufactured by the Contractor for use in the performance of this contract, which are of such a specialized nature that, without substantial modification or alteration, their use is limited to the production of such supplies or parts thereof, or the performance of such services, called for by this contract, as are peculiar to the needs of the Government. The term does not include: (i) items of tooling or equipment heretofore acquired by the Contractor, or replacements thereof, whether or not altered or adapted for use in the performance of this contract; (ii) consumable small tools; or (iii) general or special machine tools or similar capital items.

(b) The Contractor agrees not to use any items of special tooling except in the performance of this contract, or except as otherwise provided by this clause, without prior written approval of the Contracting Officer. The Contractor may, with the approval of the Contracting Officer, use the special tooling in the performance of other contracts with the Government, or subcontracts under Government contracts, provided that the Contractor agrees not to include in the price or prices for any such contracts or subcontracts, involving the use of such special tooling, the cost of such tooling or any allowance or charge to cover depreciation or amortization which has previously been charged against this contract.

(c) As and when any substantial portion of usable special tooling is no longer needed by the Contractor for the performance of this contract, and of other Government contracts and subcontracts as to which approval has been obtained under paragraph (b) above, the Contractor shall promptly notify the Contracting Officer thereof, and shall furnish to the Contracting Officer a list of the products, parts or services for the manufacture or performance of which such special tooling was used or designed. Upon completion or termination of all work under this contract, or of this contract and other Government contract and subcontracts as to which approval has been obtained under paragraph (b) above, the Contractor shall furnish a final list in the same form covering all items not previously reported under this paragraph. Special tooling which has become obsolete as a result of changes in design or specification need not be reported, except as provided for in paragraph (d).

(d) In the event of any changes in design or specifications which affect interchangeability of parts, the Contractor shall, unless otherwise agreed to by the Contracting Officer, give the Contracting Officer notice of any part which is not interchangeable with the new or superseding part and the usable special tooling for each part covered in such notice shall be retained by the Contractor subject to the provisions of paragraph (i), pending disposition under paragraph (f).

(e) At the time it furnishes any list or notice under (c) or (d) above, the Contractor may designate those items of special tooling (either specifically or by listing the particular products, parts, or services for which such items were used or designed) which it desires to retain, together with a written offer; (i) to retain any or all of such items, free and clear of any Government interest, for an amount designated therein which should ordinarily not be less than the then fair value of such items (which fair value takes into account, among other things, the value of such items to the Contractor for use in further work by it); or (ii) to retain any or all such items for such period of time and subject to such terms and conditions as may be agreed to by the parties hereto, subject to ultimate retention or disposition of such items in accordance with paragraph (f) hereof.

(f) Within 90 days after receipt of any list or notice under paragraph (c) or (d) hereof, or such further period as may be agreed upon by the parties, the Contracting Officer shall furnish to the Contractor: (i) a list specifying the particular products, parts, or services for which the Government may require special tooling, together with a request that the Contractor transfer title (to the extent not previously transferred under any other clause of this contract) and deliver to the Government all usable items of special tooling which were used or designed for the manufacture or performance of any designated portion of such products, parts, or services, and which were on hand when production of such products or parts, or performance of such services, ceased; or (ii) an acceptance or rejection of any offer made by the Contractor under paragraph (e) above, or a request for further negotiation with respect thereto; or (iii) subject to the provisions of paragraph (j) hereof, a direction to the Contractor to sell, or to dispose of as scrap, for the account of the Government, any or all of the special tooling covered by such list; or (iv) a statement with respect to any or all of the special tooling covered by such list that the Government has no further interest therein and waives its rights therein; or (v) any combination of the foregoing, as the circumstances warrant. The Contractor shall promptly comply with any request by the Contracting Officer under this paragraph to transfer title to any items of special tooling, and shall, subject to the provisions of paragraph (j) hereof, (1) immediately prepare such items for shipment by proper packaging, packing, and marking, in accordance with any instructions which may be issued by the Contracting Officer, and shall promptly deliver such items to the Government, as directed by the Contracting Officer, or (2) if a storage agreement has been entered into, prepare such items for storage in accordance therewith, as directed by the Contracting Officer. Any items of special tooling so delivered or stored shall be accompanied by such operation sheets or other appropriate data as are necessary to show the manufacturing operations or processes for which such items were used or designed. If the Contracting Officer has requested further negotiations under (ii) of this paragraph, the Contractor agrees that it will enter into such negotiations in good faith with the Contracting Officer. Any items of special tooling which are not disposed of by transfer of title and delivery to the Government, or by acceptance of an offer of the Contractor made under paragraph (e), or of such offer as modified in the course of negotiations, shall be disposed of in the manner set forth in (iii) or (iv) of this paragraph.

(g) If the Contracting Officer accepts an offer of the Contractor to retain any items of special tooling, or if any such items are sold to third parties or disposed of as scrap, the net proceeds shall: (i) be deducted from the amounts due to the Contractor under this contract and the contract amended accordingly; or (ii) be otherwise paid as the Contracting Officer may direct.

(h) The Contractor agrees that it will follow its normal industrial practice in maintaining property control records on all the special tooling, and that it will make such records available for inspection by the Government at all reasonable times. The Contractor further agrees that, to the extent practicable, it will identify by appropriate stamp, tag or other mark all special tooling subject to this clause.

(i) The Contractor agrees that between the date any usable items of special tooling are no longer needed by it, within the meaning of this clause, and the date of final disposition of such items under this clause, it will take all reasonable steps necessary to maintain the identity and existing conditions of such items, unless the Contracting Officer has directed that such items be disposed of as scrap or has given notice under (f) (iii). The Contractor shall not be required to keep any such items in place.

(j) Any preparation of items for shipment required of the Contractor under paragraph (f) of this clause, or any disposal as scrap under paragraph (f) (iii), or any action required of the Contractor under paragraph (i), shall be taken pursuant to written instructions of the Contracting Officer, which shall (i) provide for an equitable adjustment of the contract price to cover any additional cost, to the Contractor, not taken into account in the negotiation of this contract, of complying with such instructions, which adjustment shall be made in accordance with the procedure set forth in the clause of this contract entitled "Changes," or (ii) otherwise provide for payment to the Contractor of any such additional cost. Any failure of the Contracting Officer to issue the Contractor specific disposition instructions shall be construed as an instruction to the Contractor to take the action required under paragraph (i) with provision for equitable adjustment or payment as provided for above.

(k) The Contractor agrees that, in placing any subcontracts or purchase orders under this contract which involve the use of special tooling, the full cost of which is charged to such subcontract or purchase order, it will include therein appropriate provisions to obtain rights comparable to those granted to the Government by this clause; and agrees that, it will exercise such rights for the benefit of the Government, as the Contracting Officer may direct.

### 38. SAFETY, HEALTH AND FIRE PROTECTION

The Contractor shall take all reasonable precautions in the performance of the work under this contract to protect the health and safety of employees and of members of the public and to minimize danger from all hazards to life and

property, and shall comply with all health, safety, and fire protection regulations and requirements (including reporting requirements) of the Commission. In the event that the Contractor fails to comply with said regulations or requirements of the Commission, the Contracting Officer may, without prejudice to any other legal or contractual rights of the Commission, issue an order stopping all or any part of the work; thereafter a start order for resumption of work may be issued at the discretion of the Contracting Officer. The Contractor shall make no claim for an extension of time or for compensation or damages by reason of or in connection with such work stoppage.

39. PERMITS

Except as otherwise directed by the Contracting Officer, the Contractor shall procure all necessary permits or licenses and abide by all applicable laws, regulations and ordinances of the United States and of the State, territory, and political subdivision in which the work under this contract is performed.

40. RENEGOTIATION

If this contract is subject to the Renegotiation Act of 1951, as amended, the following provisions shall apply:

(a) This contract is subject to the Renegotiation Act of 1951, as amended, (P.L. 9, 82nd Cong., 65 Stat. 7; P.L. 764, 83rd Cong., 68 Stat. 1116; P.L. 216, 84th Cong., 69 Stat. 447; P.L. 870, 84th Cong., 70 Stat. 766; 86th Cong., 72 Stat. 1789; 86th Cong., 73 Stat. 210) and shall be deemed to contain all the provisions required by Section 104 of said Act.

(b) The Contractor agrees to insert the provisions of this clause, including this paragraph (b), in all subcontracts, as that term is defined in Section 103g of the Renegotiation Act of 1951.

41. INDEMNIFICATION

(a) To the extent arising out of or resulting from work under this contract and not compensated for by insurance or otherwise, the Government shall indemnify and hold harmless the Contractor against liability on account of claims (including reasonable expenses of litigation or settlement of such claims) by third persons, including employees of the Contractor, for death, bodily injury, or loss of or damage to property, if such death, bodily injury or loss of or damage to property arises out of or results from a risk included in paragraph (b) of this clause and occurs during the period commencing with delivery and ending ten years after installation in a reactor plant of the items called for by this contract.

(b) The Government's obligation to indemnify the Contractor under this clause shall apply only to the risks peculiar to the radioactive, toxic, explosive, or other hazardous properties of source, special nuclear, by-product,

or radioactive materials, as those materials are defined in the Atomic Energy Act of 1954, used in or in connection with the handling, use, or operation by or for the Government of the items delivered by the Contractor to the Government under this contract.

(c) No payment shall be made by the Government under this clause unless such liabilities are represented by final judgments or by settlements approved in writing by the Government.

(d) Notwithstanding any other provisions of this clause to the contrary, the Government shall not be liable for indemnification for liability on account of claims by third persons, as set forth in this clause, which result (1) from willful misconduct or lack of good faith on the part of any of the Contractor's directors or officers, or on the part of any of its managers, superintendents, or other equivalent representatives, who has supervision or direction of (A) all or substantially all of the Contractor's business, or (B) all or substantially all of the Contractor's operations at any one plant or separate location in which this contract is being performed, or (C) a separate and complete major industrial operation in connection with the performance of this contract, or (2) from a risk for which insurance is available and is required by the Government to be procured and maintained pursuant to paragraph (e) of this clause.

(e) (i) The Contractor represents and warrants with respect to any liability, loss, or damage, arising out of or resulting from the risks included in paragraph (b) of this clause that the contract price set forth in this contract does not include (1) any contingency allowance to cover any such liability, loss, or damage, or (2) any cost of insurance for such liability.

(ii) With respect to the risks included in paragraph (b) of this clause, the Contractor shall procure and maintain, to the extent available, such insurance as the Government may from time to time after the date of this contract, require or approve. All such insurance shall be in the form, in the amounts, for the periods of time, and with such insurers as the Government may, from time to time after the date of this contract, require or approve.

(iii) The cost of any insurance procured and maintained in accordance with subparagraph (ii) above shall be reimbursed to the Contractor under this clause.

(f) The Contractor shall give the Contracting Officer immediate notice of any suit or action filed, or of any claim made, against Contractor with respect to any alleged liability to third persons of the type described in paragraphs (a) and (b) for which the Contractor may be entitled to indemnification under the provisions of this clause. The Contractor shall furnish immediately to the Government copies of all pertinent papers received by the Contractor. If the amount of the liability claimed exceeds the amount of any insurance coverage,

the Contractor shall authorize representatives of the Government to collaborate with the insurance carrier, if any, and its counsel, in settling or defending any such claim. If the liability is not insured but is covered by this clause, the Contractor shall, if required by the Government, authorize representatives of the Government to settle or defend any such claim and to represent the Contractor in, or take charge of any litigation in connection therewith and shall provide any assistance in the defense of such suit, action or claim as may be required by the Government. Notwithstanding the assistance to be provided in accordance with the foregoing, the Contractor may, at its election, be associated in the settlement or defense of any such claim or litigation.

(g) The liability of the Government to reimburse the Contractor under this Article shall be limited to an amount equal to the balance not recorded as an obligation against, or the amount capable of restoration under Public Law 798, 84th Congress, to the appropriation of the Department of the Navy obligated for transfer to the appropriation cited herein for payment for the supplies covered by this contract, on the date the Government's obligation to indemnify the Contractor pursuant to this Article shall become due and payable.

(h) The Commission represents that in the event it adopts, subsequent to the date of this contract, a policy extending indemnification agreements under the authority of Subsection 170 d. of the Atomic Energy Act of 1954 to contractors whose risk of public liability for a substantial nuclear incident arises out of or results from performance of contracts providing for delivery of items similar to those delivered under this contract, it will upon request of the Contractor modify this contract without further legal consideration to extend to the Contractor indemnification with respect to public liability for nuclear incidents in the form and to the extent then approved for use by the Atomic Energy Commission for contracts of this type.

#### 42. SUSPENSION OF WORK FOR THE CONVENIENCE OF THE GOVERNMENT

(a) The performance of work under this contract may be suspended by the Government in whole, or from time to time in part, whenever the Contracting Officer shall determine that such suspension of work is in the best interests of the Government. The Contractor shall, as soon as practicable after receipt of an order suspending performance of work under this contract, suspend work in the manner and to the extent directed therein. If any such suspension of work causes an increase in the cost of, or the time required for the performance of any part of the work under this contract, whether suspended or not suspended by any such order, not due to the fault or negligence of the Contractor, an equitable adjustment shall be made in the contract price or delivery schedule, or both, and the contract shall be modified in writing accordingly. Any claim by the Contractor for adjustment under this clause must be asserted within 30 days from the date of receipt by the Contractor of the notification of suspension: Provided, however, that the Contracting Officer, if he decides that the facts justify such action, may receive and act upon any such claim asserted at any time prior to final payment under this contract. Failure to agree to any adjustment shall

be a dispute concerning a question of fact within the meaning of the clause of this contract entitled "Disputes."

(b) The provisions of this clause shall not apply to any suspension of work resulting from action taken by the Contracting Officer under any other provision of this contract.

43. BUY AMERICAN ACT

(a) In acquiring end products, the Buy American Act (41 U.S. Code 10a-d) provides that the Government give preference to domestic source end products. For the purpose of this clause:

- (i) "Components" means those articles, materials and supplies, which are directly incorporated in the end products;
- (ii) "End products" means those articles, materials, and supplies, which are to be acquired under this contract for public use; and
- (iii) A "domestic source end product" means (A) an unmanufactured end product which has been mined or produced in the United States and (B) an end product manufactured in the United States if the cost of the components thereof which are mined, produced, or manufactured in the United States exceeds 50 percent of the cost of all its components. For the purposes of this (a) (iii) (B), components of foreign origin of the same type or kind as the products referred to in (b) (ii) or (iii) of this clause shall be treated as components mined, produced, or manufactured in the United States.

(b) The Contractor agrees that there will be delivered under this contract only domestic source end products, except end products:

- (i) Which are for use outside the United States;
- (ii) Which the Government determines are not mined, produced, or manufactured in the United States in sufficient and reasonably available commercial quantities and of a satisfactory quality;
- (iii) As to which the Commission determines the domestic preference to be inconsistent with the public interest; or
- (iv) As to which the Commission determines the cost to the Government to be unreasonable.

(The foregoing requirements are administered in accordance with Executive Order No. 10582, dated December 17, 1954.)



## 44. SMALL BUSINESS AND LABOR SURPLUS AREA SUBCONTRACTING PROGRAM

(a) The Contractor agrees to establish and conduct a program to afford small business concerns and labor surplus area concerns an equitable opportunity to compete for subcontracts within their capabilities. In this connection, the Contractor shall—

(1) Designate a liaison officer, who will (i) maintain liaison with the procuring activity and SBA on small business matters and with duly authorized representatives of the Government on labor surplus area matters, (ii) supervise compliance with the "Utilization of Small Business Concerns," and "Utilization of Concerns in Labor Surplus Areas" clauses, and (iii) administer the Contractor's Small Business and Labor Surplus Area Program. (If deemed necessary, separate liaison officers may be appointed for small business matters and for labor surplus area matters);

(2) Provide adequate and timely consideration of the potentialities of small business concerns and labor surplus area concerns in all "make-or-buy" decisions;

(3) Assure that small business concerns and labor surplus area concerns will have an equitable opportunity to compete for subcontracts, particularly by arranging solicitations, time for the preparation of bids, quantities, specifications, and delivery schedules so as to facilitate the participation of small business concerns and labor surplus area concerns;

(4) Maintain records showing (i) whether each prospective subcontractor is a small business concern and (ii) procedures which have been adopted to comply with the policies set forth in this clause;

(5) Include the "Utilization of Small Business Concerns" and "Utilization of Concerns in Labor Surplus Areas" clauses in subcontracts which offer substantial small business or labor surplus area subcontracting opportunities; and

(6) Submit such information on subcontracting to small business concerns and labor surplus area concerns as is called for by the Contracting Officer.

(b) A "small business concern" is a concern that (1) is certified as a small business concern by the Small Business Administration, or (2) is independently owned and operated, is not dominant in its field of operation and, with its affiliates, employs either not more than 500 employees or, if the concern qualifies as a labor surplus area concern, not more than 625 employees.

(c) A "labor surplus area concern" is a concern which will perform, or cause to be performed, a substantial proportion of any contract awarded to it in "Areas of Substantial Labor Surplus" (also called "Areas of Substantial Unemployment"), so designated by the Department of Labor. A concern shall be deemed to perform a substantial proportion of a contract in a labor surplus area if the costs that the concern will incur on account of manufacturing or production performed in persistent or substantial labor surplus areas (by itself or its first-tier subcontractors) amount to more than 50 percent of the price of such contract.

(d) The Contractor further agrees to insert in any subcontract hereunder which is in excess of \$1,000,000 and which contains the clauses entitled "Utilization of Small Business Concerns" and "Utilization of Concerns in Labor Surplus Areas" provisions which shall conform substantially to the language of this clause, including this paragraph (d).

## 45. GOVERNMENT-FURNISHED URANIUM

- (a) The Commission will furnish to the Contractor, F.O.B. carrier, Contractor's Plant, at no cost to the Contractor, up to % of the quantity of uranium specified in the contract specifications for the Items to be supplied under this contract.
- (b) Quantities of uranium in excess of that quantity specified in Section (a), above, may be furnished to the Contractor by the Commission; provided, that the Contractor shall be charged \$0.50 for each gram of uranium required by the Contractor in excess of such quantity specified in Section (a), above. Payments for such excess quantities of uranium shall be made by credit against amounts payable to the Contractor by the Commission under this contract.
- (c) The uranium furnished to the Contractor under this contract will be used solely in the manufacture of the Items to be supplied under this contract or such other items as may be approved by the Contracting Officer. Title to all uranium, including material which is unused, partially processed, rejected, and scrap and residues therefrom, shall remain in the Government.
- (d) All uranium furnished to the Contractor by the Government shall be returned to the Government in the form of manufactured end product or in the form of [REDACTED] respectively, which are attached hereto and made a part hereof, or shall be disposed of or transferred to another Commission contract as provided for hereinafter in this Section (d). Except as provided in this Section (d), the Contractor shall be responsible for and shall assume the cost of reprocessing any uranium-bearing scrap materials to a usable and acceptable form as specified herein, including the cost of shipping containers, packaging and handling, and transportation involved in returning such material to the Commission's Oak Ridge, Tennessee, facilities. The Contractor is not required to reprocess any uranium-bearing scrap material which he determines is uneconomic to recover and the discard of which is authorized by the Contracting Officer, such discard to be performed by the Contractor in accordance with Commission regulations and requirements, at no expense to the Commission. With the approval of the Contracting Officer, the Contractor may recycle uranium-bearing scrap material generated under this contract into work under other Commission contracts, and may make arrangements with other Commission contractors for recycle of such materials by those other contractors. In such cases, this contract will be credited for financial responsibility purposes with the quantity of uranium transferred; and the Contractor will be relieved of the responsibility for reprocessing under this contract the uranium-bearing scrap materials transferred to such other Commission contracts.
- (e) The Contractor assumes the risk of, and shall be responsible for, any loss or destruction of or damage to the Government-furnished uranium in its possession under this Article, including that caused by any peril while the material is in transit off the Contractor's premises after initial

receipt of the material by the Contractor, and while the material is on the Contractor's premises or on any other premises where such material may properly be located or by removal therefrom after initial receipt of the material by the Contractor. The Contractor shall be financially responsible for the value of any uranium which is not returned to the Government or which is not transferred to another Commission contract, as provided for in Section (d) of this Article, such financial responsibility to include the value of any uranium which the Contractor determines uneconomic for recovery and which he discards pursuant to Section (d) of this Article. [REDACTED]

- (f) The Contractor agrees to segregate the Government-furnished uranium including such material which is partially processed, rejected, and scrap and residues therefrom, and further to maintain it separate from other materials in the possession of the Contractor, unless the Contracting Officer authorizes otherwise.
- (g) Special measures will be taken by the Contractor in the protection of and accounting for all uranium furnished by the Commission for the performance of this contract, in accordance with the regulations and requirements of the Commission.
- (h) Special measures will be taken by the Contractor in the protection of and accounting for all uranium furnished by the Commission for the performance of this contract, in accordance with the regulations and requirements of the Commission.
- (i) The Commission shall furnish analytical, test and inspection records for the Government-furnished uranium. Based upon these records and such additional tests and inspections as the Contractor may elect to make at its own expense, the Contractor shall advise the Commission in writing of its final acceptance of the Government-furnished uranium; provided that the Contractor shall be obligated to accept material which meets the specification requirements of the order. In the event the Contractor fails to notify the Commission as to acceptance or rejection (i) within sixty days of receipt of uranium and related records or (ii) prior to use of the material, other than testing, whichever occurs first, final acceptance by the Contractor shall be conclusively presumed. Any material which does not meet the specification requirements of the contract may be rejected by the Contractor, in which case it will be replaced by the Commission in the form in which originally furnished. After final acceptance by the Contractor of Government-furnished uranium, the Contractor shall bear all risks for subsequent rejection whether or not due to unknown or latent defects, and the Commission shall not be obligated to replace defective or rejectable material nor be liable for loss by reason of plant shutdown, non-operation or increased expense of operation, or any other consequential loss or damage.
- (j) Notwithstanding the provisions of Article 14, Disputes, of this contract, the following provisions and procedures shall apply to any uranium furnished to the Contractor as Government-furnished material under this contract, with respect to the determination of quantities and properties of such material delivered to or by the Contractor, and the resolution of measurement differences resulting from such determination. For the

purposes of this Section (j), the terms "shipper" and "receiver" shall refer to the Commission and the Contractor, as the case may be.

- (1) For all transfers of uranium, the shipper shall indicate on the AEC transfer form for such material the quantities and/or properties of the material delivered, and the methods used in determining such measurements. If the receiver does not accept the shipper's measurements, the receiver shall within sixty days after the receipt of the material or the AEC's transfer form, whichever is later, submit a notice of disagreement in writing to the shipper. The notice of disagreement shall include the receiver's determined quantities and/or properties for the material received and the methods used in determining such measurements. If such notice of disagreement is not submitted within sixty days, the shipper's measurements will be final and binding upon both parties. The receiver shall not use or dispose of the material in any manner until the difference is resolved, unless such use or disposition is mutually agreed to by all parties having responsibilities in the transfer of the material; provided, that nothing herein shall prevent the receiver from handling the material as necessary for storage or protection against health and safety hazards.
- (2) If the disagreement is not resolved by mutual agreement between the shipper and receiver, such disagreement shall be resolved in accordance with the following procedures at the written request of either party:

If the disagreement concerns bulk measurement (i.e. total volume, gross and net weight, total piece count or any other measurement made on the entire quantity of material involved), repeat measurements shall be performed by an umpire mutually agreed to by both parties at a mutually agreed upon site. The umpire shall make his determination and findings in writing and furnish a copy thereof to both parties. The umpire's results will be conclusive on both parties. The party whose original measurement result is furthest from the umpire's result will bear the umpire's charges; provided, in the event the umpire's result is equidistant between the shipper's and receiver's results, the parties will each bear one-half of the umpire's charges.

- (3) With respect to deliveries to or receipts from a Commission facility (defined as a laboratory, plant, office or other establishment operated by or on behalf of the Commission), the Commission's samples obtained using the Commission's procedures will be the official samples and shall be binding upon the Commission, the receiver or the shipper, and the umpire, unless all parties having responsibilities in the transfer of the material in question mutually agree upon the use of other samples.

- (4) With respect to selection of an umpire to perform measurements or sample analysis under Section (j) (2) of this Article, if, within thirty days after receipt of notice of disagreement, the parties have not agreed to the selection of an umpire, the Contracting Officer may appoint an umpire. Notification of such appointment shall be given the Contractor in writing. The Commission shall contract for the services of the umpire.
- (5) Determination and resolution of measurement differences with respect to uranium material transferred between Commission Contractors in accordance with Section (e) of this Article will be as mutually agreed upon by the contractors concerned.

46. GOVERNMENT-FURNISHED [REDACTED]

- (a) The Commission will furnish to the Contractor, F.O.B. carrier, Contractor's Plant, at no cost to the Contractor, up to [REDACTED] each (dimensions) [REDACTED], all certified to the applicable revisions of Specification [REDACTED] (Ships) as set forth in the Master List of Contract Drawings and Specifications, and up to [REDACTED] weld wire, (1/16" or 3/32") diameter, certified to Specification [REDACTED] (Ships) as to chemistry and corrosion (visual) only, for use in the manufacture of the Items to be supplied under this contract.
- (b) Additional quantities [REDACTED] may be furnished by the Commission; provided, that the Contractor shall be charged \$20.00 for each pound of [REDACTED] \$ 85.00 for each pound [REDACTED] required by the Contractor in excess of the quantities specified in Section (a), above. Payments for excess [REDACTED] shall be made by credit against amounts payable to the Contractor by the Commission under this contract.
- (c) The [REDACTED] under this contract will be used solely in the manufacture of the Items supplied under this contract or such other items as may be approved by the Contracting Officer. Title [REDACTED] as well as such materials which are unused, partially processed, rejected, and scrap and residues therefrom, shall remain in the Government. All unused [REDACTED] which are partially processed, rejected, and scrap and residues therefrom, will be returned to the Government as directed by the Contracting Officer. No payment will be made to the Contractor for materials so returned except for necessary transportation costs.
- (d) The Contractor assumes the risk of, and shall be responsible for, any loss or destruction of or damage to the Government-furnished [REDACTED] possession under this Article and for the value of [REDACTED] not returned to the Government in the form of manufactured end product, unused material, or scrap and residue or which is not transferred to another Commission contract. The [REDACTED] be \$50.00 per pound.

(e) Special Measures

- (1) The Contractor agrees to segregate the Government-furnished [REDACTED] which are partially processed, rejected, and scrap and residues therefrom, and further to maintain them separate from other materials in the possession of the Contractor.
  - (2) The Contractor shall safeguard and protect the Government-furnished [REDACTED]
- (f) The Commission shall furnish analytical, test and inspection records for the Government-furnished [REDACTED] these records and such additional tests and inspections as the Contractor may elect to make at its own expense, the Contractor shall advise the Commission in writing of its final acceptance of the material; provided that the Contractor shall be obligated to accept material which meets the specification requirements of the order. In the event the Contractor fails to notify the Commission as to acceptance or rejection (i) within 60 days of receipt of material and related records or (ii) prior to use of the material, other than testing, whichever occurs first, final acceptance by the Contractor shall be conclusively presumed. [REDACTED] does not meet the specification requirements of the contract may be rejected by the Contractor, in which case it will be replaced by the Commission in the form in which originally furnished. After final acceptance by the Contractor [REDACTED] the Contractor shall be solely responsible for such material; shall bear all risks for subsequent rejection whether or not due to unknown or latent defects; and the Commission shall not be obligated to replace defective or rejectable material nor be liable for loss by reason of plant shutdown, non-operation or increased expense of operation or any other consequential loss or damage.

47. GOVERNMENT-ALLOCATED ZIRCONIUM METAL

- (a) The Commission will allocate for purchase by the Contractor, or its designee, up to [REDACTED] pounds of reactor grade zirconium metal for use in the manufacture of the Items to be supplied under this contract.
- (b) Allocation of zirconium metal shall be accomplished by issuance by the Commission of an Allocation Notice to The Columbia National Corporation, the designated zirconium supplier. The price for metal covered by such notice is based on the price of \$7.80 per pound for metal meeting the specifications included in the zirconium supplier's contract with the Commission, which specifications are set forth in Part II of the Master List of Contract Drawings and Specifications. Terms applicable to this price are payment net 30 days, F.O.B. carrier, zirconium supplier's plant. Any price adjustment resulting from changes in specifications or applicable terms shall be as mutually agreed by the Contractor, or its designee, and the zirconium supplier. Shipping schedules and acceptance procedures shall be established by agreement of the Contractor, or its designee, and the zirconium supplier.

- (c) In the event zirconium metal cannot be made available for use by the Contractor hereunder from the zirconium supplier designated by the Commission, the Commission shall designate an alternate supplier of zirconium metal. Allocation of such substitute zirconium metal shall be accomplished by issuance by the Commission of an Allocation Notice to the alternate supplier. In the event the Contractor's cost of zirconium metal is either increased or decreased by reason of a change in the designated supplier or a change directed by the Commission in the price of zirconium metal, an equitable adjustment shall be made in the contract price, and the contract shall be modified in writing accordingly.
- (d) All zirconium sponge and zircaloy required for the manufacture of the items supplied hereunder shall be purchased by the Contractor under allocations made by the Commission as provided herein or shall be obtained from such other sources as may be approved by the Contracting Officer. The Contractor may make such disposition as he sees fit of zirconium sponge and zircaloy and scrap and residues thereof purchased under Allocation Notices.

#### 48. DELIVERIES

- (a) Delivery of the Items supplied under this contract shall be made upon the following dates, provided (i) all material to be furnished to the Contractor or its designee by the Commission in accordance with the provisions of Articles 45 and 46 of the contract has been supplied in accordance with the schedule mutually agreed upon, except for such material as the Contractor agrees to accept at a later date, and (ii) manufacturing releases are given to the Contractor by the Commission within fourteen days after completion of the corresponding evaluation and certification component. In the event the work of the Contractor is delayed by reason of delay in the supply of Government-furnished material, or in giving manufacturing releases, and such delay causes an increase in the cost of, or in the time required for, performance of this contract, an equitable adjustment shall be made in the contract price or delivery schedule, or both, as provided for in Article 42 and the contract shall be modified in writing accordingly. The delivery dates are as follows:

<u>Item</u>	<u>Date of Delivery</u>
-------------	-------------------------

- (b) The Contractor shall within 30 days after the date of the contract, prepare and submit to the Commission for approval, a schedule showing the order in which the Contractor proposes to carry on the work, the date on which it will begin the several operations (including procurement of materials and equipment) and the contemplated dates for completing same. The Contractor shall report the actual progress for each

operation shown on the schedule at the end of each month or at such intervals as are directed by the Contracting Officer and shall immediately deliver to the Contracting Officer five copies of the progress report.

- (c) The Contractor shall furnish sufficient forces, plant and equipment, and shall work such hours, including night shifts, overtime operations and Sunday and holiday work, as may be necessary to insure the prosecution of the work in accordance with the approved progress schedule.
- (d) Failure of the Contractor to comply with the requirements of this Article may be a ground for determination by the Commission that the Contractor is endangering performance of this contract in accordance with its terms.

49. TRANSPORTATION LIABILITY

The Commission will accept delivery of each core supplied hereunder at the Contractor's Plant, after it has been loaded and secured on the low boy and is ready for movement to the rail siding. The loading on the railcar of each core shall be performed under the general supervision of Commission representatives. As between the Contractor and the Commission, the Contractor is relieved of any risk of loss or damage to the core upon delivery to the Commission and the Contractor warrants that the prices provided for the cores under the contract contain no element of cost to cover cargo insurance against risk of loss or damage to the cores. If the Contractor subcontracts the transporting of the cores, it warrants further that the subcontractor transporting each core from the Contractor's Plant to the rail siding is insured against public liability (minimum coverage \$100,000 each person/\$200,000 each accident) and property damage (minimum coverage \$10,000 each accident) and the Government has been named as an additional insured concerning the work covered by the Requirement for Transportation of an Assembled Naval Reactor Core.

50. GOVERNMENT-FURNISHED CONTAINERS

- (a) There will be furnished to the Contractor for use in performance of the work hereunder one shipping container for each core and one shipping container for each spare fuel assembly supplied under this contract. Such containers shall be delivered F.O.B. carrier, nearest railroad siding to the Contractor's Plant, so as to be available for use by the Contractor when needed. In the event that such items of Government-furnished property are not delivered to the Contractor for use when needed, the Contracting Officer shall, if requested by the Contractor, determine if any delay has been occasioned the Contractor thereby, and if so shall grant a reasonable extension of the time for completion of performance. The Government shall not be liable to the Contractor for damages or loss of profit by reason of any delay in delivery of said Government-furnished property, except that in case of such delay, upon written request of the Contractor, an equitable adjustment shall be made in the delivery schedule of this contract, or price, or both, and in other contractual provisions affected thereby, in accordance with the provisions of Article 42.



- (b) Title to the Government-furnished property shall remain in the Government. Title thereto shall not be affected by the incorporation or attachment thereof to any property not owned by the Government, nor shall such property, or any part thereof, be or become a fixture or lose its identity as personalty by reason of affixation to any realty. The Contractor shall maintain adequate property control records of such property consistent with good business practice and as may be prescribed by the Contracting Officer; and shall cause such property to be clearly marked (if not so marked) to show that it is property of the Government.
- (c) Government-furnished property shall be used only for the performance of this contract.
- (d) The Contractor shall in accordance with sound industrial practice, and without additional cost to the Government, maintain in operating condition, repair, protect and preserve such Government-furnished property until disposed of by the Contractor in accordance with this Article.
- (e) Except for loss or destruction of, or damage to, Government-furnished property resulting from a failure of the Contractor, due to willful misconduct or lack of good faith of the Contractor's managerial personnel, to maintain in operating condition, repair, protect and preserve such property as required by Section (d) hereof, the Contractor shall not be liable for loss or destruction of, or damage to, such property (i) caused by any peril while the property is in transit off the Contractor's premises, or (ii) caused by any of the following perils while the property is on the Contractor's premises, or on any other premises where such property may properly be located, or by removal therefrom because of any of the following perils:

Fire; lightning; windstorm, cyclone, tornado; hail; explosion; riot attending a strike; civil commotion; vandalism and malicious mischief; aircraft or objects falling therefrom; vehicles running on land or tracks (excluding vehicles owned or operated by the Contractor or any agent or employee of the Contractor); smoke; sprinkler leakage, earthquake or volcanic eruption; flood; meaning thereby rising of rivers or streams; enemy attack or any action by the military, navy or air forces of the United States in resisting enemy attack.

#### 51. AUTHORIZATION

This contract is authorized by and has been negotiated under the Atomic Energy Act of 1954 in the interest of the common defense and security.

15-

METALS & CONTROLS INC. P. O. BOX 898 • ATTLEBORO, MASS. • CASTLE 2-3800

A CORPORATE DIVISION OF TEXAS INSTRUMENTS INCORPORATED

File: WAPD-203  
October 9, 1962

Mr. J. A. Spangler  
Westinghouse Electric Corporation  
Bettis Atomic Power Laboratory  
P. O. Box 1468  
Pittsburgh 30, Pennsylvania

Subject: Change Notice No. 14 to P.O. 73-Y-297800-MPT


Dear Mr. Spangler:

Attached is the executed acknowledgment copy of Change Notice No. 14. Pursuant to our conversation of 10/8/62, C/N #14 has been accepted with the understanding that the only solid piece of rejected material to be returned to Bettis is the 10" x 16" x 3½" (approx.) piece remaining from Item 1.7.14. There will be no other solid pieces available, since they were transferred to other requirements in order to minimize the amounts of replacement material to be bought by M&C. Furthermore, it is presumed that Westinghouse does not require chips to be returned.

Our subcontractor will return the piece of rejected material as soon as it has been taken from Item 1.7.14.

Sincerely yours,

M&C NUCLEAR PRODUCTS

  
R. L. Churchill  
Contract Administrator  
Navy Nuclear Products

RLC/bs  
Enclosure

FROM WESTINGHOUSE ELECTRIC CO. JRATION	DATE OF CHANGE NOT.	THIS CHANGE NOTICE APPLIES TO:	
AT P.O. BOX 1468, PITTSBURGH 30, PA.	9/27/62	PURCHASE ORDER NO.	DATED
		73-Y-297800-MPT	5/16/62

METALS AND CONTROLS NUCLEAR  
P.O. BOX 898  
ATTLEBORO, MASS.

"BY YOUR ACKNOWLEDGMENT OF THIS CHANGE NOTICE, YOU AGREE THAT ALL CHANGES IN PRICE OR DELIVERY WHICH ARE REQUIRED BY THIS AND ALL PREVIOUS CHANGE NOTICES HAVE BEEN INCORPORATED IN THE PRICE AND DELIVERY DATE ESTABLISHED BY THIS CHANGE NOTICE (EXCEPT FOR ~~NOTE~~)".  
#8

CHANGE NOTICE NO. 14  
CONFIRMING MEETING MINUTES OF SEPTEMBER 10 THROUGH 15, 1962 AT SELLER'S PLANT.  
AS A RESULT OF THIS CHANGE NOTICE, THE PRICE OF THE ORDER IS CHANGED AS FOLLOWS:

PREVIOUS PURCHASE ORDER TOTAL -----  
INCREASE PER THIS CHANGE NOTICE -----  
NEW PURCHASE ORDER TOTAL -----

THERE IS NO CHANGE IN CORE DELIVERY.

THE PRICE OF THE ORDER IS INCREASED BY \$5,500.00. SELLER SHALL PROCURE ADDITIONAL INCONEL, TO THE ORDER REQUIREMENTS AND COMPENSATE FOR DECREASED YIELD RESULTING FROM THE FOLLOWING CONDITIONS OF ATTACHMENT 5 TO THE ORDER.

- 1.7.13 MATERIAL FURNISHED BY WESTINGHOUSE HAS LAPPED EDGE AND BEVEL IN SIDE OF PIECE.
- 1.7.14 MATERIAL IS OUT OF SQUARE AND HAS BEVEL IN SIDE.
- 1.7.15 MATERIAL IS 42" LONG INSTEAD OF 42" AS SPECIFIED IN ATTACHMENT 5.
- 1.7.20 MATERIAL IS 46" LONG INSTEAD OF 46" AS SPECIFIED IN ATTACHMENT 5.
- 1.7.21 MATERIAL IS 46" LONG INSTEAD OF 47-3/8" AS SPECIFIED IN ATTACHMENT 5.
- 1.7.53 THIS ITEM IS DELETED FROM ATTACHMENT 5 AND WILL NOT BE SUPPLIED BY WESTINGHOUSE.

SELLER SHALL RETURN REJECTED PORTIONS OF THE ABOVE PIECES OF INCONEL TO WESTINGHOUSE, ATTENTION M.J. CARROLL, VIA MOTOR FREIGHT, FREIGHT COLLECT, F.O.B. SHIPPING POINT.

DO E2 APPLIES. \*SEE ARTICLE 46, COMMITMENT OF FUNDS

"I AGREE THAT ALL CHANGES IN PRICE OR DELIVERY WHICH ARE REQUIRED BY THIS AND ALL PREVIOUS CHANGE NOTICES HAVE BEEN INCORPORATED IN THE PRICE AND DELIVERY DATE ESTABLISHED BY THIS CHANGE NOTICE (EXCEPT FOR

Westinghouse Electric Corporation, Pittsburgh, Pa. 15201 L7

AUTHORIZED BY: *CAVALCANTE JR.* XXXXXXXXXXXX  
BUYER: CAVALCANTE JR. / SUPVR. PURCHASING AGENT

ACKNOWLEDGMENT

WILL SHIP (DATE)	FROM	ACKNOWLEDGED & ACCEPTED BY	(DATE)
3/15/64	Attleboro, Mass.	<i>R. E. Churchill</i>	10/4/62

See attached letter.



TEXAS INSTRUMENTS *Red Clark / McCormick*  
INCORPORATED

M&C NUCLEAR, INC.

(A SUBSIDIARY)

P. O. BOX 896 • ATTLEBORO, MASSACHUSETTS, U. S. A.

TELEPHONE CASTLE 2-2800

SALES ORDER NO:  
N-01670-N

PAGE 1 OF 1 PAGES

SALES ORDER DATE

5/1/62

CUSTOMER ORDER

Contract AT(36-1)-104

CODE

PNRO-18

ADMINISTRATOR

G. P. Howland

SUPPLEMENT NO.

18-4

DATE

9/24/62

## SALES ORDER SUPPLEMENT

INITIATED BY

F. L. Cutrone *FLC*

DISTRIBUTION - FOR ACTION

AUTHORITY

PNRO letter dated 9/11/62 from  
R. J. McCormick to G. P. Howland  
transmitting Change Notice No. 3

☒ OPNS PLANNING

☐ R&D

☒ QUALITY CONTROL

☐ PROJECT OFFICE \_\_\_\_\_

☒ FINANCE

☒ ENGINEERING

### INSTRUCTIONS

This supplement provides for [REDACTED] material in recycle form supplied by the Commission for this contract. The contract is hereby amended as follows:

- a. The Commission will supply to the Contractor, F.O.B. Contractor's Plant, at no cost to the Contractor, [REDACTED] containing approximately [REDACTED] and suitable for recycle [REDACTED] under subject contract. Note 1 - M&C must confirm or deny the quantity [REDACTED] within 60 days from receipt of material.
- b. The Contractor may inspect the material upon receipt as to suitability of shape and form; material which the Contractor determines unsuitable for recycle because of shape or form will be properly packaged and shipped to the Commission's Oak Ridge, Tennessee, facilities at no cost to the Government, and Contractor will not be charged [REDACTED] content thereof as input under the contract.
- c. Should sufficient material be rejected upon receipt inspection, in accordance with the provisions set forth in subparagraph b., above, [REDACTED]  
[REDACTED] an equitable adjustment will be made to the price increase set forth below.
- d. The contract has been increased for the additional work required of M&C [REDACTED]  
[REDACTED] to determine technical acceptability for use under the contract. Should any quantity of the material be determined unusable on the basis of such analyses, Contractor will not be charged with [REDACTED] content thereof as input under the contract, no price adjustment to the price increase provided herein will result from such rejection, and such rejected material will be properly packaged and shipped to the Commission's Oak Ridge Tennessee, facilities, such shipment being at Government expense.

This material [REDACTED] has obtained from Cheswick. Since all records are not available, we must perform a complete certification.

**ACTION TAKEN** (ACTION ADDRESSEE COMPLETE AND RETURN TO THE INITIATOR)

SIGNATURE

DATE

DEPT

COMMENTS OF APPROVING AGENCY

Agreed with the construction that the Commission be kept advised on status of all bills which are classified without the participation of any of the following: Chairman, Vice Chairman, and Secretary.

SIGNATURE	DATE APPROVED
<i>John L. McManus</i>	7/1/62

In order to meet the fuel manufacturing schedules associated with this order Westinghouse has determined (1) that some Westinghouse fuel and poison elements must be furnished to M&C prior to our furnishing any or all of the inspection data, certifications, and fabrication histories required by Order Attachment No. 7, Part I. and (2) that M&C must process such elements by performing the operations enumerated in Order Attachment No. 8.

M&C refuses to process fuel and poison elements unless Westinghouse concurrently furnishes all inspection data, certifications, and fabrication histories, or unless the purchase order is amended to provide them reimbursement for labor expended on fuel and poison elements which are subsequently rejected as the result of information contained in the "paper packages". Therefore, Westinghouse proposes to issue the attached change notice, because Westinghouse will require, in the interest of obtaining the earliest possible core delivery date, that M&C process Westinghouse-furnished fuel and poison elements without having complete "paper packages".

The proposed change notice does not alter the basic responsibilities established in Article 27 of the General Provisions, which are:

- (1) Westinghouse shall replace at no cost to M&C all Westinghouse-furnished fuel and poison elements rejected prior to final acceptance by Westinghouse of the item (one core cartridge and spares) to be delivered by M&C under the subject purchase order.
- (2) M&C shall be responsible that all Westinghouse-furnished elements meet the quality requirements of the order except for the quality characteristics described in subparagraph (f)(2)(iii) under Article 27. However, the situations covered by the proposed change notice will obviously result in a delay in the point of time at which M&C assumes responsibility for these quality requirements.
- (3) M&C has the right to reject Westinghouse-furnished fuel and poison elements for defects in those quality characteristics described in subparagraph (f)(2)(ii) of Article 27.
- (4) Westinghouse alone has the right to reject Westinghouse-furnished fuel and poison elements for defects in those quality characteristics described in subparagraph (f)(2)(iii) of Article 27.

As of July 6, 1963, We have shipped [REDACTED] elements Westinghouse is contractually obligated to furnish. We estimate that not more than 25% of the remaining number of elements to be furnished must be shipped without complete paper packages in order to meet M&C's fuel assembly schedules. This is a rough estimate, because Westinghouse will invoke the provisions of the proposed change notice only when absolutely necessary to meet fuel assembly schedules; and we cannot accurately determine all such future contingencies at

this time. Furthermore, we are making every effort to provide final certifications for all elements at or prior to the time of shipment; however, the best time cycles we can achieve to date for corrosion testing of the dummy [REDACTED] evaluation of production lot elements are 18 - 21 days and 12 - 14 days, respectively. Therefore, we propose to furnish elements to M&C for processing, when necessary to maintain schedules, without having either corrosion test data or dummy evaluation data. In some rare instances of urgency it may be necessary to furnish elements with even less data, i.e. with only the minimum data necessary to process the elements. However, under no circumstances will M&C [REDACTED] prior to receipt and acceptance of final certifications for all elements.

The total Westinghouse liability under the proposed change notice is a maximum of \$10,477.50. This figure is calculated by multiplying the 75 element limit imposed under the change notice by \$139.70, the maximum dollar value of all operations for one end or poison element as listed in Order Attachment #8 (Parts I.A. and B.). Although we have not completely evaluated the rate of rejection for Westinghouse elements, we do not expect that reimbursement to M&C under the proposed change notice will total to any significant amount of money.

Please note that the control of element processing under the change notice shall be vested in one individual -- the Bettis Resident Supervisor.

BETTISATMPGH

METALS AND CONTROLS INC 1 617-222-1259  
5-27-63 1051 AMEDT ATTIL MASS

A CAVALCANTE JR BETTIS

M AND C IS UNABLE TO ACKNOWLEDGE CHANGE NOTICES NO. 55, 71, AND 97  
FOR FOLLOWING REASONS--

1. NO. 55 DOES NOT INCORPORATE ASSUMPTIONS AND EXCEPTIONS AGREED UPON  
DURING NEGOTIATIONS. MR V V LEHTONEN HAS BEEN INFORMED  
PREVIOUSLY OF PROBLEM

2. NO. 71 DOES NOT INCORPORATE AGREED UPON PARAGRAPH CONCERNING  
SELECTIVE LOCATION OF BAPL SUPPLIED ELEMENTS OR ASSURANCE THAT  
BETTIS WILL GIVE FAVORABLE DISPOSITION ON DNGRS FOR PROCESS AND  
CORROSION VIOLATIONS IN ORDER TO AVOID REANNEALING

3. CHANGE NOTICE 97 DOES NOT NOTE THE REQUIRED DATES FOR BAPL-  
SUPPLIED MATERIALS OTHER THAN ZIRCALOY AND NOTES NO DELIVERY  
DELAY AS RESULT OF THE CHANGE NOTICE. THIS IS CONTRARY TO OUR  
QUOTATION AND G P HOWLANDS TWX OF 5-16-63, WHEREIN HE ADVISED  
THAT DELAYS AFTER 5-8 IN RECEIVING FULL RELEASE AND ALL  
PREPRODUCTION MATERIALS WOULD REQUIRE DAY FOR DAY EXTENSION IN  
FINAL DELIVERY DATE. THE REQUIRED PREPRO MATERIALS HAVE NOT YET  
BEEN RECEIVED SINCE THE ITEM 1.2 MATERIAL MUST ALL COME FROM UNC  
AND SINCE ZIRCALOY CERTIFICATIONS ARE NOT YET IN ORDER. THEREFORE,  
AS OF THIS DATE, THERE IS A 19 DAY DELAY INVOLVED

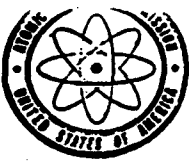
IN VIEW OF THE DETAIL THAT HAS GONE INTO OUR NEGOTIATIONS, WE REQUEST  
YOUR IMMEDIATE ATTENTION TO CLEARING THE ABOVE POINTS. IN ADDITION,  
WE REQUEST ACCEPTANCE OF DELAY IN LEAD CLUSTER SCHEDULE AS PER OUR  
CONDITIONAL ACKNOWLEDGMENT OF CHANGE NOTICE NO. 42

P L CHURCHILL

END NANCY

31  
BETTISATMPGH  
9





UNITED STATES  
ATOMIC ENERGY COMMISSION  
PITTSBURGH NAVAL REACTORS OFFICE  
P.O. BOX 1105  
PITTSBURGH 30, PENNSYLVANIA

RECEIVED BY D. J. DAVIDSON  
JAN 21 1963

IN REPLY REFER TO:

CMD:6407:5

January 16, 1963

*1/21 - PNR-18419 Int.*

George P. Howland  
Metals and Controls, Inc.  
Post Office Box 898  
Attleboro, Massachusetts

*D. Davidson  
P. M. Haff  
R. Clegg  
S. J. Haff  
W. Stevenson*

Subject: CONTRACTS AT(36-1)-104 AND AT(36-1)-106  
[REDACTED] Manufacturing Release

RECEIVED BY D. J. DAVIDSON

Dear Mr. Howland:

JAN 23 1963

The purpose of this letter is to give Metals and Controls a full manufacturing release [REDACTED] to be used on subject contracts. This release is based on the approval of the following PNR-3 Forms:

MC:106:23A, dated January 3, 1963, "M&C requests full approval of Process Outline for [REDACTED] and complete manufacturing release"

MC:104:64A, dated December 20, 1962, "M&C local tolerances on [REDACTED] thicknesses"

MC:CS:489, dated January 11, 1963, "M&C requests approval for [REDACTED] Outline"

MC:CS:476, dated December 10, 1962, "Subassembly Cross Weld Evaluation Report M&C No. 1103"

This manufacturing release does not relieve Metals and Controls of the responsibility to supply a quality product and one which meets all requirements of the contracts.

Very truly yours,

*H. H. Hoffman*  
For Harold H. Hoffman, Director  
Core Manufacturing Division

CC: Resident Government Inspector

**REPLY TO REQUEST FOR CORRECTIVE ACTION**

Form CCG-4A

To: RESIDENT INSPECTOR

Date: 12 August 1964

Action has been taken as shown to clear the quality status of item/lots listed on Request for Corrective Action

number 42, dated 7 August 1964

Core Contractor Action: (Include action on components affected prior to discovery of discrepant condition, components listed, and action to prevent recurrence of discrepant condition)

1. M&C Accountability has, for the past 2 or 3 years, been assigning per cent enrichment factors to specific Navy contracts based on average per cent enrichment factors supplied by Oak Ridge for the uranium received for each job. Contract AT(36-1)-104 (P/18) should have been assigned a value of 93.16%. Through a misunderstanding between Accountability and Q. C. Records, 93.15% was the factor used. However, either factor would provide the same data in M&C's internal records and the Core Report.
- [REDACTED]

Since effect of difference does not become significant [REDACTED]  
assurance of core loading is satisfactory.

*01/6/64  
OK*  
To Prevent Recurrence: M&C Accountability will issue in writing the per cent assigned to the uranium for use on each core or contract.

2. The adjacent method of computation for w/o [REDACTED] used unnecessarily on PS-92. Bottom end of ingot was "out of control" which would ordinarily require the adjacent method, however, M&C cropped the end of the ingot, reassayed, [REDACTED]. In this case, whether adjacent method or nominal is used, element loadings are well within M&C tightened acceptance limits [REDACTED]. Data cannot possibly affect core loading.

It should be noted that use of the adjacent method will give adequate assurance in all cases. Although the adjacent method is specified to be used in certain cases where assurance cannot be obtained from the input method, it can be applied [REDACTED] and will be a satisfactory acceptance criterion.

[REDACTED] This value is within the accuracy tolerance of either method.

*change  
to core loading*  
To Prevent Recurrence: M&C Q. C. Engineering will reissue instructions to Q. C. Records concerning use of adjacent method of computation. (Present instructions caused foul-up.) New instructions will preclude use of adjacent method unless specific engineering authorization with Q. C. concurrence is obtained.

DEFECT NOTICE NUMBERS:

Continued on next page (2)

Material is now available for reinspection by Resident Inspectors

YES ☐NO ☐

SIGNATURE

PLANT MANAGER

Return copy to Contractor; action taken is satisfactory.

Signature

RESIDENT INSPECTOR

cc: Contractor Q. C. Manager  
Resident Inspector File  
Core Quality Group, BAPL

Signature

B. R. Q. C.

# REPLY TO REQUEST FOR CORRECTIVE ACTION

Form CCG-4A

Page 2

To: RESIDENT INSPECTOR

Date: 12 August 1964

Action has been taken as shown to clear the quality status of item/lots listed on Request for Corrective Action number 42, dated 7 August 1964

Core Contractor Action: (Include action on components affected prior to discovery of discrepant condition, components listed, and action to prevent recurrence of discrepant condition)

3.

An examination of ingot input values for Contract AT(36-1)-104 (P/13), AT(36-1)-106 P/19), and AT(36-1)-118 (P/23), indicates no other ingots were made with input values in conflict with ingot designation.

from the 7 ingots involved have been recalculated using the adjacent method. found to be out of specification for loading.

A review of records to indicate the element number, S/A number, cluster number and core assignment has been made. This review indicates that ingots were in Core AP while the balance are still in process at M&C.

The effect of the recalculation will produce a reduction in the values reported for core loading. A revision to the core loading reported for Core AP in the Conclusion Report (pp. 4, 12) June 12, 1964, and in the Compliance Report (p. 53) will be submitted by August 21, 1964.

Since the effect of this correction on limits reported for clusters, S/A's and elements is negligible, and since limits reported are well within specification requirements, a revision of data reported on these items will not be necessary.

For in process at M&C, revised records are being established.

To Prevent Recurrence: The process sheet calculations has been revised to incorporate a printed value for w/o U input and a space to be filled in DEFECT NOTICE NUMBERS:

Continued on next page (3)

Material is now available for reinspection by Resident Inspectors

YES ☐

NO ☐

SIGNATURE

PLANT MANAGER

Return copy to Contractor; action taken is satisfactory.

Signature

RESIDENT INSPECTOR

Signature

B. R. G. E.

cc: Contractor Q. C. Manager  
Resident Inspector File  
Core Quality Group, BAPL

**REPLY TO REQUEST FOR CORRECTIVE ACTION**

3m CCG-4A

Page 3

To: RESIDENT INSPECTOR

Date: 12 August 1964

Action has been taken as shown to clear the quality status of item/lots listed on Request for Corrective Action number 42, dated 7 August 1964

Core Contractor Action: (Include action on components affected prior to discovery of discrepant condition, components listed, and action to prevent recurrence of discrepant condition)

by Q. C. Records to verify agreement of input based on [REDACTED] Disagreement of values will be cause for rejection.

4. [REDACTED] ingots TS-12 and TS-210 violated loading assurance limits when loading was calculated using input values. Ingot sampling plan para. J.l.d. allows adjacent method of computation [REDACTED] violating tightened limits [REDACTED] This tightened tolerance is applicable [REDACTED] and thus, [REDACTED] be accepted based on adjacent method, as specified in sampling plan.

For these ingots, [REDACTED] including those already accepted on input value, were recalculated using adjacent method. It is not M&C's normal procedure to recalculate [REDACTED] by the adjacent method, when loadings are acceptable using input values. However, the recalculation by the adjacent method, [REDACTED] already accepted by input method, does not constitute a violation of the approved sampling plan. Loading values calculated in this manner are satisfactory for use in accepting product and reporting loading.

A check of records on AT(36-1)-104, 106, and 118 indicates no other ingots were handled in this manner.

DEFECT NOTICE NUMBERS: \_\_\_\_\_

Material is now available for reinspection by Resident Inspectors

YES ☐ NO ☐

SIGNATURE

  
PLANT MANAGER

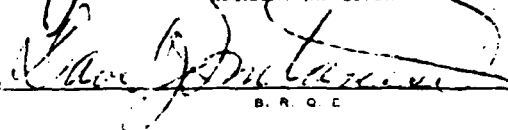
Return copy to Contractor; action taken is satisfactory.

cc: Contractor Q. C. Manager  
Resident Inspector File  
Core Quality Group, BAPL

Signature

  
RESIDENT INSPECTOR

Signature

  
B. R. Q. C.

QUALITY CONTROL SECTION, SUPERVISOR

ENGINEERING F. R. LORENZ

CC: PURCHASING H. MONROE

MANUFACTURING L. COCHRAN

CC: INSPECTION C. HAWLEY

8	SCHEDULE STATUS REPORT WAIVER
8	DISTRIBUTE TYPE FILE
4	COMPLETE E FILE D FILE

VENDOR

METALS & CONTROLS

PERSON CONTACTED

Mr. J. Ottmar

CHIEF INSPECTOR

P. O.  
NO. 73X-B-5016

ITEMS INSPECTED AS FOLLOWS:

PART OF P. O. ☒

CLOSE OUT P. O. ☐

C/N  
NO.

S. O.  
NO. 7-AP-110

First Call

REPORT  
NO.

REPORT  
DATE 8-21-56

INSP.  
DATE 8-16-56

ITEMS TO BE  
INSPECTED NEXT CALL

NEXT  
INSP.

FINAL  
INSP.

DIMENSIONAL ☐

SURFACE FINISH ☐

WELDING ☐

CLEANING ☐

HEAT NOS. ☐

The above order will not be processed until completion of Purchase

order # 73-X-5018. A few strips have been produced and there is evidence no particular problems will be anticipated with one exception. Slitting of the .0051 thick strips may have a tendency to produce slight edge chipping. At the present time a limited quantity produced will not substantiate this exception. Mr. Ottmar is of the opinion it will be approximately 6 to 8 weeks before he can undertake production of this order.

TESTS

WAIVER

WAIVER  
AGREED UPON BY

CONVERSATION  
OF (DATE)

☐ FINAL ACCEPTANCE - STAMPED & TAGGED

☐ CONDITIONAL ACCEPTANCE - WORDED AS FOLLOWS

BY

ATTN: MR.

OFFICE COPY

PREPARED BY H. A. Morris

QUALITY CONTROL REPRESENTATIVE

FROM WESTINGHOUSE ELECTRIC CORPORATION

AT P.O. BOX 1526, PITTSBURGH 90, PA.

DATE OF ORDER

12/8/56

THE ORDERING OFFICE ATTACH TO PURCHASE ORDER NO.

72X-5016-4

TO: METALS & CONTROLS CORP.  
NUCLEAR PRODUCTS DIV.  
P.O. BOX 898  
ATTLEBORO, MASSACHUSETTS

ATTN: MR. J. OTTMAR

# CHANGE NOTICE

## CHANGE NOTICE # 1

CONFIRMING MR. D. G. ROSS' TELEGRAM TO MR. J. OTTMAR ON 10/29/56  
THIS ORDER IS CANCELLED.

ANY CANCELLATION CHARGES INVOLVED SHALL BE BROKEN DOWN AS FOLLOWS:

- A. LABOR C. OVERHEAD E. GENERAL AND ADMIN., IF ANY
3. MATERIAL D. ENGINEERING F. PROFIT

NO MATERIAL WAS SHIPPED TO METALS & CONTROLS FOR THIS ORDER.

WITHHOLD SUBMITTING AN INVOICE FOR ANY CANCELLATION CHARGES INVOLVED  
UNTIL MUTUALLY ACCEPTABLE TERMS HAVE BEEN AGREED UPON AND A CHANGE  
NOTICE ISSUED ACCORDINGLY.

DO E2 APPLIES.

OR ATTENTION MORT

AUTHORIZED BY

D. G. ROSS/BAM

NOTES

PURCHASING AGENT

J. G. SCHENCK

SECTION	COMP. ORDER NO.	GENERAL ORDER NO.	SUPPLIER'S ORDER NO.
7AP110 6281			

COCHRAN  
URANIUM TECH.

RECD
DATE
NO. INSP
REC. INSP
FLD. INSP
INSP. REQ. BY
DEC 11 1956

*Mr. W. H. ...*  
*...*  
Mr. Don Ross

12-9012-N

7/23/56

**CHANGE NOTICE**

Metals and Controls is to drill or otherwise take machine chip samples of extruded material delivered to them, as requested by Westinghouse. Samples shall consist of approximately 3 grams fine unburned chips. They shall be returned to Bettis by fastest available transportation.

Material to be processed will be released by Westinghouse. Material not released will be disposed of as specified by Westinghouse. Metals and Controls is authorized to process only that material specifically released by Westinghouse.

Pieces fabricated from material extruded and cut too short to obtain full length finished pieces will be purchased if:

1. One satisfactory piece is obtained, and
2. One satisfactory piece, except for length, is obtained.

0020000

7AP110

AT-11-1-07X-15

L.F. Cochran 7/20/56 Core Engr.

62614

WESTINGHOUSE ELECTRIC CORPORATION  
 P.O. BOX 1526, PITTSBURGH, PA.  
 TO: METALS & CONTROLS CORP.  
 NUCLEAR PRODUCTS DIV.  
 P.O. BOX 898  
 ATTLEBORO, MASS.  
 ATTN: MR. J. OTTAW

# CHANGE NOTICE

DRILL OR OTHERWISE TAKE MACHINE & CHIP SAMPLES OF EXTRUDED MATERIAL DELIVERED AS REQUESTED BY WESTINGHOUSE FOR REANALYSIS. SAMPLES SHALL CONSIST OF APPROXIMATELY 3 GRAMS FINE UNBURNED CHIPS. THEY SHALL BE RETURNED TO WESTINGHOUSE BY FASTEST AVAILABLE TRANSPORTATION.

MATERIAL TO BE PROCESSED WILL BE RELEASED BY WESTINGHOUSE. MATERIAL NOT RELEASED WILL BE DISPOSED OF AS SPECIFIED BY WESTINGHOUSE. METALS AND CONTROLS IS AUTHORIZED TO PROCESS ONLY THAT MATERIAL SPECIFICALLY RELEASED BY WESTINGHOUSE.

INFORM THE BUYER OF THE PRICE CHANGE FOR SAMPLE DRILLINGS ALREADY TAKEN, WITHIN 2 WEEKS FROM THE DATE OF THIS CHANGE NOTICE. ALL FUTURE REQUESTS FROM WESTINGHOUSE FOR SAMPLES WILL BE CONFIRMED BY SUBSEQUENT CHANGE NOTICE.

DOES APPLY

TURBER/PITCAIRN

D. H. ROSS/BA

W. O. SCHENK

7AP110

C.F. COCHRAN  
 CORE ENG.

FLC

RCV'D	11/11/54
EX-100	11/11/54
ORDER DESK	11/11/54
HOLD FOR DESK	11/11/54
ENG'G DESK	11/11/54
CHIEF	11/11/54
11/11/54	
11/11/54	
11/11/54	
11/11/54	



FROM WESTINGHOUSE ELECTRIC CORPORATION

A.P. O. Box 1586, Pittsburgh 30, Pa.

TO

Metals & Controls Corp.  
Nuclear Products Division  
P. O. Box 898  
Attleboro, Massachusetts  
Attn: Mr. J. Attner

DATE OF  
CHANGE NOTICE

7/30/56

THIS CHANGE NOTICE APPLIES TO:

PURCHASE ORDER NO.

73X-5016-M

DATED

# CHANGE NOTICE

Change Notice : 5

Return all scrap to the Battle Plant.

DO NOT apply

MARK FOR ATTENTION OF: Turner/Pittsirn

D. G. Ross/DEM

BUYER

AUTHORIZED BY:

J. G. Schenck

PURCHASING AGENT

SECTION 62 b 14  
Core ENgr.

GROUP ORDER NO.  
7AP110

GENERAL ORDER NO.

CUSTOMER'S ORDER NO.  
FLC

B. P. Rubin

RCVD.	
JUL 31 1956	
ORDER DWGS.	
HOLD FOR PO	
NO INSP	
BET INSP	
FLD INSP	
INSP REQD	
BY	
DUE	
INSPECTOR	

**PURCHASE ORDER CHANGE NOTICE**  
FORM PB-17-0

FROM WESTINGHOUSE ELECTRIC CORPORATION

ATP. O. Box 1526, Pittsburgh 30, Pa.

DATE OF  
CHANGE NOTICE

8/2/56

THIS CHANGE NOTICE APPLIED TO:

PURCHASE ORDER NO.

73X-301d-1

DATED

TO

Metals & Controls Corp.  
Nuclear Products Div.  
P. O. Box 896  
Attleboro, Massachusetts  
Attn: Mr. J. Ottmar

# CHANGE NOTICE

Change Notice : 6

1. Change the location of Westinghouse Bettis Plant inspection from your plant to the Bettis plant.
2. No change in price or delivery because of this change notice.

DO NOT REPLY.

RCVD.	
AUG 3 1956	
ORDER DWGS.	
HOLD FOR PO	
NO INSP	
BET INSP	
FLD INSP	
INSP REQD	
BY	
EUE	
INSPECTOR	

MARK FOR ATTENTION OF: Pittsirn

AUTHORIZED BY:

L. G. Ross/usa

BUYER

J. G. Echenck

PURCHASING AGENT

SECTION	SHOP ORDER NO.	GENERAL ORDER NO.	CUSTOMER'S ORDER NO.
62 b 14	74010		FLC

Cochran - G Bldg.

W.P.O. BOX 1526, PITTSBURGH 30, PA

DATE OF CHANGE NOTICE 8/13/56  
THIS CHANGE NOTICE APPLIES TO  
PURCHASE ORDER NO. 73X-5018-4  
DATED

TO METALS & CONTROLS CORP.  
NUCLEAR PRODUCTS DIV.  
P.O. BOX 898  
ATTLEBORO, MASS.  
ATTN: MR. J. OTTHAR

# CHANGE NOTICE

THIS CHANGE NOTICE CONFIRMS PREVIOUS VERBAL REQUESTS FROM WESTINGHOUSE TO TAKE SAMPLES OF THE FOLLOWING PIECES:

INLOT NO.

1922  
1968  
1990  
1974  
1987  
2010  
2018  
2040  
2323

PIECE NO.

6, 15, 16, 18, 27, 28  
1, 2, 7, 8, 9, 10  
15, 16, 17, 18, 27, 28,  
3, 19, 20  
18  
6, 14, 15, 18  
17, 18, 19  
2

SAMPLING PROCEDURE WAS SPECIFIED IN CHANGE NOTICE #4 DATED 7/23/56.  
THERE IS NO CHANGE IN PRICE OR DELIVERY BECAUSE OF THIS CHANGE NOTICE. ANY  
CHANGE IN PRICE OR DELIVERY FOR TAKING SAMPLES FROM THE PIECES SPECIFIED IN  
THIS CHANGE NOTICE SHALL BE CHARGED TO CHANGE NOTICE #4 DATED 7/25/56.  
DO E2 APPLIES

R. PITCAIRN

BLANK FOR ATTENTION OF

D.G. ROSS/BAW

ENTER

AUTHORIZED BY

J.G. SCHENCK

PURCHASING AGENT

SECTION 7API10 62814  
L.F. COCHRAN  
CORE ENGR.

SWAP ORDER NO.

FEDERAL ORDER NO.

CUSTOMER'S ORDER NO.  
FLC

RCVD.	
AUG 15 1956	
ORDER DWGS.	
HOLD FOR PO	
NO INSP	
BET INSP	
FLD INSP	
INSP REQTS	
BY	
DUE DATE	
INSPECTOR	

FROM WESTINGHOUSE ELECTRIC CORPORATION

DATE OF CHANGE NOTICE	THIS CHANGE NOTICE APPLIES TO
6/20/56	PURCHASE ORDER NO. 731-5013-M
	DATE

AT  
P. O. Box 1526, Pittsburgh 30, Pa.  
TO  
Metals & Controls Corp.  
Nuclear Products Division  
P.O. Box 193  
Attleboro, Massachusetts  
Attn: Mr. J. Ottmer

# CHANGE NOTICE

Change Notice : 14

1. Sample the following pieces as indicated in change notice : 4 dated 7/25/56:

<u>INSTR NO.</u>	<u>PIECE NO.</u>
2052	2,16
2057	19
32081	1,5,9,13, 17
2333	2
32073	1,5,9,13, 17

Any change in the price of this order is to be noted on the acknowledgment copy and submitted for Westinghouse approval within 3 weeks from the date of this change notice. We are to be notified immediately if you are unable to obtain a price change within this time.

DO NOT ATTACH

MARK FOR ATTENTION OF

H. Pittsirn

AUTHORIZED BY

D. G. Hoes/asm

BUYER

PURCHASING AGENT

J. O. Schenck

SECTION	SHOP ORDER NO.	CENTRAL ORDER NO.	CUSTOMER'S ORDER NO.
62 b 14 Core Eng. L. F. Cochran	7AEL10		FLC

RCVD
DATE
NO. INSP.
REC. INSP.
FLD. INSP.
INSP. REQ. BY

FROM WESTINGHOUSE ELECTRIC CORPORATION

DATE OF  
CHANGE NOTICE

THE CHANGE NOTICE APPLIES TO:  
PURCHASE ORDER NO. DATE

AT

E. O. Box 1526, Pittsburgh 30, Pa.

8/20/56

TSX-5013-M

TO

Metals & Controls Corp.  
Nuclear Products Division  
P. O. Box 898  
Attleboro, Massachusetts  
Attn: Mr. J. Ottmar

# CHANGE NOTICE

## Change Notice # 15

1. You are responsible for specifying the weight of starting pieces. This confirms Mr. A. J. Turner's instructions on 7/2/56.
2. You are responsible for all pieces which you put into work, including the adequacy surface condition, dimensions, etc. Pieces which are put into work and subsequently evidence inherent defects shall be set aside for 2 verification by Mr. L. Cochran. Metals & Controls shall be reimbursed for the work performed on those pieces which are determined to have internal defects. This confirms Mr. D. G. Ross' instructions on 8/6/56.

TO BE SUPPLIED

MARK FOR ATTENTION ON

R. Pitcairn

AUTHORIZED BY

~~D. G. Ross, Inc.~~

BUYER

PURCHASING AGENT

J. G. Schenck

SECTION	SHOP ORDER NO.	GENERAL ORDER NO.	CUSTOMER'S ORDER NO.
62 b 14 Core Bag L. F. Cochran	747110		FIG

RCVD
DATE
FO. INSP.
REC. INSP.
PLD. INSP.
INSP. REQ. F

FROM: WESTINGHOUSE ELECTRIC CORPORATION  
P.O. BOX 1526, PITTSBURGH 30, PA

DATE OF  
ORDER 9/1/56

THIS CHANGE NOTICE APPLIES TO  
PURCHASE ORDER NO. 73X-5018-M

TO: METALS & CONTROLS CORP.  
NUCLEAR PRODUCTS DIV.  
P.O. BOX 898  
ATTLEBORO, MASS.

ATTN: MR. J. OTTMAR

# CHANGE NOTICE

## CHANGE NOTICE #20

1. ALL SCRAP RETURNED TO BETTIS SHALL BE UNDER THE FOLLOWING SIZES:
- |                |     |
|----------------|-----|
| MAXIMUM LENGTH | 14" |
| MAXIMUM DIA.   | 6"  |

ANY CHANGE IN THE PRICE OF THIS ORDER IS TO BE NOTED ON THE ACKNOWLEDGEMENT COPY AND SUBMITTED FOR WESTINGHOUSE APPROVAL WITHIN 3 WEEKS FROM THE DATE OF THIS CHANGE NOTICE. WE ARE TO BE NOTIFIED IMMEDIATELY IFX YOU ARE UNABLE TO OBTAIN A PRICE CHANGE WITHIN THIS TIME.

DO E2 APPLIES.

R. PITCAIRN

NAME FOR ATTENTION OF:

D.G. ROSS/BAW

AUTHORIZED BY:

J. G. SCHENCK

PURCHASING AGENT

BUYER

7AP110 62B14

SHOP ORDER NO.

GENERAL ORDER NO.

CUSTOMER'S ORDER NO.  
FLC

J. BITTNER

W. BRITTON CORE ENGR.

RCVD
DATE
NO. INSP.
REC. INSP.
FLD. INSP.
INSP. REQ. BY

FROM WESTINGHOUSE ELECTRIC CORPORATION

DATE OF  
CHANGE NOTICETHIS CHANGE NOTICE APPLIES TO  
PURCHASE ORDER NO. DATE

AT

TO P. O. Box 1586, Pittsburgh 30, Pa.

9/5/56

731-5018-X

Metals & Controls Corp.  
Nuclear Products Division  
P. O. Box 898  
Attleboro, Massachusetts  
Attn: J. Ottner

**CHANGE NOTICE**

Change Notice, 21

When making shipments to the Bettis Plant, please staple a packing list to the outside of each box indicating:

- a. Purchase order number
- b. Material in box
- c. Net weight

No change in price or delivery because of this change notice.

DO NOT apply

MARK FOR ATTENTION OF

R. Pittsirn

BUYER

AUTHORIZED BY

PURCHASING AGENT

D. G. Ross/ben

J.G. Schenck

SECTION	SHOP ORDER NO.	GENERAL ORDER NO.	CUSTOMER'S ORDER NO.
62 b 14 Core Planning Rittner	7 AP 110		FLC

RCVD
DATE
NO. INSP.
BEC. INSP.
FLD. INSP.
INSP. REQ. BY

FROM WESTINGHOUSE ELECTRIC CORPORATION

P.O. BOX 1526, PITTSBURGH 30, PA.

DATE OF  
CHANGE NOTICE

THIS CHANGE NOTICE APPLIES TO:

9/20/56

PURCHASE ORDER NO.

73-3018-M

DATED

TO METALS & CONTROLS CORP.  
NUCLEAR PRODUCTS DIV.  
P.O. BOX 898  
ATTLEBORO, MASS.  
ATT: MR. J. OTTMAR

## CHANGE NOTICE

## CHANGE NOTICE #23

ALL SCRAP RETURNED TO BETTIS IS TO BE PLAINLY MARKED ON THE  
CONTAINER SURFACE WITH "GRADE 11 A SCRAP".

NO CHANGE IN PRICE OR DELIVERY AS A RESULT OF THIS CHANGE NOTICE.

DO E2 APPLIES.

MARK FOR ATTENTION ON

AUTHORIZED BY

R. PITCAIRN/BAM

BUYER

PURCHASING AGENT

J. G. SCHENCK

SECTION	SHOP ORDER NO.	GENERAL ORDER NO.	CUSTOMER'S ORDER NO.
62B14	7AP110		FLC

J. BITTNER FOR L.F. COCHRAN  
CORE ENGR.

RCVD
DATE
NO. INSP.
REC. INSP.
FLD. INSP.
INSP. REQ. BY



FROM WESTINGHOUSE ELECTRIC CORPORATION

DATE OF  
CHANGE NOTICE

THIS CHANGE NOTICE APPLIES TO:

PACKAGE ORDER NO.

DATED

P.O. BOX 1526, PITTSBURGH 30, PA.

10/1/56 73-5018-M

TO METALS & CONTROLS CORP.  
NUCLEAR PRODUCTS DIV.  
P.O. BOX 898  
ATTLEBORO, MASS.  
ATT: MR. J. OTTMAR.

# CHANGE NOTICE

CHANGE NOTICE #28

1. PLEASE MARK ALL SHIPMENTS OF ACCOUNTABLE MATERIAL WITH P.O. NUMBER AND ACCOUNTABILITY SHIPMENT NUMBER ON EACH PACKAGE.
2. NO CHANGE IN PRICE OR DELIVERY SCHEDULE.

DO E2 APPLIES.

R. PITCAIRN

NAME FOR ATTENTION ON

AUTHORIZED BY

D. G. ROSS, ENR

BUYER

PURCHASING AGENT

J.G. SCHENCK

SECTION	SHIP ORDER NO.	GENERAL ORDER NO.	CUSTOMER'S ORDER NO.
7AP110 62B14 CORE ENGR. L.F. COCHRAN			FLC

EC'D
DATE
NO. INSP.
REC. INSP.
FLD. INSP.
INSP. REQ. BY

FROM WESTINGHOUSE ELECTRIC CORPORATION

ATP, O. BOX 1526, PITTSBURGH 20, PA.

TO: METALS & CONTROLS CORP.  
NUCLEAR PRODUCTS DIVISION  
P.O. BOX 898  
ATTLEBORO, MASSACHUSETTS  
ATTN: MR. J. OTTMAR

DATE OF ORDER  
1/19/56

THIS CHANGE NOTICE APPLIES TO:  
73X-5018-4

# CHANGE NOTICE

CHANGE NO. 110

SEE THE ATTACHED SHEET FOR DETAILS

DO NOT APPLY

D. MORT  
NAME FOR ATTENTION OF:

AUTHORIZED BY:

D. H. ROSE

PURCHASING AGENT

OF OR CHECK

SECTION	GROUP ORDER NO.	ORIGINAL ORDER NO.	REVISION ORDER NO.
7 AP 110 62 E 111			FLC

CORE PLANNING - J. BITTNER

RECEIVED
DATE
TIME
BY
INITIALS
SIGNATURE
DATE

# WESTINGHOUSE ELECTRIC CORPORATION

THIS IS PART OF PURCHASE ORDER 73X-5018-1

METALS & CONTROLS CORP.  
NUCLEAR PRODUCTS DIV.  
P.O. BOX 898  
ATTLEBORO, MASSACHUSETTS

## CHANGE NOTICE

THE FOLLOWING PIECES ARE CHEMICALLY RELEASED

INGOT NO.	PIECE NO.	INGOT NO.	PIECE NO.
9NB209	1-25	9NB209	1-26
MB-6	1-25	9NB211	1-9, 25-33
MB-7	17-25	WV-8 COMPLETE	1-4 UP
MB-19	1-33	WV-18 COMPLETE	1-10 UP
9NB204	25-33 UP	WV-227	1-10
9NB186	5-21	WV-229	1-10
MB-8	1-9	WV-215	1-16
9NB208	9-33	WV-220	5, 15, 16
9NB210	1-33	WV-25	1-14
9NB211	1-33	WV-223	1-16
9NB212	9-25	WV-234	1-3, 7-12
474	9-25	9NB182	1-1
476	9-17	1154	1-1
477	9-25	9NB177	15, 11
478	9-25	MB-1	29, 31
480	9-17	9NB173	1-3
481	9-25	9NB156	21, 23
9NB175	3-17	1156	21, 23
MB-5	1-6	1155	23, 21
9NB228	9-25	WV-234-2	1-11, 15-16
9NB159	31, 33, 35, 29	WV-236	1-3
9NB157	21, 23, 25, 27	WV-242	1-11, 15-16
WV-237	3-16		

THERE IS NO CHANGE IN PRICE OR DELIVERY BECAUSE OF THIS CHANGE NOTICE

FROM WESTINGHOUSE ELECTRIC CORPORATION

AT P.O. BOX 1526, PITTSBURGH 30, PA.

DATE OF  
CHANGE NOTICE

11/19/56

THIS CHANGE NOTICE APPLIES TO

PURCHASE ORDER NO.

DATE

7X-5018-M

TO Metals & Controls Corp.  
Nuclear Products Div.  
P.O. Box 898  
Attleboro, Mass.

# CHANGE NOTICE

CHANGE NOTICE :h1

Clean the surface of 159 pieces. These pieces were rejected at Attleboro because they did not meet requirements of surface quality. Rejected pieces were returned to Metals & Controls on November 8, 1956.

There is no change in price or delivery because of this change notice.

DO NOT APPLY

D. U. MORT

NAME FOR ATTENTION OF

D. G. ROSE/cl

BUYER

AUTHORIZED BY:

J. G. SCHENCK

PURCHASING AGENT

SECTION	SHOP ORDER NO.	GENERAL ORDER NO.	CUSTOMER'S ORDER NO.
7AP110 62b1A			PLC

F. J. Schubert/J. Attner  
Core Engr.

RCVD
DATE
NO. INSP.
REC. INSP.
FLD. INSP.
INSP. REQ. BY
NOV201956

WESTINGHOUSE ELECTRIC CORPORATION

P.O. BOX 1526, PITTSBURGH 3, PA.

TO

Metals & Controls Corp.  
Nuclear Products Div.  
P.O. Box 928  
Attleboro, Mass.  
Attn: J. Ottmar

DATE OF CHANGE NOTICE

THIS CHANGE NOTICE APPLIES TO

PURCHASE ORDER NO.

DATE

11/21/56

72-708-1

# CHANGE NOTICE

FOR APPROVAL ONLY

FOR APPROVAL ONLY

FOR APPROVAL ONLY

RECEIVED

RECEIVED

PURCHASING AGENT

D. G. BORG/CL

J. G. SCHWARTZ

RECEIVED

RECEIVED

RECEIVED

RECEIVED

Core Mater.

J. H. Ottmar, Jr., L. F. Cochrane

RECEIVED  
RECEIVED  
RECEIVED  
RECEIVED  
RECEIVED  
RECEIVED  
RECEIVED



WESTINGHOUSE ELECTRIC CORPORATION  
THIS IS PART OF PURCHASE ORDER 731-5018-N

Electrical Controls Corp.  
Clear Products Div.  
P. O. Box 898  
Methuen, Mass.

CHANGE NOTICE #3

This change notice is to cover cost of taking the sample drillings as previously requested by Mr. P. Dufresne and Change Notice Nos. 1, 11, 14. Those drillings requested by Mr. P. Dufresne were:

1111-5	9NH72-1
1118-5	9NH104-9
1125-17	9NH116-25
1134-21	9NH87-18
9NH70-9	9NH70-25

Price of sample drilling is \$4.50 each. Price of this order is increased as follows:

10 Samples as listed in para. 1 at \$4.50 each - \$45.00

11 Samples as listed in Change Notice #1 at \$4.50 each - \$49.50

14 Samples as listed in Change Notice #11 at \$4.50 each - \$63.00

Total price increase for this change notice - \$157.50

Previous total order price \$48,402.00 - \$48,402.00 approx.

Total purchase order price including this change notice - \$48,559.50 approx.

FROM

Westinghouse Electric Corporation

AT

P.O. BOX 1468, PITTSBURGH 30, PA.

DATE OF  
CHANGE NOTICE

7/10/63

THIS CHANGE NOTICE APPLIES TO:

PURCHASE ORDER NO.

73-Y-297800-MPT

DATED

5/16/62

METALS &amp; CONTROLS, INC.

P.O. BOX 898

ATTLEBORO, MASS.

ATTN: MR. R.L. CHURCHILL

"BY YOUR ACKNOWLEDGMENT OF THIS CHANGE NOTICE YOU AGREE THAT ALL CHANGES IN PRICE OR DELIVERY WHICH ARE REQUIRED BY THIS AND ALL PREVIOUS CHANGE NOTICES HAVE BEEN INCORPORATED IN THE PRICE AND DELIVERY DATE ESTABLISHED BY THIS CHANGE NOTICE (EXCEPT FOR

See 7/5/63 M.K. 22

CHANGE NOTICE NO. 133

CONFIRMING TWX TO MR. CHURCHILL ON 7/10/63.

1. THIS CHANGE NOTICE DOES NOT CHANGE THE DELIVERY DATE OR PRICE OF THIS ORDER.
2. IN THE EVENT WESTINGHOUSE REQUIRES SELLER TO PROCESS WESTINGHOUSE-FURNISHED FUEL AND POISON ELEMENTS WITHOUT CONCURRENTLY FURNISHING ANY OR ALL OF THE INSPECTION DATA, CERTIFICATIONS, AND FABRICATION HISTORIES REQUIRED BY PART I OF ORDER ATTACHMENT #7, REJECTION OF SUCH ELEMENTS, BASED ON INFORMATION CONTAINED IN THE INSPECTION DATA, CERTIFICATIONS AND FABRICATION HISTORIES SUBSEQUENTLY FURNISHED BY WESTINGHOUSE TO SELLER, SHALL RESULT IN AN EQUITABLE ADJUSTMENT OF THE ORDER PRICE IN ACCORDANCE WITH THE SCHEDULE OF PRICES SET FORTH IN ORDER ATTACHMENT #8.

THE RIGHT OF REJECTION OF DEFECTIVE ELEMENTS UNDER THIS PARAGRAPH SHALL CONTINUE TO BE EXERCISED BY THE PARTY WHO HAS THE RESPONSIBILITY FOR THE PARTICULAR QUALITY CHARACTERISTICS.

AS SOON AS POSSIBLE AFTER RECEIPT OF THE REQUIRED INSPECTION DATA, CERTIFICATIONS, AND FABRICATION HISTORIES, SELLER SHALL EVALUATE THE ELEMENTS BASED ON INFORMATION CONTAINED IN THESE DOCUMENTS.

DO E-2 APPLIES.

I AGREE THAT ALL CHANGES IN PRICE OR DELIVERY WHICH ARE REQUIRED BY THIS AND ALL PREVIOUS CHANGE NOTICES HAVE BEEN INCORPORATED IN THE PRICE AND DELIVERY DATE ESTABLISHED BY THIS CHANGE NOTICE (EXCEPT FOR  
Westinghouse Electric Corporation, Purchasing Department

MARK FOR

V.W. LEHTONEN/BMG R4

BUYER

AUTHORIZED BY:

PURCHASING AGENT

ATTENTION OF:

ACKNOWLEDGMENT

BILL SHIP DATE

FROM

JOS. A. HENNE

DATE OF SUBMIT

See 7/5/63 M.K. 22

WESTINGHOUSE ELECTRIC CORPORATION

THIS IS PART OF PURCHASE ORDER 73-Y-297800-MPT

CHANGE NOTICE NO. 133

-2-

Metals and Controls, Inc.  
Post Office Box 898  
Attleboro, Massachusetts

3. a. A total of not more than seventy-five (75) elements may be placed in process pursuant to this change notice; provided, however, that for each element rejected in accordance with Paragraph 2. above the total number of elements in process pursuant to this change notice shall be reduced by one (1).
- b. An element shall be considered "in process" when the written direction and authorization provided by Paragraph 4. below is issued, and extends until final certification has been furnished by Westinghouse.
4. Seller shall process elements pursuant to this change notice only upon the express written direction and authorization of the Bettis Resident Supervisor.
5. Under no circumstances shall Seller process elements, pursuant to this change notice, beyond those operations listed in Order Attachment #8. That is, elements shall be processed up to, but not including, the point of stacking for subassembly welding.
6. All other terms and conditions of the order remain unchanged.



FROM

Westinghouse Electric Corporation

AT

P.O. BOX 1468, PITTSBURGH 30, PA.

DATE OF  
CHANGE NOTICE

7/23/63

THIS CHANGE NOTICE APPLIES TO:

PURCHASE ORDER NO.

73-Y-297800-MPT

DATED

5/16/62

METALS &amp; CONTROLS, INC.

P.O. BOX 898

ATTLEBORO, MASS.

ATTN: R.L. CHURCHILL

"BY YOUR ACKNOWLEDGMENT OF THIS CHANGE NOTICE, YOU AGREE THAT ALL CHANGES IN PRICE OR DELIVERY WHICH ARE REQUIRED BY THIS AND ALL PREVIOUS CHANGE NOTICES HAVE BEEN INCORPORATED IN THE PRICE AND DELIVERY DATE ESTABLISHED BY THIS CHANGE NOTICE (EXCEPT FOR

CONFIRMING TWX TO R. CHURCHILL  
ON 7/23/63.

CHANGE NOTICE NO. 147

1. CHANGE NOTICE NO. 133,, DATED 7/10/63, IS SUPERSEDED AND REPLACED BY THIS CHANGE NOTICE.
2. THIS CHANGE NOTICE DOES NOT CHANGE THE DELIVERY DATE OR PRICE OF THIS ORDER.
3. IN THE EVENT WESTINGHOUSE REQUIRES SELLER TO PROCESS WESTINGHOUSE-FURNISHED FUEL AND/OR POISON ELEMENTS WITHOUT CONCURRENTLY FURNISHING ANY OR ALL OF THE INSPECTION DATA, CERTIFICATIONS, AND FABRICATION HISTORIES REQUIRED BY PART I OF ORDER ATTACHMENT #7, REJECTION OF SUCH ELEMENTS BASED ON INFORMATION CONTAINED IN THE INSPECTION DATA, CERTIFICATIONS, AND FABRICATION HISTORIES SUBSEQUENTLY FURNISHED BY WESTINGHOUSE TO SELLER SHALL RESULT IN AN EQUITABLE ADJUSTMENT OF THE ORDER PRICE IN ACCORDANCE WITH THE SCHEDULE OF PRICES SET FORTH IN ORDER ATTACHMENT #8.  
  
AS SOON AS POSSIBLE AFTER RECEIPT OF THE REQUIRED INSPECTION DATA, CERTIFICATIONS, AND FABRICATION HISTORIES, SELLER SHALL EVALUATE THE ELEMENTS BASED ON INFORMATION CONTAINED IN THESE DOCUMENTS.
4. IN THE EVENT WESTINGHOUSE REQUIRES SELLER TO PROCESS WESTINGHOUSE-FURNISHED FUEL AND/OR POISON ELEMENTS WHICH DO NOT MEET ALL OF THE QUALITY REQUIREMENTS OF ORDER ATTACHMENT #7 TO PART I, SUBSEQUENT REJECTION OF SUCH ELEMENTS FOR ANY REASON NOT DUE TO SELLER'S PROCESSING SHALL RESULT IN AN EQUITABLE ADJUSTMENT OF THE ORDER PRICE IN ACCORDANCE WITH THE SCHEDULE OF PRICES SET FORTH IN ORDER ATTACHMENT #8.

DO E-2 APPLIES.

(CONTINUED ON PAGE 2)

"I AGREE THAT ALL CHANGES IN PRICE OR DELIVERY WHICH ARE REQUIRED BY THIS AND ALL PREVIOUS CHANGE NOTICES HAVE BEEN INCORPORATED IN THE PRICE AND DELIVERY DATE ESTABLISHED BY THIS CHANGE NOTICE EXCEPT FOR  
Westinghouse Electric Corporation, Purchasing Department

MARK FOR  
ATTENTION OF:

V.W. LEHTONEN/BMG R4 BUYER

AUTHORIZED BY:

PURCHASING AGENT

ACKNOWLEDGMENT

WILL SHIP DATE	FROM	APPROVED BY	SIGNED FOR
		WOS. A. HENKE	R.L. Churchill

WESTINGHOUSE ELECTRIC CORPORATION

THIS IS PART OF PURCHASE ORDER 72-I-297800-MPT

CHANGE NOTICE NO. 147

-2-

Metals and Controls, Inc.  
Post Office Box 898  
Attleboro, Massachusetts

5. The right of rejection of defective elements under Paragraphs 3. and 4. above shall continue to be exercised by the party who has the responsibility for the particular quality characteristics.
6. Westinghouse shall replace all elements rejected under Paragraphs 3. and 4. above at no cost to Seller in the form and condition originally to have been furnished.
7. A total of not more than seventy-five (75) elements may be in process at any one time pursuant to this change notice; provided, however, that for each element rejected under Paragraphs 3. and 4. above the total number of elements authorized to be in process pursuant to this change notice shall be reduced by one (1).

An element shall be considered "in process" under Paragraph 3. above when written direction and authorization provided by Paragraph 8. below is issued, and extends until final certification has been furnished by Westinghouse.

An element shall be considered "in process" under Paragraph 4. above when the written direction and authorization provided by Paragraph 8. below is issued, and extends until Seller notifies Westinghouse that he assumes responsibility for the rejectable quality characteristics.

8. Seller shall process elements pursuant to this change notice only upon the express written direction and authorization of the Bettis Resident Supervisor.
9. Under no circumstances shall Seller process elements, pursuant to this change notice, beyond those operations listed in Order Attachment #8. That is, elements may be processed up to, but not including, the point of stacking for subassembly welding.
10. All other terms and conditions of the order remain unchanged.

File  
Concise  
AEC



Westinghouse Electric Corporation

Bettis Atomic Power Laboratory Box 1208 Pittsburgh

WAPD-MAC-PUR-184-A

November 2, 1962

Manager,  
Pittsburgh Naval Reactors Office  
U. S. Atomic Energy Commission  
P. O. Box 1105  
Pittsburgh 30, Pennsylvania

Attention: Mr. D. D. Blumenstein

Subject: Additional Information  
Confirmation of Approval for Change Notice No. 14 to  
Purchase Order 73-Y-297800-MPT with  
Metals & Controls, Inc.

Dear Sir:

WAPD-MAC-PUR-184 requested confirmation of oral approval for Change Notice No. 14 to Purchase Order 73-Y-297800-MPT. The following additional information is forwarded per request of D. D. Blumenstein to J. A. Spangler.

It was noted in the change notice that M&C would return "rejected portions" of the subject inconel to Westinghouse. Subsequently Change Notice No. 18, dated October 12, 1962, clarified the amount of material to be returned as a piece approximately 10" x 16" x 3-1/2", as was agreed to during negotiation of Change Notice No. 14.

During negotiations, Westinghouse first attempted to obtain credit from M&C in exchange for M&C's retention and use of the 10" x 16" x 3-1/2" piece. However, M&C declined this arrangement on the basis that they had no projected use for that inconel, except at a credit of a fraction of its value. Westinghouse considers its possible use as future development material to be of more worth to the Government than a nominal settlement to preclude the expense and inconvenience of shipment and storage.

The actual negotiation of each rejected bar was briefly as follows (see also page 2 of PUR-184):

1.7.13 M&C noted the loss of a 10" x 10" x 10" piece as a result of a lapped edge and a bevel in the side of the piece. Westinghouse concurred, but countered that rejected parts of 1.7.20 and 1.7.21, 2 pieces 10" x 10" x 4"

each, could be obtained from the bar. This would leave only chips, turnings, and irregularly shaped small pieces with laps as residue, which material was not considered of sufficient value to warrant its return. M&C accepted this proposal.

1.7.14 M&C noted the loss of a 10" x 16" x 4" piece as a result of an out of square condition and a bevel in the side. Westinghouse concurred and could find no specific way for M&C to utilize the residue, a piece approximately 10" x 16" x 3-1/2". As noted previously, M&C offered only token remuneration to retain it, and Westinghouse requested its return for development use.

1.7.15 M&C noted the loss of a 10" x 10" x 10" piece as a result of a 1/8" shortage in length. Westinghouse agreed, but countered that item 1.7.53 (10-1/4" x 11-1/4" x 8") could be obtained from it instead. M&C commented that an additional out of squareness condition might preclude obtaining this piece, but further examination confirmed the validity of the Westinghouse suggestion and M&C concurred. The residue of chips, turnings and irregularly shaped small pieces were not considered to be of sufficient value to warrant their return.

1.7.20 and 1.7.21 M&C noted the loss of two 10" x 10" x 4" pieces as a result of respective length shortages of 1/2" and 1-3/8" respectively. These two pieces will be obtained from 1.7.13 as noted above. Additional out of squareness conditions and surface finish defects cause the remainder of the pieces to be chips, turnings and two irregular pieces, about 10" x 10" x 2" in their largest dimensions, for which Bettis has no use and M&C declined to buy.

1.7.53 M&C noted the loss of the entire piece by virtue of Westinghouse not supplying it. It was replaced from 1.7.15 as noted above. Westinghouse obtained full use of this material for development work at Bettis.

Confirmation of your oral approval for placement of Change Notice No. 14 is hereby requested.

Very truly yours,



A. Cavalcante, Jr., Supervisor  
Naval Cores Procurement Department

JAS/lst

cc: H. E. Toffman  
F. W. Warrick  
E. T. Cox  
R. E. Deutsch  
C. D. Malloy  
G. E. Cohen  
L. B. Prus

W. E. Linton  
F. W. Hassett  
E. L. Juell  
P. A. Halpine  
P. F. Dundon  
L. F. Bendinelli

11/13/62 This confirms oral approval of C/N No. 14 on basis of this PUR-184A  
and PUR-184 together with clarification provided by C/N No. 18  
*David H. Hume*



Westinghouse Electric Corporation

WAPD-NAC-PA-2759

Bettis Atomic Power Laboratory

Box 1468, Pittsburgh 30, Pa.

February 28, 1963

Metals & Controls, Inc.  
P. O. Box 898  
Attleboro, Mass.

Attention: Mr. E. L. Churchill

Gentlemen:

This is P-83

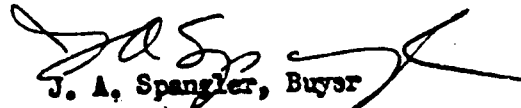
Please quote the following. Your quote on P-16 for the positioning pin should be cancelled to allow for this change.

<u>Item</u>	<u>Drawing</u>	<u>From Rev.</u>	<u>To Rev.</u>
B1, D1 Support Nut	935C081	3	4
B2, D2, D4 Support Nut	935C079	2	3
Type C Positioning Pin	91CB485	None	2

Advise quote date.

Very truly yours,

A. Cavalcante, Jr., Supervisor  
Naval Core Procurement Department

  
J. A. Spangler, Buyer

/ccv

cc: A. R. Sabol  
J. J. Schifano  
R. M. Matyas  
A. Cavalcante, Jr.  
L. F. Benicelli  
C. D. Malloy  
B. May  
J. E. Howell  
T. Rodgers

TO: MANAGER, PITTSBURGH NAVAL REACTORS OPERATIONS OFFICE  
UNITED STATES ATOMIC ENERGY COMMISSION  
POST OFFICE BOX 1105  
PITTSBURGH 30, PA.

CONTRACT NO.  
AT(36-1)-104

CORE TYPE AND IDENTITY

All Items

FROM:

M & C Nuclear Products  
P. O. Box 898  
Attleboro, Mass.

DATE OF INSPECTION

4/15/64

DRAWING, SKETCH OR DATA ATTACHED

YES ☒

NO ☐

DRAWING NO.

A-2291

REVISION

J

PIECE NO.

SERIAL NO.

See attached sheets

SPECIFICATION NO.

MIL-Z-19859

REVISION

B

NAME OF PART

Extension Boxes

WHAT CORRECTIVE ACTION HAS BEEN TAKEN TO PREVENT RECURRENCE OF ABOVE DEVIATION?

M&C will investigate all aspects of vendor process and subvendors before submitting approval requests.

SIGNED:

R. J. Gennone

TITLE

QC Sr. Metallurgist

ACTUAL ITEM CONDITION OR DIMENSION

All boxes listed on the attached sheets were made using an unapproved process at an unapproved vendor plant. The process and vendor have been submitted for approval on AR:104:192. These boxes were welded to subassemblies prior to obtaining approval of AR:104:192.

LIMIT OR STANDARDS APPLIED

Para. 3.1.2

The melting process, the process for converting ingots to finished wrought products shall be approved by the bureau or agency concerned.

F/R 76/425

SIGNATURE AND DATE

RECOMMENDATION FOR:

COMMENTS

DETIS RPL

4/21/64

APPROVAL

X

Process and subvendor are acceptable.

DISAPPROVAL

PNROO

DISPOSITION

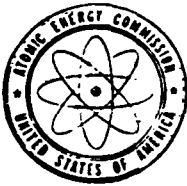
APPROVAL

✓

DISAPPROVAL

RECEIVED  
APR 24 1964  
by J. W. ROSS

NO. MCD: 104: 232



UNITED STATES  
ATOMIC ENERGY COMMISSION  
PITTSBURGH NAVAL REACTORS OPERATIONS OFFICE  
P. O. BOX 1105  
PITTSBURGH 30, PENNSYLVANIA

MAY 28 1962

IN REPLY REFER TO:

CMD:5794:4

May 24, 1962

George P. Howland  
Metals and Controls, Inc.  
Post Office Box 898  
Attleboro, Massachusetts

Subject: CONTRACT AT(36-1)-104 - Drawing Correction

Dear Mr. Howland:

The purpose of this letter is to instruct Metals and Controls to correct the  $25^{\circ}$  plus  $0^{\circ}$  minus  $1^{\circ}$  angle shown on Sheet 3, Section D-D, Zone D-7 of Corner Cluster Drawing 923-J-100 to  $29^{\circ}$  plus  $0^{\circ}$  minus  $1^{\circ}$ .

Revised drawings, incorporating the above correction, will be forwarded as soon as they are available.

Very truly yours,

*Harold H. Hoffman*  
Harold H. Hoffman, Director  
Core Manufacturing Division

CC: Resident Government Inspector

5/28 - distribution as follows:  
A. Davidson - Action  
P. Wiffel / S. Clark - Info.  
P. Larson - Info.  
L. Hall - Info.  
M. Perry - Info.

NOV - 5 1964

11/5-PNRO-18 Dist

W. Clemons

D. Patton

R. Grosse - Copy already sent J. Buck

G. Caldwell

W. Stevenson

For use in  
packaging rena  
PNRO-18 Instr

NR 135

FROM T F MANLEY USAEC PNRO MCKEESPORT PA NOV64052043Z

TO R L CHURCHILL METALS & CONTROLS INC ATTLEBORO

INFO/RESIDENT GOVERNMENT INSPECTOR - M&C

THE PURPOSE OF THIS TWX IS TO INSTRUCT M&C THAT THE COMPONENTS IDENTIFIED AS ITEMS J, K AND L ON THE LIST OF COMPONENTS FOR CONTRACT AT/3671/-104 ARE TO BE PROPERLY CLEANED AND PLACED IN POLYETHYLENE ENVELOPES. THE ENVELOPES ARE TO BE EVACUATED UNTIL THE POLYETHYLENE CLINGS TO THE COMPONENTS AND THEN SEALED. THESE ITEMS ARE TO BE PACKED IN PROPERLY BRACED WOODEN CONTAINERS IN ACCORDANCE WITH BEST COMMERCIAL PRACTICE.

END REF AEC PNRO NR-135-TFM

2055Z

CORRECTION..LNS 4TH WORD SHUD READ BRACED RPT BRACED

END PLS ACK TNX CS

END TUM



TEXAS INSTRUMENTS  
INCORPORATED

SALES ORDER NO.:  
N-01672-N  
SALES ORDER DATE

NUCLEAR PRODUCTS CASE 2-3800

PAGE 1 OF 1 PAGES

CUSTOMER ORDER	CODE	ADMINISTRATOR	SUPPLEMENT NO.	DATE
AT(36-1)-104	PNRO-18	G. P. Howland	18-19	6/23/64

## SALES ORDER SUPPLEMENT

INITIATED BY C. Stanton	DISTRIBUTION - FOR ACTION
AUTHORITY Change Notice No. 19 to Contract AT(36-1)-104	<input checked="" type="checkbox"/> OPNS PLANNING <input type="checkbox"/> R&D
	<input type="checkbox"/> QUALITY CONTROL <input type="checkbox"/> PROJECT OFFICE
	<input type="checkbox"/> FINANCE <input type="checkbox"/>

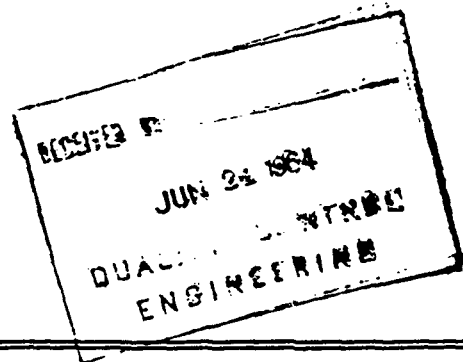
### INSTRUCTIONS

Effective July 1, 1964, M&C will comply with the following change in the place of delivery of reprocessed uranium-bearing scrap materials as proved for under Article 46 (d)(1) of the PNRO-18 contract.

Reprocessed uranium-bearing scrap materials shall be returned to the Commission's Portsmouth, Ohio, facilities, in lieu of the Commission's Oak Ridge, Tennessee, facilities as provided for under Article 46 (d)(1) of Contract No. AT(36-1)-104.

There is no increase in the contract price or adjustment in the delivery schedule as a result of this Change Notice No. 19, in accordance with the telephone conversation of June 8, 1964, between Mr. R. L. Churchill and Mr. R. A. Levine of PNRO.

No bogey adjustments are authorized.



ACTION TAKEN (ACTION ADDRESSEE COMPLETE AND RETURN TO THE INITIATOR)

SIGNATURE

DATE

DEPT

		PAGE 1 OF 4	NO. 582-01-05
SUBJECT	HEALTH-PHYSICS	DATE May 1, 1961	
PROCEDURE	EXTERNAL RADIATION PROTECTION	SUPERSEDES 582-01-04	
PREPARED BY P. Duff	DEPARTMENT(S) AFFECTED All	APPROVED	AUTHORIZED <i>G. L. Williams</i> G. L. Williams, Product Group Manager

**I. PURPOSE**

This procedure identifies the sources of external radiation and outlines measures for protection against them, including operating practices, dosimetry, maximum permissible doses, exposure prevention, and reporting requirements.

**II. SOURCES OF EXTERNAL RADIATION AT METALS AND CONTROLS**

- A. Multikilogram quantities of depleted and natural uranium, and thorium presenting beta radiation hazards. Daughter products, concentrated in the dross from vacuum melting, can produce high beta dose rates. Occasionally, uranium with a small beta and/or gamma active fission product inventory may be handled.
- B. X-ray and fluoroscopy machines for analysis and radiography.
- C. Small sealed radioisotope sources.
- D. The accidental establishment of a critical mass of uranium.

**III. PROTECTIVE MEASURES****A. Uranium and Thorium**

1. Except when quantities exceeding several pounds are involved, whole body external radiation dose rates from uranium and thorium are of little consequence.
2. The dose to the hands in contact with metal may exceed the maximum permissible dose unless contact is limited to 6 hours per week. If this is not possible, gloves with heavy leather palms shall be worn to reduce the exposure to acceptable levels.
3. The following precautions shall be taken during vacuum melting:
  - a. No vacuum melting of thorium may be done without the concurrence of Health-Physics.
  - b. Personnel working at or near an open furnace, crucible, mold or induction coils which have been involved in natural or depleted uranium melts shall wear, in addition to heavy leather palm gloves, a full length heavy leather or leaded rubber apron, a face shield, and a respirator. Personal dosimeters (film badges) shall be worn under the apron. Personnel habitually doing this work shall be issued a second film dosimeter by Health-Physics, to be worn outside the apron. This will provide a check on the integrity of the protective equipment.

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- c. Large quantities of depleted and natural uranium shall be stored behind shielding equivalent to quarter-inch plywood; crucibles, molds and induction coils shall be stored behind similar shielding.
  4. Fuel which has been in a critical facility, or has otherwise been made critical, will contain small amounts of fission products. To determine the advisability of accepting each job involving such material, Health-Physics shall be consulted regarding dose rates, permissible exposure times, and protective devices for safe completion of the job.
  - B. All x-ray units shall be shielded sufficiently to reduce dose rates below permissible occupational levels. Electrical interlocks shall prevent energizing machines when movable shields (doors) are open; they shall also shut the machines off immediately when one of these shields is opened accidentally. Health-Physics shall hold surveys monthly to check shield integrity, and interlock operation.
  - C. Access to the sealed sources is limited to a small, responsible group. Sources shall be handled with the longest tongs practical for each given job and source strength. Due to the varied nature of the use of the sources, general safety procedures cannot be established, but each job shall be evaluated separately by Health-Physics.
- IV. All persons who work at or visit M&C Nuclear for any length of time, no matter how short, shall be supplied with a personal dosimeter.
- A. The dosimeter, a film badge in combination with a security picture badge, consists of a differentially shielded beta, X- and gamma ray sensitive film and neutron monitoring resonance threshold foils.
    1. The film is shielded so that both total beta and total gamma may be determined from it.
    2. The resonance threshold foils are for neutron dose measurements in the event of a criticality accident.
  - B. Films shall be changed on the following schedule:
    1. All films shall be changed at least once every 13 weeks (quarterly).
    2. Films of people in the following categories shall be changed monthly:
      - a. People who normally spend more than half their time in the fuel manufacturing area.
      - b. X-ray technicians.
      - c. Chemical, spectrographic, metallurgical and R&D laboratory personnel.
    3. Films of people employed full time in the fuel manufacturing area, and of any others deemed necessary by Health-Physics, shall be changed weekly.

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4. Employees who lose, damage, or for some other reason cannot wear their own badges shall be given temporary badges. People participating in the weekly change schedule shall be assigned temporary badges which will be changed weekly so that a continuing dose record may be kept.
  5. In the case of a suspected gross exposure, the film shall be immediately developed and interpreted by Health-Physics.
  - C. Pocket chambers are available for use in special cases. Due to their inherent unreliability, they shall be used qualitatively only. Quantitative dose measurements shall be made with film dosimeters only.
  - D. Visitor badges may be given to several individuals between film changes. The films shall be developed, interpreted, and the total doses recorded, but no attempt should be made to determine individual exposures.
- V. THE MAXIMUM PERMISSIBLE DOSES SHALL be those specified in Title 10, Code of Federal Regulations, Part 20, Revised 1/1/61.
- A. The total accumulated gamma dose shall be
$$\text{MPD} = (N - 18) \times 5 \text{ rems}$$
Where N is the individual's age in years. This means that starting at age 18, the average yearly dose should not exceed 5 rems. This is equivalent to 100 mrem/week.
  - B. The maximum yearly gamma dose shall not exceed 3 times the average yearly dose, or 15 rems. This is equivalent to 300 mrem/week.
  - C. The maximum quarter-year gamma dose shall not exceed one fourth of the maximum yearly dose, or 3.75 rems.
  - D. The maximum permissible beta doses are double those of the gamma doses.
  - E. The maximum permissible dose to the extremities from any radiation is 75 rems/year or 1500 mrems/week.
  - F. Unless an individual's radiation history is known, it shall be assumed that he has received the total allowable accumulated dose for his age. Radiation history shall be either recorded exposure data, or a statement from the employee (and/or his previous employers) that during previous employments he was not exposed to ionizing radiation or radioactive materials in any way. Radiation history records will be kept on IBM cards which are imprinted with the same information as AEC Form 4 by Health-Physics.

## VI. EXPOSURE PREVENTION

- A. Prevention of exposure shall take precedence over all other considerations, except in the case of emergency.
- B. When it appears likely that an individual will exceed the maximum quarter-year dose, Health-Physics and the individual's supervisor shall establish a work schedule which will reduce the dose rate and prevent an overexposure. The following equation should be used to aid in establishing the schedule:

$$ED_a - ED_p = ED_y \quad \text{where: } ED_y \leq 15 \text{ rems gamma}$$

$$ED_y/4 = ED_q$$

$$ED_q = \Delta t \times \frac{dD}{dt} \times 10^{-3}$$

$ED_a$  = Maximum permissible accumulated dose

$ED_p$  = Actual accumulated dose

$ED_y$  = Maximum permissible yearly dose

$ED_q$  = Maximum permissible quarter's dose

$\frac{dD}{dt}$  = Dose rate in mrem/hour

$\Delta t$  = Allowable time at that dose rate, in hours.

- C. When an individual has received 80% of the maximum allowable dose for a quarter, he shall be removed from all work involving radiation and radioactive materials until the beginning of the next quarter.

## VII. REPORTING OVEREXPOSURES - HEALTH-PHYSICS RESPONSIBILITY

### A. AEC - Contract

1. Dose during a single incident of 15 rems or greater shall be reported immediately.
2. Dose during any calendar year of 25 rems or greater from gamma radiation shall be reported within 30 days from the time of determination.
3. Reports shall be made yearly, before the first of March, of all radiation exposures during the previous calendar year.
4. Reports shall be made by telephone and in writing, except the yearly report, which is in writing only, to the Manager, SNROO.

### B. AEC - License

1. Dose during a single incident of 25 rems to the whole body, 150 rems to the skin of the whole body, or 375 rems to the extremities shall be reported immediately.
2. Dose during a single incident exceeding the maximum yearly doses (Section IV, above) in any way, shall be reported within 24 hours.
3. Accumulated dose exceeding the maximum permissible dose in any way, shall be reported within 30 days of its discovery.
4. Reports shall be made to the Manager of the New York Operations Office by telephone and telegraph (except for 30 day reports, which are written).

- C. Commonwealth of Massachusetts. Any dose in excess of the MPD's shall be reported in writing within 7 days to the Commissioner, Division of Industrial Safety, Department of Labor and Industries.

		PAGE 1 OF 4		NO. 582-20-03	
SUBJECT HEALTH-PHYSICS				DATE May 1, 1961	
PROCEDURE INTERNAL RADIATION PROTECTION				SUPERSEDES 582-20-02	
PREPARED BY  P. Duff	DEPARTMENT(S) AFFECTED  All	APPROVED	AUTHORIZED <i>[Signature]</i> E. L. Williams Product Group Manager		

## I. PURPOSE

This procedure concerns the uptake of radioactive material into the human body. It outlines the three avenues of entry into the body -- inhalation, ingestion, and through breaks in the skin -- and the appropriate methods of source detection and control, personal protection, and body burden determinations.

## II. INHALATION

A. All work with radioactive material susceptible to atmospheric distribution shall be done under the influence of adequate ventilation.

1. Dust collected in dryboxes, hoods and flexible pickups shall be drawn through negative pressure sheet steel or PVC ducts to cleanable metal-mesh prefilters and then high efficiency paper or glass fiber filters. Air which has passed through the high efficiency filters may be released to non-restricted areas.
2. The velocity of air at the faces of all hoods and flexible pickups shall be at least 200 feet per minute. Velocity of the air streams in all ducts shall be 4000 feet per minute.
3. Manometers shall be installed to show pressure differentials across the high efficiency filters. Filters shall be cleaned and/or replaced when pressure differentials exceed 2.5 inches of water. All operations relying on a specific filter bank for exhaust ventilation shall be stopped when the pressure differential on that bank exceeds 3.0 inches of water.
4. Maintenance
  - a. Manometer levels shall be monitored daily by Health-Physics.
  - b. The Maintenance Department shall be informed when readings indicate the need for cleaning or changing of filters.
    - (1) Protective clothing and respirators shall be worn while working inside filter boxes.
    - (2) Clean high efficiency filters shall be visually inspected on receipt by the Health-Physics Department. Defective filters will be returned to the supplier.
    - (3) Contaminated high efficiency filters shall be placed in the boxes that clean replacement filters come in. These boxes shall then be sealed with masking tape and imprinted with a description of the contaminated filter.

5. Due to the large volume, the large dilution by nonfissionable material and the lack of moderating materials, clogging of the filters will be achieved before critical nuclear safety concentrations can be accumulated.
  6. The Health-Physicist shall be consulted prior to the installation of all new equipment and the modification of all existing equipment to determine the necessity for ventilation. No changes shall be made in exhaust ventilation systems without the approval of the Health-Physicist.
- B. Airborne concentrations shall be determined by air sampling.**
1. Sampling shall be conducted by Health-Physics.
  2. Each job employing radioactive material, in which aerosols can be produced, shall be sampled on a routine scheduled basis.
    - a. This schedule shall be at the highest practical frequency.
    - b. Greater frequency may be given to some cases than others, as dictated by the situation.
  3. Each new or modified job shall be intensively sampled, when operation is started.
  4. From the results of the air samples, Health-Physics shall issue directives concerning respirator use.
- C. Respiratory Protection**
1. Description of Equipment
    - a. Respirator - American Optical Company; Catalog No. R 5057.
    - b. Filter cartridges - American Optical Company; Catalog No. R 57.
    - c. If superior equipment becomes available, it may be substituted for the above. This section may be revised to cover such new equipment.
  2. Fitting of Respirators
    - a. Instructions on how to fit respirators to individual facial contours shall be given to all personnel who might wear one, by members of the Health-Physics Department.
    - b. Fitting shall be done by molding the light metal reinforcement so that the wide rubber flap around the outside of the respirator fits evenly and comfortably. Stress shall be placed on molding the mask so that it fits comfortably and does not press more at one place than at another. This even pressure is the best indication that the mask is seated properly. Strap tension will be governed by even fit and comfort.
  3. Maintenance, Cleaning, Inspection and Dispensing - Maintenance Dept.
    - a. Respirators shall be disassembled and cleaned in a mild detergent and water after each use.

- b. Filter cartridges shall be inspected visually for damage to either the filter media or the metal canister. Damage to either, or heavy contamination buildup shall be cause for rejection. Rejected filters shall be considered to be radioactive contaminated and handled accordingly.
  - c. Cleaned, inspected and reassembled respirators shall be put in new kraft paper bags, bearing the inscription, "CLEAN RESPIRATOR" and instructions for proper respirator use. Each bag shall be signed and sealed by the individual who cleaned, inspected and reassembled the respirator.
  - d. Bagged respirators shall be placed in clean respirator dispensing cabinets.
  - e. Users shall place contaminated respirators in used respirator bins.
4. Use of Respirators
- a. Respirators shall be worn by everyone in each area where airborne uranium or thorium contamination exceeds 100 alpha disintegrations per minute per cubic meter, where airborne concentrations of other radionuclides exceed 75% of the values listed in Appendix B, Table I of 10 CFR 20, revised, and in other areas at the discretion of the Health-Physicist.
  - b. Except during emergencies, the maximum allowable concentrations in which respirators may be used shall be 150% of the values listed in Appendix B, Table I, 10 CFR 20, revised. Higher concentrations shall be considered to be emergency conditions.
  - c. In areas where average airborne concentrations exceed the values listed in Appendix B, Table I, of 10 CFR 20, revised, an operator may spend no more than 5 hours and only then with a respirator.

### III. INGESTION

- A. Absolutely no eating, drinking or smoking shall be permitted in any contaminated area except where specifically indicated by signs. This rule shall be strictly enforced by foremen and Health-Physics.
- B. Upon leaving a contaminated area, all personnel shall wash their hands thoroughly; particularly before eating or smoking.
- C. The use of gloves shall be required whenever hand contamination is likely, and at all times when handling uranium.
- D. Spot checks of hand, foot and clothing contamination shall be made to insure the adequacy of this phase of the program. *by H.P.*

### IV. BREAKS IN THE SKIN

- A. All injuries, no matter how slight, shall be reported to the dispensary immediately. Wounds shall be cleaned out, monitored if deemed necessary by the physician or dispensary technician and bandaged.



- B. In the case of severe injuries involving contamination, medical treatment shall take precedent over Health-Physics considerations.

#### V. DETERMINATIONS OF BODY BURDENS

- A. Urinalyses for uranium will be performed by Health-Physics:
1. Quarterly for people employed more than 50% of the time in the Fuel Manufacturing Area and scrap and salvage personnel.
  2. Semi-annually to people employed more than 25% of the time in the Fuel Manufacturing Area and chemical and metallurgical laboratory personnel.
  3. Annually for material development personnel.
  4. Immediately after any gross exposure, such as after a fire.
- B. No techniques are presently available for thorium body burden determinations, except for weighted exposure averages. As soon as an accurate technique is developed, it will be employed.

#### VI. RESPONSIBILITIES

- A. Health-Physics is responsible for determining airborne concentrations for monitoring the efficiency of the exhaust systems, for notifying appropriate supervisors of abnormal conditions and for enforcing the provisions of this procedure.
- B. Maintenance is responsible for filter cleaning and changing.
- C. Supervisors are responsible for notifying Health-Physics of all changes which might effect the production of radioactive aerosols, for compliance with directives issued by Health-Physics regarding respirator use and shall insure that all provisions of this procedure are complied with.
- D. Each individual is responsible for his own adherence to the provisions of this procedure.

S.O.P. 582-40-04 APPENDIX

PROTECTIVE EQUIPMENT AVAILABLE

I. EYES

A. Safety Glasses

1. Clear lenses
2. Tinted lenses

B. Goggles

1. Hard plastic-visiters
2. Soft plastic-corrosive liquids
3. Welder's

C. Face Shields

1. Clear plastic
  - a. .050" thick - partial and full face
  - b. .250" thick - special for beta radiation
2. Welder's

II. SOUND ABSORBING EAR MUFFS

III. HEADS

- A. Hard hats - fiberglass, full rim
- B. Paper

IV. RESPIRATION

- A. Half-mask respirators with high efficiency filters
- B. Scott air packs
- C. Assault masks with high efficiency filters

V. HANDS

- A. Acid resistant gloves with high cuffs
- B. Heavy asbestos gloves
- C. Surgeon's gloves

- D. Poly-film gloves
- E. Heavy leather-palm work gloves
- F. Kidd work gloves
- G. Cotton work gloves

VI. APRONS

- A. Acid resistant bib-type and sleeveless-type
- B. Leaded rubber
- C. Cotton
- D. Aluminized jackets with long sleeves

VII. FEET

- A. Steel toe safety shoes and boots
- B. Acid resistant boots and shoe covers
- C. Rubber and poly shoe covers

VIII. SAFETY SHOWERS AND EYE BATHS IN ALL CLEANING AREAS

IX. HEALTH, COMFORT AND CONVENIENCE

- A. Salt tablets
- B. First aid supplies
- C. Sweat bands

**M & C NUCLEAR, INC.****STANDARD OPERATING PROCEDURE**

<b>PAGE</b> 1 OF 3		<b>NO.</b> 582-50-03
<b>SUBJECT</b> HEALTH & SAFETY		<b>DATE</b> April 7, 1961
<b>PROCEDURE</b> MEDICAL EXAMINATIONS		<b>SUPERSEDES</b> 582-50-02
<b>PREPARED BY</b> E. P. McDonagh	<b>DEPARTMENT(S) AFFECTED</b> All	<b>APPROVED</b>  <b>AUTHORIZED</b> <i>G. L. Williams</i> G. L. Williams

**PURPOSE**

To state the M & C Nuclear Products procedure concerning the medical aspects of the Radiation Safety Program.

**PERSONNEL AFFECTED**

All employees assigned to duties at M & C Nuclear Products.

**POLICY**

To insure, through a program of systematic medical examinations, that only personnel in good health are allowed to work in areas where significant exposures to radiation are possible.

**PRACTICE**

Medical Examinations.

**A. Schedule of Examinations.**

1. Pre-employment examinations. All employees receive a pre-employment examination.
2. Periodic examinations. All employees who, in the course of their work, may be exposed to radiation or radioactive material amounting to 25% of prescribed occupational dose standards, will be given a medical examination at least once each year.
3. Separation examinations. Personnel who fall into the category A2, above, will be afforded the opportunity of receiving a medical examination at the termination of their employment.

**B. Scope of Examinations.**

1. The pre-employment examination shall, for all personnel, consist of the following:
  - a) History. A detailed medical history shall be obtained by the company physician.
  - b) Physical examinations. A thorough general examination shall be made. An eye examination will also be conducted.

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- c) Laboratory procedures. A blood test and urinalysis shall be conducted. Other procedures, as indicated by the clinical judgment of the examining physician, shall also be performed.
  - d) 14 x 17 inch chest X-rays shall be taken of those personnel who, in the opinion of the Health-Physics Department, may be exposed to radiation amounting to 25% of allowable occupational dose standards. This X-ray will be performed prior to employment if there is a history of previous respiratory illness; otherwise, the person will be scheduled for X-ray during the next X-ray examination session which will be held demi-annually.
2. The periodic examinations shall consist of:
- a) Physical examination and review of history.
  - b) 14 x 17 inch chest X-ray.
  - c) Blood tests.
  - d) Urinalysis for radionuclides and toxic agents as required by the Health Physics Department. Urinalysis may, in some cases, be required on a quarterly or semi-annual basis.
3. The separation examination will be identical to the periodic examination.

The attached chart summarizes the scope of medical examinations for employees of varying duties at M & C Nuclear Products.

# M & C NUCLEAR, INC.

## STANDARD OPERATING PROCEDURE

PAGE	NO.
3 of 3	582-50-03

	Pre-employment Physical and Lab Procedures	Pre-employment X-ray	Annual 4-Point Exam	Urinalysis Quarterly	Urinalysis Semi- Annually	Termination Exam
1. Employees Assigned to Fuel Mfg. Area	x	x	x	x		x
2. Employees Regularly Spending 50% of Time in Fuel Mfg. Area	x	x	x	x		x
3. Employees Regularly Spending 25% of Time in Fuel Mfg. Area	x	x	x		x	x
4. Research & Development Personnel	x	x	x			x
5. Analytical & Metallo- graphic Lab Personnel	x	x			x	x
6. Scrap Personnel	x	x	x	x		x
7. X-Ray Technicians	x	x				
8. All Others	x					

**NUCLEAR PRODUCTS DIVISION  
METALS & CONTROLS CORPORATION**

**STANDARD OPERATING PROCEDURE**

<b>SUBJECT</b> HEALTH AND SAFETY  <b>PROCEDURE</b> HOUSEKEEPING		<div style="border-bottom: 1px solid black; padding-bottom: 2px;"><b>PAGE</b> 1      OF    1</div> <div style="border-bottom: 1px solid black; padding-bottom: 2px;"><b>NO.</b> 583-20-01</div>	<div style="border-bottom: 1px solid black; padding-bottom: 2px;"><b>DATE</b> Nov. 4, 1957</div> <div style="border-bottom: 1px solid black; padding-bottom: 2px;"><b>SUPERSEDES</b></div>
<b>PREPARED BY</b>  P. Loysen	<b>DEPARTMENT(S) AFFECTED</b>  All	<b>APPROVED</b>	<b>AUTHORIZED</b>  <div style="text-align: center; padding-top: 20px;">jo General Manager</div>

**I. GENERAL.**

The benefits derived from good housekeeping are not always tangible, but an evaluation of all factors leads to the conclusion that it is "just good business" to have a well defined and executed program.

**II. OBJECTIVES.**

The objectives of housekeeping are:

- A. Improved work habits resulting in better products with less wasted material, services and supplies; less wasted time searching for misplaced material, supplies, tools, and parts; and less loss of material and supplies.
- B. Better morale and pride of the work force.
- C. Safer working conditions.


**III. INSTRUCTIONS.**

General instructions relative to the maintenance of good housekeeping are as follows:

- A. Work areas shall be kept in neat order. This means no miscellaneous or extraneous materials left on window sills or on the floor under machines and equipment; unused tools and accessories in their proper places on racks and materials placed on skids or in racks which can be cleaned under.
- B. Waste and scrap shall be placed in properly identified containers for the various materials involved, and emptied by the scrap and waste collector on a regular basis. No containers shall be permitted to overflow.
- C. All materials, both scrap and good, shall be disposed of in an appropriate manner and the work area cleaned up when a job is completed.

NUCLEAR PRODUCTS DIVISION  
METALS & CONTROLS CORPORATION

STANDARD OPERATING PROCEDURE

PAGE 1 OF 1		NO. 583-20-01
SUBJECT HEALTH AND SAFETY		DATE Nov. 4, 1957
PROCEDURE HOUSEKEEPING		SUPERSEDES
PREPARED BY  P. Loysen	DEPARTMENT(S) AFFECTED  All	APPROVED  General Manager 

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		PAGE 1 OF 7	NO. 583-40-04
SUBJECT HEALTH - PHYSICS		DATE April 2, 1962	
PROCEDURE RADIOACTIVE WASTE MANAGEMENT		SUPERSEDES 583-40-03	
PREPARED BY  P. Duff	DEPARTMENT(S) AFFECTED  All	APPROVED  <i>H. Duff</i>	AUTHORIZED  <i>G. L. Williams</i> G. L. Williams Product Group Manager

I. PURPOSE

This procedure outlines the various forms of radioactively contaminated waste and scrap materials, and the methods to be used in collecting, handling, concentrating, segregating, storing, and disposing of them safely.

II. SOLIDS

## A. Enriched uranium and its alloys.

1. Consists of machine turnings, foil, etc., which cannot be recycled by physical means.
2. Collected in the Fuel Manufacturing Area:
  - a. At each scrap producing operation, by the man doing the operation.
  - b. During collection, the maximum safe quantity is the same as the maximum safe quantity of the material being worked.
  - c. In 5-1/2 inch diameter by 15 inch high steel cans.
  - d. Cans are taken to the vault.
    - (1) For determination of the mass of contained U-235 (the maximum safe quantity per can for storage and shipment is one kilogram U-235), and adjustment of material as necessary to meet the maximum safe quantity.
    - (2) Fluids are added to fill the voids around pyrophoric materials.
    - (3) The cans are hermetically sealed on a special can sealing machine.
  - e. Cans are stored and shipped.
    - (1) 2 per drum type scrap shipping container -- M&C Drawing 2-4000-A, a copy of which is included in the appendix of the Health and Safety Manual.
    - (2) 60 drum type containers per two dimensional array.
    - (3) Separation of at least 10 feet between each such array and any other enriched uranium storage.
    - (4) All enriched uranium scrap shall be stored in the Nuclear building, or in the Waste Treatment Area.

**B. Natural uranium, depleted uranium, thorium, and their alloys.**

1. Consists of massive metal, machine turnings, melting residues, mixtures with combustible or non-combustible waste, etc.
  - a. May or may not be recyclable, thus the material may be merely stored in the scrap area for future recycling.
  - b. Melting residues of uranium (thorium is not melted) may contain concentrated daughter products which may be more hazardous than the uranium itself.
2. Collected in the Fuel Manufacturing Area.
  - a. In ordinary steel 55-gallon drums and 5-gallon pails.
  - b. By production personnel.
3. Finely divided pyrophoric metals shall be stored under water, soluble oil, perchlorethylene, or other liquid specified by the Health-Physicist; other materials are stored dry, in segregated areas, in the same containers they are collected in. All containers are covered with snug-fitting lids.
4. Final disposition of these materials is by direction of the customer.

**C. Uranium and thorium contaminated combustibles.**

1. Collected in ordinary steel 55-gallon drums.
2. Material shall be hand separated into two groups by Salvage personnel.
  - a. Paper and non-oily rags.
  - b. Metal, plastic, asbestos, oily rags, and anything else that will not burn or will generate large quantities of smoke. This material is considered non-combustible rubbish.
3. One half barrel of 2.a. above shall be added to the incinerator at a time. Care must be taken to see that the burning chamber is not overloaded, as incomplete combustion could result. Respirators shall be worn by operators while charging the burning chamber.
4. The incinerator shall be operated without filters. To prevent contamination in the exhaust, a gas-fired burner and an exhaust blower shall be operated continuously while burning contaminated material, to provide high temperatures and thus complete combustion. This high temperature has proven sufficient to eliminate air-borne contamination. Air samples shall be collected weekly, or at the discretion of the Health-Physicist, to measure any contamination.
5. The incinerator shall be run a maximum of two continuous shifts. It shall be allowed to cool completely on the third continuous shift. Prior to start-up, the ashes shall be wet down and shoveled into ordinary steel 55-gallon drums, or dry vacuumed into ordinary steel 55-gallon drums. Respirators shall be worn while cleaning the incinerator.

6. Concentrations of U-235 in both the unburned and the burned states are sufficiently low to obviate any special nuclear safety precautions. However, to be conservative, a sample shall be taken of each from each drum of ashes and analysed for U-235 content, and the drums of ashes shall then be handled in the same manner as enriched uranium bearing liquid drums.
  7. The incinerator area shall be washed or vacuumed every other day. Wash water shall be processed through the evaporator.
- D. Uranium and thorium contaminated salvageable non-combustibles.
1. Consists of scrap metals (primarily steel and copper), and used machinery and equipment.
  2. Scrap metal shall be collected in ordinary steel 55-gallon drums.
  3. Drums, machinery and equipment shall be stored in the Waste Treatment Area or the Stockade.
  4. Prior to disposition, all materials shall be surveyed for surface contamination by Salvage or Health-Physics personnel.
    - a. Scrap metals
      - (1) Less than 500 disintegrations per minute per 100 square centimeters ( $d/m/100\text{ cm}^2$ ) average and 5000  $d/m/100\text{ cm}^2$  maximum may be disposed of without restrictions.
      - (2) Less than 5000  $d/m/100\text{ cm}^2$  average and 25,000  $d/m/100\text{ cm}^2$  maximum may be sold to special scrap dealers licensed to receive such material.
      - (3) Greater than 25,000  $d/m/100\text{ cm}^2$  must be decontaminated before disposition.
    - b. Machinery and equipment
      - (1) Less than 50  $d/m/100\text{ cm}^2$  removable and 500  $d/m/100\text{ cm}^2$  fixed, except on actual work surfaces which may be 2000  $d/m/100\text{ cm}^2$  fixed, may be released to the general public without restrictions.
      - (2) If machinery or equipment is to be taken into smidgen clean areas, the maximum allowable contamination levels shall be 1.0  $d/m/100\text{ cm}^2$  removable and 50  $d/m/100\text{ cm}^2$  fixed.
      - (3) Levels higher than these must be reduced by decontamination before disposition.
    - c. People receiving this material shall be informed of the contamination levels.
- E. Uranium and thorium contaminated non-combustible junk and rubbish shall be collected and stored in ordinary steel 55-gallon drums with lever-lock covers. Disposal shall be made through authorized agencies or licensees.

**III. LIQUIDS****A. Enriched uranium and its alloys in immediately recoverable concentrations -- solutions only.**

1. Consists of process acid solutions which are exhausted, or in which the uranium is approaching the maximum allowable concentration, and laboratory acid wastes.
2. Collection
  - a. In ordinary steel 55-gallon (215 liter) drums with heavy polyethylene liners, sealed to prevent evaporation.
  - b. The maximum safe concentrations shall be 2 grams U-235 per liter.
    - (1) U-235 concentrations in pickle tanks shall be determined by weight loss of material passing through the tanks.
    - (2) U-235 concentration in laboratory waste is prevented from reaching 2 grams per liter by the nature of the analysis operations.
    - (3) Samples from each drum shall be analysed for U-235 concentration after the drums have been delivered to the waste storage area. Concentrations found to exceed the maximum allowable concentration shall be adjusted by mixing with low concentration acids.
    - (4) No restrictions need be placed on the number of drums which may be collected in an array for storage or shipment.
  - c. Acid wastes shall be stored until enough drums are accumulated for an economical shipment; they will then be shipped by truck to Oak Ridge, or elsewhere at the customer's disposition, for recovery of the uranium.

**B. Dilute uranium and thorium mixtures, suspensions and solutions requiring concentration before recovery.**

1. Consists of floor and other wash water containing enriched, natural and depleted uranium and thorium in concentrations higher than those permitting release to ground water, streams, etc., yet not concentrated enough for reclamation.
2. Collection
  - a. In ordinary steel 55-gallon drums with lever-lock covers.
  - b. Experience has shown that these solutions are sufficiently diluted to obviate the need for special nuclear safety precautions.
3. Concentration - Material Handling Personnel
  - a. Liquids
    - (1) Experience has shown that a typical 55-gallon drum, after 24 hours settling, will contain about 90% liquids and 10% sludge; many

analyses have shown that all but about 5% of the U-235 is contained in the sludge.

- (2) The liquids from these 55-gallon drums shall be pumped into the 600-gallon holding tank. Care shall be taken to prevent picking up any of the sludge from the bottom of the drums.
- (3) When the holding tank is full, its contents shall be agitated by pumping in a closed cycle for 30 minutes. A sample of approximately one liter shall be drawn from the contents of the tank as soon as the agitation is stopped. This sample shall be given to Health-Physics for U-235 analysis. The maximum safe quantity in the holding tank-evaporator system shall be 430 grams.
- (4) After the sample has been collected, the liquids in the holding tank are added to the evaporator.
  - (a) At start-up of the system, the entire contents of the holding tank may be pumped into the evaporator immediately.
  - (b) When the evaporator already holds liquids being evaporated, step-wise additions may be made from the holding tank to maintain liquid levels near the top of the evaporator.
- (5) When the results of the U-235 analysis become available, the measured concentration shall be multiplied by the volume of liquid added to the system (normally 600 gallons) to determine the number of grams of U-235 added to the system.
- (6) Operations (1) through (5) above, shall be repeated until 430 grams of U-235 have been added to the system.
- (7) After the last liquid has been added to the system, evaporation may continue until not less than 55 gallons (215 liters) of sludge remain. In practice, evaporation will cease to be economical at a volume substantially greater than 55 gallons.
- (8) The sludge in the evaporator shall be pumped into 55-gallon drums. The maximum concentration, if only one drum is used, shall thus be 2 grams per liter.
- (9) No restrictions need be placed on the number of drums which may be collected in an array for storage or shipment.

**b. Sludge**

- (1) Experience has shown that the sludge which has settled to the bottom of a 55-gallon drum makes up about 10% of the volume of wash waters, and contains about 95% of the U-235.
- (2) After the liquids have been removed to the evaporator, the sludge shall be agitated by stirring for one minute.
- (3) Three samples shall be taken from three different spots on the bottom of the drum. These three samples shall be combined, and given to Health-Physics for U-235 analysis.

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(4) After the analysis results are obtained, the sludge may be combined with more sludge in an ordinary steel 55-gallon drum. The maximum safe quantity of U-235 contained in sludge in a 55-gallon drum shall be 430 grams--this is equivalent to 2 grams per liter.

(5) No restrictions need be placed on the number of drums which may be collected in an array for storage or shipment.

4. Liquids in this category which are either solutions or easily dispersible suspensions (i.e., after settling 24 hours, no appreciable settling occurs) may be released to sanitary sewers. Batches of at least 1000 gallons shall be collected, allowed to settle for 24 hours and sampled. If no settling occurs in the sample, and sample analysis shows contamination levels to be lower than those in the appendices of 10CFR 20 revised, the batch may be released to the sewers.

#### IV. STACK EFFLUENTS

- A. All air exhausted from hoods, dryboxes, flexible pickups, etc., which might contain radioactive contaminants shall be drawn through high efficiency filters.
1. The filters are nominally 99.9% efficient for collection of particles greater than 0.3 microns in diameter, and are only slightly less efficient for smaller sizes.
  2. Stack velocities of 4000 feet per minute produce average effective stack heights of 100 feet above the ground. This, coupled with large distances downwind to habited areas, provides significant dilution and dispersion of all exhaust effluents.
- B. General building air shall be exhausted directly to the atmosphere without filtration. Control of radioactive aerosols at work points will prevent their release to the general air.
- C. Monitoring all stacks for contamination release shall be done quarterly.

#### V. COLOR CODING OF SCRAP AND WASTE COLLECTION DRUMS

Materials shall be placed in drums according to the following coding:


- A. Yellow - denotes enriched uranium bearing or contamination.
1. Solid - with polyethylene liner - acid solutions.
  2. With green stripe - combustibles.
  3. With blue stripe - solutions and suspensions other than acid.
  4. With black stripe - scrap metals, contaminated only.
- B. Red - denotes natural and depleted uranium and thorium bearing or contamination.
1. Solid - natural or depleted uranium or thorium metal.
  2. Solid - with polyethylene liner - acid solutions.

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3. With green stripe - combustibles.
  4. With blue stripe - solutions and suspensions other than acid.
  5. With black stripe - scrap metals, contaminated only.
- C. Black - uncontaminated metal scrap.
- D. Blue - clean area only - waste for city dump.
- E. Gray - uncontaminated combustibles.
- F. Black - with white stripes - zirconium chips.

**NUCLEAR PRODUCTS DIVISION  
METALS & CONTROLS CORPORATION**

**STANDARD OPERATING PROCEDURE**

<b>PAGE</b> 1 OF 1		<b>NO.</b> 584-50-01
<b>SUBJECT</b> HEALTH AND SAFETY  <b>PROCEDURE</b> INSTRUMENT CALIBRATION		<b>DATE</b> Nov. 4, 1957
		<b>SUPERSEDES</b>
<b>PREPARED BY</b>  P. Loysen	<b>DEPARTMENT(S) AFFECTED</b>  All	<b>APPROVED</b>    <b>AUTHORIZED</b>    General Manager 

**I. GENERAL.**

In order to insure adequate performance in the measurement of radiation hazards, the instruments used must be calibrated periodically with standard or reference sources.

**II. PORTABLE ALPHA SURVEY INSTRUMENTS.**

**A. Nuclear-Chicago 2112.**

These instruments shall be calibrated before each use by means of the reference standards supplied. Linear response is assumed.

**B. Victoreen Alpha Meters.**

These instruments shall be calibrated before each use with an NBS U<sub>3</sub>O<sub>8</sub> standard. Although the response is not strictly linear, the activity of the standard is similar to that which is encountered in routine use of the instrument. Hence, the calibration may be off only at high instrument readings.

**III. "CUTIE PIE" IONIZATION CHAMBER INSTRUMENTS.**

"Cutie Pies" shall be checked before each use with the supplied check source. They shall be calibrated every 2 months and when repaired, when batteries are replaced, and when the check source indicates abnormal operation.

**IV. GEIGER-MUELLER TUBE SURVEY INSTRUMENTS.**

These instruments shall be calibrated with a radium gamma source whenever a G-M tube is changed, or when a check source indicates abnormal operation. The instruments shall be tested with the check source before each use.

**V. ALPHA SCINTILLATION DETECTORS.**

**A. Background.**

A background determination shall be made overnight either immediately before or after use of the counting equipment.

**B. Counting Efficiency:**

Using an NBS U<sub>3</sub>O<sub>8</sub> standard, the over-all efficiency of the counting equipment shall be made before each session of use with the equipment.



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SUBJECT	HEALTH-PHYSICS	DATE May 1, 1961	
PROCEDURE	EMPLOYEE EDUCATION	SUPERSEDES 589-01-02	
PREPARED BY P. Duff	DEPARTMENT(S) AFFECTED All	APPROVED	<i>G. L. Williams</i> G. L. Williams, Product Group Manager

**I. NEW EMPLOYEE ORIENTATION**

A. Each new employee, on the first day of his employment, shall be given an orientation lecture by the Health-Physicist including the following:

1. Notification of occurrence of radiation and radioactive materials in restricted areas, including information concerning types, quantities, and locations.
2. Measures provided by the company, and procedures to be followed by employees, to prevent excessive exposures to radiation and radioactive material.
3. Elementary description of nuclear physics, and an outline of the philosophy, rules, and procedures to maintain nuclear safety; description of emergency procedures to be followed in case of a criticality accident.
4. Description of the special non-radioactive hazards associated with nuclear fuel fabrication, e.g., toxic and pyrophoric materials.
5. General notification of AEC and state rules, regulations, and provisions.

B. Employees who have been recalled after long layoffs may, at the discretion of the Health-Physicist, attend a new employee orientation within two weeks after rehire.

**II. ADDITIONAL EDUCATION**

A. Additional information and instruction shall be given through lectures, discussions, demonstrations, participations, showing of films, and distribution of printed matter on the various phases of radiation protection, nuclear safety, general safety, fire protection, and related subjects. The liberal use of signs shall be employed to instruct personnel in the rules, regulations, and procedures described in this manual whenever possible.

B. Whenever new processes, materials, or other sources of unique hazards are put into use, special lectures and discussions shall be held to indoctrinate the personnel involved.

C. Drills

1. The emergency evacuation alarm, which is activated by high gamma radiation such as would be produced by nuclear incidents:
  - a. Shall be sounded monthly on each work shift by the guards at Post #1 to maintain employee familiarity with the particular

sound of the alarm.

b. Semiannually, nuclear incident evacuation drills shall be held.

(1) These drills shall be announced by Health-Physics.


(2) Purpose is to look for inadequacies in the overall evacuation procedures.

2. Fire evacuation drills shall be held annually.

D. Employees shall be encouraged to participate in programs such as fire fighting, nuclear safety, and first aid courses, which are sponsored from time to time by the AEC and other organizations.

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<b>SUBJECT</b> HEALTH AND SAFETY  <b>PROCEDURE</b> GENERAL SAFETY		<b>DATE</b> Nov. 4, 1957 <b>SUPERSEDES</b>
<b>PREPARED BY</b>  P. Loysen	<b>DEPARTMENT(S) AFFECTED</b>  All	<b>APPROVED</b>  <div align="right">           General Manager       </div>

**I. SAFETY COMMITTEE.**

- A. The NPD Safety Committee shall be composed of representatives of the work force, and all members of the Health and Safety Department with a Group Leader acting as Chairman of the Committee, and the Health and Safety Engineer acting as Secretary. The primary function of the Safety Committee shall be to determine the need for, and initiate recommendations pertaining to any improvements or modifications in the Health and Safety rules, regulations and procedures.
- B. Members of the committee shall report at the biweekly meeting all unsafe operations, complaints and recommendations received, violations and mal-practices observed. Disposition of these items shall be determined at the meeting whenever possible. The names of violators of any rule or regulation shall be brought up before the committee at the biweekly meeting. The committee shall decide what action to take after discussing the violation.
- C. In addition, the Safety Committee shall be responsible for enforcing the existing Health and Safety rules, regulations and procedures as prescribed.

**II. GENERAL SAFETY PRACTICES.**

- A. All work with radioactive materials shall only be performed on equipment approved to handle such materials.  
  
 No one shall operate any valve, switch, machine or perform an operation unless authorized by the foreman in charge of the equipment, and unless instructed in the correct method of doing the work or operation.  
  
 No machine shall be operated without all guards in position.
- B. Proper eye protection shall be worn in all work where there is likely to be flying particles, corrosive or hot liquids, or other materials capable of injuring the eye. Signs indicating that the protection is required shall be posted at the place of work.
- C. All acid work shall be done in the proper tanks and areas provided. Protective clothing, aprons, and face shields shall be worn.
- D. No heavy loads shall be lifted or moved without adequate assistance.
- E. Work gloves shall be worn when hands are likely to be exposed to metal with sharp edges, rough surfaces, hot pipe, etc., or as the process requires for cleanliness.

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- F. No unauthorized person shall be permitted in certain areas as indicated by appropriate signs in those areas.
- G. Compressed gas cylinders shall be chained or otherwise secured in an approved storage area. Cylinders shall be connected, adjusted, and manipulated only by persons familiar with these operations. Cylinders shall not be moved without first removing regulators, and capping, except when fastened on an approved cart, (as in the case of oxyacetylene welding equipment).
- H. No broken or defective tools or equipment shall be used. Only the proper tools and equipment shall be used for any job.
- I. Each person shall be responsible for safety equipment issued to him.
- J. Each employee shall be responsible for learning the location and use of safety showers, eye baths, emergency respirators, fire alarms, and other protective equipment and devices in his area.
- K. Each employee shall be responsible for maintaining a high standard of housekeeping in his area of work.
- L. Horseplay or scuffling is particularly dangerous at NPD, and is strictly forbidden.
- M. Additional requirements for the operation of certain equipment and the performance of certain operations may be indicated in Standard Instructions, by appropriate instructions posted at the work, or by specific instructions given by Health and Safety, foremen, members of the Safety Committee, or other designated persons.

III. MOTOR VEHICLE SAFETY.

- A. All motor vehicles shall be operated in accordance with the rules and regulations of the Massachusetts Registry of Motor Vehicles, and those of Metals & Controls Corporation. Motor vehicles, or fork-lift trucks shall be operated only by persons specifically authorized to operate them. In general, motor vehicles and fork-lift trucks shall be operated with due regard for the safety of other persons.
- B. Motor vehicles shall not be operated by persons wearing potentially contaminated clothing; even if covered by other protective clothing.
- C. No one shall ride on fork-lift trucks except the operators, and no persons shall be permitted to stand on the forks for gaining additional height for assisting the operator.

IV. HANDLING OF HAZARDOUS CHEMICALS.

- A. Chemical Safety Data Sheets published by the Manufacturing Chemists' Association are available from Health and Safety for all the chemical compounds listed below. These sheets describe the properties, handling, disposal, health hazards and their control of the various compounds and shall be used as guides unless exception is granted by Health and Safety. It shall be the responsibility of the foreman, or a supervisor, to obtain the appropriate sheets and to see that the procedures described are followed.

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The available chemical data sheets are:

Acetaldehyde	Cresol	Perchloric Acid Solution preliminary
Acetic Acid	Dimethyl Sulfate	Phenol
Acetic Anhydride	Ethyl Acetate	Phosphoric Anhydride
Acetylene	Ethyl Chloride	Phosphorus, Elemental
Acrylonitrile	Ethyl Ether	Phosphorus Oxychloride
Aluminum Chloride	Ethylene Dichloride	Phosphorus Trichloride
Ammonium Dichromate	Ethylene Oxide	Phthalic Anhydride
Anhydrous Ammonia	Formaldehyde	Propylene
Aniline	Hydrochloric Acid	Sodium Chlorate
Aqua Ammonia	Hydrofluoric Acid	Sodium Cyanide
Arsenic Trioxide	Hydrogen Peroxide	Sodium, Metallic
Benzene	Hydrogen Sulfide	Sodium and Potassium Dichromates
Betanaphthylamine	Methanol	Styrene Monomer
Bromine	Methylamines	Sulfur Dioxide
Butadiene	Methyl Bromide	Sulfuric Acid
Calcium Carbide	Methyl Chloride	Tetrachloroethane
Carbon Disulfide	Naphthalene	Toluene
Carbon Tetrachloride	Nitric Acid	Trichloroethylene
Caustic Potash	Nitrobenzene	Vinyl Chloride
Caustic Soda	Ortho-Dichlorobenzene	
Chlorosulfonic Acid	Paraformaldehyde	
Chromic Acid	Perchloroethylene	

- B. For materials not listed, procedures shall be devised by Health and Safety in accordance with good industrial hygiene practices. Since beryllium and its compounds are extremely toxic and may be of special interest at NPD, the following rules and regulations shall be performed in following operations involving these materials.
1. It is of paramount importance that any operation involving beryllium or beryllium compounds be controlled so that:
    - a. The in-plant atmospheric concentrations of beryllium will not exceed 2 micrograms per cubic meter of air as an average daily weighted concentration.
    - b. Even though the daily average might be within the limits of the day, no personnel shall be exposed to a concentration greater than 25 micrograms per cubic meter of air for any period of time, however short. If a single sample exceeds 100 micrograms per cubic meter the operation shall be immediately stopped until further sampling shows the concentration to be less than 25 micrograms per cubic meter.
    - c. The average out-plant atmospheric concentrations of beryllium shall not exceed 0.01 micrograms per cubic meter of air at the breathing zone level.
  2. Any person desiring to perform beryllium operations shall discuss the situation with the Health and Safety Engineer prior to the start of operations. Each operation must be carefully and completely planned in advance in order to meet the requirement stated in "1."

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Careful process design, sound local exhaust ventilation, continual dust monitoring, rigorous housekeeping, and enforced personal hygiene are essential parts of the control program, and must be considered for each particular application.

# M & C NUCLEAR, INC.

## STANDARD OPERATING PROCEDURE


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SUBJECT HEALTH-PHYSICS		DATE 9/10/61	
PROCEDURE NUCLEAR ACCIDENT EVACUATION INSTRUCTIONS		SUPERSEDES 540-01-01	
PREPARED BY P. Duff	DEPARTMENT(S) AFFECTED All	APPROVED	AUTHORIZED <i>[Signature]</i> G. L. Williams Product Group Manager

I. These instructions are to be followed by All employees, visitors, contractors, and any other people who might be in or near the Nuclear Products Building.

- A. When the Nuclear Accident Evacuation Alarm sounds, stop what you're doing immediately, and leave by the nearest or quickest exit.
- B. Continue as quickly as you can away from the building.
- C. Take your film badge with you; do not leave it at the guard post.
- D. Go immediately to the M&C cafeteria. If the cafeteria is closed, go to the M&C lounge.
- E. Do not give any information you might have concerning the accident to the press or any other outsider.
- F. Remain in the cafeteria and await orders from your foreman or supervisor or member of the Health-Physics Department.
- G. Foremen and supervisors should take roll call as soon as possible after reaching the cafeteria.
- H. Under no circumstances should anyone return into, or go near the building without the consent of Health-Physics.

### II. TESTS AND DRILLS

- A. The Nuclear Accident Evacuation Alarm will be tested on each shift on the second Tuesday of each month by Health-Physics or the Guard Force. Each test will be preceded by an announcement over the paging system. Do not evacuate for these tests.
- B. Evacuation drills will be held semiannually. Notices and special instructions will be given in advance to foremen and supervisors, and will be posted on bulletin boards.

<b>SUBJECT</b> HEALTH-PHYSICS <b>PROCEDURE</b> NUCLEAR ACCIDENT EVALUATION GUIDE		<b>PAGE</b> 1 OF 4	<b>NO.</b> 589-60-02
		<b>DATE</b> Jan. 9, 1962	
		<b>SUPERSEDES</b> 589-60-01	
<b>PREPARED BY</b> P. Duff	<b>DEPARTMENT(S) AFFECTED</b> Health-Physics - Security	<b>APPROVED</b>	<b>AUTHORIZED</b>  G. L. Williams Product Group Manager

## I. GENERAL

This procedure outlines a suggested sequence of operations to be followed by Health-Physics and Security directly after the Emergency Evacuation Alarm has sounded. While the outline is quite detailed, it must not be considered inflexible, but only as a guide to indicate the optimum sequence of events. Individual initiative must adapt these procedures to the peculiarities of each incident.

## II. HEALTH-PHYSICS MAN

- A. Evacuate - take any instruments directly at hand, but do not hesitate or go back for them.
- B. Go to the P.T. Building - door under MULTILAYER sign.
- C. Phone Main Guard Desk from P.T. Building (call Extension 450), tell the guard your name, and tell him to put the Nuclear Emergency Plan into effect. If any of the people on the Emergency Plan list are known to be here, tell the guard not to call them. People called in should check in with the Nuclear guard who is stopping traffic on Perry Avenue. The Health-Physics man should inform this guard of where he will be, and what, if anything, he has found, so the guard can pass this on to the people who have been called in.
- D. Get emergency equipment.
- E. Check Radector and neutron survey meter for proper operation.
- F. Run survey for gamma rays and fast and slow neutrons. Proceed until levels significantly higher than background are detected.
  1. Start monitoring at P.T. Building.
  2. If firemen have responded, ask senior officer to accompany you. He should take one of his radiation survey meters.
  3. Go to the northwest (closest) corner of the Nuclear building.
  4. Work down along the west wall of Nuclear building.
  5. Go in at Post #3. If #3 is closed, go in Door #2 and go through to clean area (put on shoe covers to enter clean area if you came in Door #2).
  6. Make fast circuit of clean area.
  7. Go through Smidgen Room, and make fast circuit of F.M.A. (Wear shoe covers in F.M.A. if you came in Post #3.)



8. If there has been an explosion or fire, survey near there first.
9. This survey should take no more than 3 to 5 minutes.
- G. If radiation significantly above background is found:
  1. Do not enter --
    - a. Gamma fields greater than 5000 mr/hr.
    - b. Fast and slow neutron fields greater than 200 counts per second on the RCL neutron survey meter.
  2. Try to determine the source by triangulation.
  3. Establish isodose lines.
    - a. Nobody should be allowed to pass inside.
      - (1) 100 mr/hr. gamma.
      - (2) Fast and slow neutron fields greater than 80 counts per second.
    - b. General public should be kept outside fields of:
      - (1) 2.5 mr/hr. gamma.
      - (2) Detectable fast and slow neutrons.
    - c. Notify guard at Perry Avenue of the locations of these isodose lines, so that he can establish a safe perimeter around the plant.
  4. If firemen have responded, but not in time to tour with you, inform the commanding officer that there is radiation present, and firefighting operations might be hazardous. Use your discretion, based on the dose rate readings you have just obtained, in advising the firemen on the actions they should take.
  - g. Go to the cafeteria.
    - a. Inform the highest member of management available that there probably has been some sort of incident involving radiation. Ask him to call the Radiological Officer at the New York Operations Office of the AEC immediately (direct distance dialing number, 1-212-YUkon 9-1000), tell them that we have probably had a criticality accident, and require their assistance as soon as possible.
    - b. With the help of management, start surveying film badges for induced activity in indium foils.
      - (1) Use geiger counter if available.
      - (2) If not, use Radector with shield open.
    - c. Keep all badges after scanning except those showing high induced activity. Make list of people with high activity.

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- d. Have all excretia from people being sick (vomiting, diarrhea, etc.) collected and saved for analyses. Special containers are available in the Hospital room for this purpose. Each container should be marked with the name of the individual using it.

H. If NO radiation significantly above background is discovered:

1. Tell guard on Perry Avenue that you have found no radiation and are going into the building for a more careful check. He should stay where he is and keep people away. If fire officer is present and did not go on first rapid tour, he should go now.
2. Go to Guard Post #1.
  - a. Determine which detector(s) triggered the alarm and note which areas they are in.
  - b. Reset the detectors which are operating.
  - c. If detectors retrigger, reset again. If they retrigger again, leave them alone and trip the switch that stops the signal from going into the paging system. Always keep a careful watch on the survey meters you have with you.
3. Get a cutie-pie, and keep the Radector and neutron survey meter with you and operating.
4. Conduct comprehensive survey.
  - a. For gamma rays and fast and slow neutrons.
  - b. Start in area(s) where detectors were triggered.
  - c. Cover rest of the shop thoroughly, but as quickly as possible; spend no more than 10 to 15 minutes on this survey.
5. If there is still no detectable radiation, go to the cafeteria and notify highest member of management available that it has been a false alarm and that people may return to the Nuclear building safely.
6. If radiation is discovered, go back to Section II G, of this procedure and follow those instructions.

III. GUARD AT POST #1

- A. Evacuate - hit buttons to open all doors at 2 and 13 before leaving.
- B. Go to the northwestern corner of the Nuclear parking lot and stop all traffic (including fire vehicles) going south on Perry Avenue.
- C. Await instructions from Health-Physics.
- D. If Health-Physics determines that there is radiation, they will determine the rough extremities of the radiation and ask that no one be allowed inside this "safe perimeter."

**IV. GUARD**

- A. Evacuate by nearest and quickest exit.
- B. If no Health-Physics man is working, go to the P.T. Building and phone the Main Guard Desk (call Extension 450), tell the guard that you are a Nuclear guard, and to put the Nuclear Emergency plan into effect.
- C. Go to the rear of the Nuclear building, staying as far from the building as possible (at least 50 yards).
- D. Keep people from Building "O" from passing close to the Nuclear building.
  - 1. They are safe for the time being at Building "O"
  - 2. If they must leave, direct them out via the railroad tracks.
- E. If there are no people at Building "O" return to the P.T. building and assist in keeping people away from Nuclear.
- F. Await instructions from Health-Physics.

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SUBJECT SAFETY		DATE April 3, 1959	
PROCEDURE RESPONSIBILITY FOR SAFE AUTOCLAVE OPERATION		SUPERSEDES 590-01-02	
PREPARED BY C. R. Barnes	DEPARTMENT(S) AFFECTED Engineering Manufacturing Quality Control Operations	APPROVED <i>[Signature]</i>	AUTHORIZED <i>[Signature]</i> President

## I. GENERAL

- A. This procedure outlines the responsibility for safe acquisition and utilization of autoclave equipment.

## II. RESPONSIBILITIES

- A. Engineering (Equipment Engineering) will be responsible for:

## 1. Procurement

- a. Establish specifications for product.
- b. Establish certification and test requirements.
- c. Insure qualification tests, dimension checks, and certification of them at Manufacturer's Plant (visit plant if necessary).
- d. Measure and record all critical dimensions, here (at M & C) prior to installation.
- e. Insure safe and proper installation.
  - (1) Recheck dimensions, compare with those taken before installation.
  - (2) Supply Quality Control with original dimensions and limits.

## 2. Operation

- a. Supply Standard Instruction to Manufacturing for setup, operation, shutdown of autoclave equipment, and frequency of inspection.
  - (1) Assure that Manufacturing operates according to S.I.
- b. Insure presence of all safety devices and requirements needed in this area. Both normal and emergency.
- c. Instruct personnel in the functions and the use of autoclave equipment, safety devices, and the safety precautions necessary to the operation of this equipment.
  - (1) Consult with Health and Safety.

## 3. Inspection

Standard Inspection Procedures with respect to:

(1) Measurement: Location, Frequency, and Limits.

(2) Hydrostatic Test Specifications.

b. Obtain Manufacturer and Insurance company approval of S.I.P.

(1) Arrange annual State and Insurance company tests.

c. Collaborate, periodically, with Quality Control and Manufacturing to determine any changes in procedure or operation deemed advisable. (Quarterly suggested).

(1) A permanent committee to be appointed made up of representatives from Quality Control, Manufacturing and Engineering.

(2) Each, or all, of the above to be authorized to shut down an autoclave when conditions warrant.

(3) In such an event, the autoclave concerned will be duly tagged immediately and Manufacturing notified in writing.

4. Preventive maintenance

a. Specify periodic tests to determine replacement of parts and accessories when necessary.

b. Insure unique identification of each part to the proper autoclave to eliminate any interchange of parts.

B. Quality Control will:

1. Collaborate with Engineering to develop S.I.P.

a. Upon receipt of units differing from preceding units.

b. Make revisions when necessary.

2. Perform inspection as indicated.

a. Periodic dimensional and visual check.

b. Frequency of inspection to be altered when periodic inspection indicates the necessity.

c. Supply Manufacturing with a chart, kept in a conspicuous place, of the autoclave area, indicating the hours of use of each autoclave, broken down into cycles.

(1) Following each inspection, the inspector will sign off the chart releasing the autoclave for continued use.

(2) The autoclave involved will not be used, after the expiration of each inspection time cycle, until released as above.

PAGE	NO.
3 OF 3	590-01-03

3. Report results to:
  - a. Engineering (2 copies), Health and Safety, Manufacturing.
4. Maintain a log of inspection results.
  - a. Compare with original dimensions and/or previous inspections to note trends.
5. When limits (II.A.1.e.(2).) are exceeded, tag autoclave and instruct Manufacturing to shut down operation of this unit, then confirm in writing.
6. Make all releases necessary, in writing, before operation is resumed.
  - a. On committee's recommendation.
    - (1) The committee will check on whatever is involved. (i.e. Insurance Tests, Health and Safety, etc.)

C. Manufacturing will:

1. Operate autoclave in strict accordance with S.I.
  - a. For normal operations.
  - b. For emergency procedures.
  - c. For proper transfer of information from shift to shift.
2. Advise Quality Control Department when autoclave is ready for inspection.
3. Advise Engineering and Quality Control of any questionable situations. Confirm in writing.
4. Maintain a chart indicating hours of use of each autoclave. (II.B.2.c.).
5. Operate only when indicated inspections have been performed and chart has been signed off by an inspector. (II.B.2.C.(1).)
  - a. No rework to be done on an autoclave so released unless Quality Control is notified.
6. Shut down operation when instructed by Quality Control, Health and Safety, or Engineering.

D. Maintenance Department will:

1. Assist Quality Control in accomplishing periodic dimensional checks of areas impossible to reach under normal conditions.
2. Replace parts and accessories as specified by Engineering and Manufacturing Departments.

## M &amp; C NUCLEAR PRODUCTS

## STANDARD OPERATING PROCEDURE

PAGE 1 OF 2		NO. 590-02-01	
SUBJECT FIRST AID TREATMENT			DATE 6/18/62
PROCEDURE ACTION AND RESPONSIBILITY FOR FIRST AID IN NUCLEAR PRODUCTS GROUP (OTHER THAN NUCLEAR INCIDENT)			SUPERSEDES
PREPARED BY E. D. Hyman	DEPARTMENT(S) AFFECTED Operations Quality Control	APPROVED <i>ma</i> PKM	AUTHORIZED <i>[Signature]</i> Product Group Manager

## I. GENERAL

- A. This is a plan of action for an accident (other than Nuclear) that requires first aid or first aid and transportation to Sturdy Hospital. It is the plan for an individual to obtain required attention.

## II. ACTION TO BE TAKEN IF INJURY REQUIRES FIRST AID

## A. Monday through Friday

1. During hours of 8:00 - 10:00 a.m. and 3:00 - 4:00 p.m. the nurse in the dispensary will give First Aid and make decision of what is required for handling the injured. The dispensary phone number is 236 or 237.
2. If an emergency occurs during hours other than above, the area foreman or supervisor will make decision concerning first aid and transportation to hospital. If immediate hospitalization is not necessary, call nurse in M&C Main Building at 8-271 or 8-270. A nurse is available from 7:00 a.m. to 11:00 p.m.
3. If nurse or supervisory personnel are not available, call Guard Post #1 for First Aid. Dial 210 or 211 for Guard Post #1.

## B. Saturday and Sunday

1. Call foreman or supervisor. If they are not in the plant, call Guard Post #1.

## III. TELEPHONE NUMBERS AND EMERGENCY CALLING

Ambulance	CA 2-2323
Sturdy Hospital	CA 2-5200
M&C Hospital Rm	8-270 or 8-271
Nuclear Dispensary	236 or 237
Guard Post #1	210 or 211

In real emergency, when a phone is busy, use the "emergency boxes". These are the red painted emergency "squawk" boxes. Familiarize yourself with these boxes. There are 33 located around the plant. To operate, you have to press and hold down button while talking. If you don't hold down button, the guard will not be able to hear you or talk back to you.

PAGE		NO.
2	OF 2	590-02-01


Outside phones are available in:

Foreman's Office Machine Shop  
Dispensary  
Guard Post #1

#### IV. REPORTING OF ACTION TAKEN

- A. If a man is treated in the First Aid Room or if supplies are used, make sure that a record is made in the log book. Notify a member of supervision and nurse either at Nuclear or Main Building as soon as possible of the emergency action taken.



PAGE 1 OF 3		NO. 569-06-01 <i>CR</i>
SUBJECT EMERGENCY OPERATIONS		DATE April 20, 1961
PROCEDURE SUPERVISORY RESPONSIBILITIES		SUPERSEDES 569-06-01
PREPARED BY A. Staley E. McDonagh	DEPARTMENT(S) AFFECTED  All	APPROVED  AUTHORIZED  G. Williams

PURPOSE:

To establish guidelines which will enable supervisors, especially those assigned to night operations, to carry out their responsibilities in the event of occurrences which endanger personnel or property. Nuclear incidents are of special concern and are considered in a separate procedure.

GENERAL:

The personnel assigned to the following duties are considered to be the responsible supervisors during the times noted:

3 PM - 11 PM shift

Fuel Manufacturing Area: Fuel Area Foreman, if present, or Fuel Area Supervisor.

Assembly Area: Assembly Area Foreman, if present, or Inspection Foreman. IF PRESENT OR MACHINE SHOP SUPERVISOR

11 PM - 7 AM shift

Fuel Manufacturing Area: Shift Supervisor.

Assembly Area: Machine Shop Supervisor, if present, or Welding Area Supervisor.

PRACTICE:

The supervisor's responsibilities in an emergency may be classified as follows:

1. Personnel Safety

The responsible supervisor's first concern is the protection of personnel. He must insure, through the exercise of his authority, that all personnel not essential to the reduction of the hazard are removed from the immediate area.

2. Use of Available Protection Personnel

The responsible supervisor has the following groups available to deal with emergency situations:

PAGE	NO.
2 OF 3	569-06-01

A. Fire Brigade ~~MAINTENANCE~~

The brigade, organized on every shift, consists of a group having the basic skills required in most emergencies. They are trained and led by a captain who is to be considered as the supervisor's expert on fire control. While the cognizant supervisor is responsible for effective use of the brigade, he should not involve himself in fire-fighting operations.

B. Guard Force

The responsible supervisor may utilize the guard force as necessary for the control of personnel and the protection of property. Additional guards, and members of the Attleboro Police Force will be summoned on his instructions, if required.

C. Health-Physics

In any occurrence which involves nuclear materials, whether or not known to be radioactive, the supervisor is responsible for informing and utilizing Health-Physics personnel. They will advise the supervisor on the toxicity or radioactivity of an area, the advisability of permitting personnel to enter an area and the requirements for protective measures.

3. Reporting Requirements

In the case of an accident or emergency which results in the injury of employees, damage to facilities, suspension of production or release of toxic or radioactive materials, appropriate management personnel must be notified. The Post #1 Guard will perform this function on instructions from the responsible supervisor. The following personnel should be informed, as soon as possible, of the nature of the incident, the extent of damage or injury, the protective measures taken and the requirements for production restoration:

Operations Manager  
Safety Director  
Security Director  
~~MAINTENANCE FOREMAN~~

The telephone numbers of these and other personnel are available at Guard Post #1. It must be assumed that any response of an outside agency, such as the police and fire departments, will alert news media to the incident. It is imperative in such a situation that the Merchandising Manager, Metals & Controls Inc., be the spokesman for the company to insure that news coverage is in correct proportions to the event. All other employees will refrain from discussing the event with reporters unless authorized to do so.

PAGE	NO.
3 OF 3	569-06-01

4. Restoration of Production

The responsible supervisor must make every effort to restore operations to normal at the earliest opportunity. This may entail the use of the Maintenance, ~~Fire-Brigade~~<sup>Electricity</sup> and Security groups and each should be consulted concerning their areas of responsibility. Additional personnel may be called in as necessary; however, the Service Engineering Department is responsible for all repair work beyond the scope of our maintenance personnel.

5. Investigative Action

The responsible supervisor shall acquaint himself with as much information concerning the incident as possible and commit them to writing as soon after as practical. Such information will be invaluable in the investigation of the incident in which the supervisor will play a major role. The investigation will serve to determine the cause of the incident and to prevent its recurrence.

TO: WESTINGHOUSE ELECTRIC CORPORATION NETTS ATOMIC POWER LABORATORY P. O. BOX 1488, PITTSBURGH 30, PA.			P.O. NO. <b>73-Y-297800-MPT</b>
ATTN: J. A. Spangler PURCHASING AGENT			CORE TYPE AND IDENTITY <b>All Items</b>
FROM: M & O Nuclear Products P. O. Box 808 Attleboro, Mass.			DATE <b>4/24/64</b>
DRAWING NO. <b>8-7117</b>			SERIAL NUMBER OF PART COVERED BY THIS REQ. <b>Ingot M 42</b>
SPECIFICATION NO. <b>MIL-Z-19859A</b>			DRAWING DATA OR SKETCH ATTACHED YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>
DESCRIPTION AND JUSTIFICATION FOR CHANGE REQUESTED <b>A Upper Bracket for Rus Type Subassembly</b>			

M & O requests permission to use 52% of Ingot M42 on this contract. This material was fabricated by Carborundum Metals for use on Contract AT(36-1)98. This material was certified to MIL-Z-19859A plus Amendment 1 and Addendum 3 with corrosion and tensile testations approved on MCD:98:24. This material is 2-1/4 x 2-1/8 x 21-1/2 forging.

This transfer is required to meet production schedules.

This change will not affect contract price or delivery.

This REC is not considered to be proprietary information and may be disseminated to other core contractors.

ORIGINATOR'S SIGNATURE <b>R. J. Connors</b>		DATE <b>4/24/64</b>	TITLE AND DEPARTMENT <b>QC Sr. Metallurgist</b>
SIGNATURE AND DATE	DISPOSITION	COMMENTS	
<b>[Signature]</b>	<b>[Initials]</b> X	<div style="text-align: center;"> <b>RECEIVED</b>  <b>MAY 5 1964</b>  <b>by J. W. ROSS</b> </div>	
<b>[Signature]</b>	<b>[Initials]</b>		
<b>[Signature]</b>	<b>[Initials]</b>		

THIS FORM IS AN OFFICIAL DOCUMENT WHEN SIGNED BY THE PURCHASING AGENT AND NEED NOT BE FOLLOWED BY A CHANGE NOTICE TO THE PURCHASE ORDER.

AUTHORIZED BY:  
**[Signature]**  
PURCHASING AGENT

**1552**

**CONF TYPE AND IDENTITY**

以

**SERIAL NUMBER OF PAGE COVERED BY THIS REQ.**

## REVIEWS

**Abstract**

DRAWING SKIA ON SKETCH ATTACHED

YES ☐ NO ☐

**SECRET**

## ACKNOWLEDGMENTS

2

**K-11**

# THE NEW YORK PUBLIC LIBRARY

~~SECRET~~ ~~CONFIDENTIAL~~ ~~NO FORN DISSEM~~

ALL INFORMATION CONTAINED HEREIN IS UNCLASSIFIED

the person responsible for setting up and conducting the tests shall be the person who has the most knowledge of the system. 1.8.2 (b) For

2. If the person or persons authorized to operate the crane, is or are

2. The hoists are painted color-coded from the floor level. All directions of hoists, strolley, and bridge are plainly identified on the pendant (i.e., up down, north, south, etc) and on the bridge.

3. The regulations require that the air speed (7 ft. to 22 ft. per minute) be used for all fuel bearing components.

4. All cranes are equipped with up and down limit switches, mechanical load brakes that take over in the event that the electro-mechanical brake fails, all brakes engage in the event of loss of power, controls are mechanically and electrically interlocked so that only one direction can be selected at a time (its up & down buttons cannot be depressed at the same time.)

5. All personnel authorized to operate hoists have received instructions.

Approved of this 20th day of June 1964 at \_\_\_\_\_

~~It is not considered to be proprietary information and may be disseminated to other~~  
~~employees.~~

**WATERBURY**

1. **Background**

**TITLE AND DEPARTMENT**

**Engineer**

**SIGNATURE AND DATE**

1990

## COMMENTAIRE

**RECEIVED**

JUN 9 1964

by J. W. ROSS

THIS FORM IS AN OFFICIAL DOCUMENT CONTAINED BY THE PURCHASING AGENT AND NOT AN INTENT OR OBLIGATION BY A CONTRACTOR TO FULFILL THE PURCHASING AGENT'S OBLIGATION.

**CONFIDENTIAL**



**NC 5**

73-Y-297800-MPT

### All Items

July 10, 1964

SERIAL NUMBER OF PART COVERED BY THIS REQ.

**SECRET**

REMARKS DATA ON SCREEN ATTACHED

YES ☐ NO ☒

### Newer Support Tools

RECEIVED BY THE DIRECTOR, FBI, 11/11/64

Request for change to machine L-100, .005 I.B. Rate 6-2, to L-100 & .005. This request necessary because of the above diameter must be machined after corrosion testing to fix dimensions. It machined on L-100 possibility exists that I.B. would be oversize when fitted to subassembly.

2025 RELEASE UNDER E.O. 14176

T 7/17/64

RECEIVED BY

JUL 28 1964

**D. I. DAVIDSON**

Approval of this RFP will not affect contract price or delivery.

This EEC is not considered to be proprietary information and may be disseminated to other ~~users and authors.~~

ORIGINATOR'S SIGNATURE

**L. Jorgel**

DATE \_\_\_\_\_

**U.S. DEPARTMENT**

## Technical Engineer

**SIGNATURE AND DATE**

**DISPOSITION**

## EXPERIMENT 1

西元 1911 年

THIS AND ALL OTHERS, INCLUDING THE FIRST OF THE PREVIOUS-ASSAY AND ARE NOT TO BE FOLLOWED BY A OTHER  
ANY OF THE PREVIOUS-ASSAY.

**Abstract**

DATE

**REF: 297800: 543**

TO: WESTINGHOUSE ELECTRIC CORPORATION BETTIS ATOMIC POWER LABORATORY P. O. BOX 1468, PITTSBURGH, PA. 15230			P.O. NO. 73-Y-297800-MPT	
ATTN: J.A. Spangler PURCHASING AGENT			CORE TYPE AND IDENTITY All Items	
FROM: Metals & Controls Inc. P.O. Box 898 Attleboro, Mass.			DATE 9/3/64	
DRAWING NO. 959D145			SERIAL NUMBER OF PART COVERED BY THIS REQ.	
REVISION 3			DRAWING DATA OR SKETCH ATTACHED YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	
SPECIFICATION NO.			NAME OF PART Tubing Insert Assemblies	

## DESCRIPTION AND JUSTIFICATION FOR CHANGE REQUESTED

REC requests that Bettis change Bill of Material or be corrected as follows: Items 10, 11, & 12 should apply to group 4 in lieu of group 5.

Immediate reply requested so that assembly may continue.

TEL to E. Peters 9/3/64

RECEIVED BY  
SEP 8 1964  
D. J. DAVIDSON

Approval of this REC will not affect contract price or delivery.

This REC is not considered to be proprietary information and may be disseminated to other core contractors.

ORIGINATOR'S SIGNATURE R. Merrill / WRC		DATE 3 Sept 64		TITLE AND DEPARTMENT Mechanical Engineer	
SIGNATURE AND DATE		DISPOSITION		COMMENTS	
J. J. Ryan 9-4-64		APPROVAL	<input checked="" type="checkbox"/>		
JC / JC 9/4/64		DISAPPROVAL	<input type="checkbox"/>		
[Signature] 9/4/64		APPROVAL	<input checked="" type="checkbox"/>		
		DISAPPROVAL	<input type="checkbox"/>		

THIS FORM IS AN OFFICIAL DOCUMENT WHEN SIGNED BY THE PURCHASING AGENT AND MAY OR MAY NOT BE FOLLOWED BY A CHANGE NOTICE TO THE PURCHASE ORDER.

AUTHORIZED BY:

J. J. Ryan 9-4-64  
PURCHASING AGENT DATE

NO. MCR: 297800:600

FROM	WESTINGHOUSE ELECTRIC CORPORATION	DATE OF CHANGE NOTICE	THIS CHANGE NOTICE APPLIES TO	
AT	P.O. BOX 1468, PITTSBURGH 30, PA.	5/29/62	PURCHASE ORDER NO.	DATED
			73-Y-291104-MT	4/16/62

METALS & CONTROLS, INC.  
P.O. BOX 898  
ATTLEBORO, MASS.  
ATTN: R.L. CHURCHILL

BY YOUR ACKNOWLEDGMENT OF THIS CHANGE NOTICE YOU AGREE THAT ALL CHANGES IN PRICE OR DELIVERY WHICH ARE REQUIRED BY THIS AND ALL PREVIOUS CHANGE NOTICES HAVE BEEN INCORPORATED IN THE PRICE AND DELIVERY DATE ESTABLISHED BY THIS CHANGE NOTICE (EXCEPT FOR NONE).

CHANGE NOTICE NO. 1

THIS ORDER IS CANCELLED AT NO CHARGE PER PARAGRAPH III-C OF THE ORIGINAL ORDER. SELLER SHALL RETURN CERTIFICATES OF NON-POSSESSION WITH THE ACKNOWLEDGMENT COPY OF THIS CHANGE NOTICE. ALL WESTINGHOUSE FURNISHED MATERIAL IS TRANSFERRED TO WESTINGHOUSE PURCHASE ORDER 73-Y-297800-MPT.

RECEIVED BY S. P. HOWARD

JUN - 4 1962

**ACKNOWLEDGMENT**  
FAILURE TO SIGN AND RETURN THIS ACKNOWLEDGMENT WITHIN 10 DAYS AFTER DATE OF CHANGE NOTICE MAY BE CAUSE FOR CANCELLATION

NUCLEAR CORE DEPT. WESTINGHOUSE PROCUREMENT	
<b>RECEIVED</b>	
JUN 22 1962	
A.M.	P.M.
6 7 8 9 10 11 12 1 2 3 4 5 6	

DO E2 APPLIES.

I AGREE THAT ALL CHANGES IN PRICE OR DELIVERY WHICH ARE REQUIRED BY THIS AND ALL PREVIOUS CHANGE NOTICES HAVE BEEN INCORPORATED IN THE PRICE AND DELIVERY DATE ESTABLISHED BY THIS CHANGE NOTICE (EXCEPT FOR

Westinghouse Electric Corporation, Purchasing Department  
J.A. SPANGLER/ASH, L7

MARK FOR ATTENTION OF:

AUTHOR

G.G. RITTER/SUPVR.

XXXXXXXXXX

PURCHASING AGENT

ACKNOWLEDGMENT

WILL SHIP (DATE)	FROM

ACKNOWLEDGED & ACCEPTED BY

R.L. Churchill 6/1/62  
(SIGNED FOR SUPPLIER) (DATE)

M & C is retaining the order itself (which is classified) for possible reference. All other documents have been rep...



LIST OF CHANGES TO ORDER ATTACHMENTS

Certain order attachments have been altered from those last approved by the AEC on 4/2/62. They are as follows:

Attachment 1, General Provisions, dated May 4, 1962, has been revised by:

1. Addition of the spare head delivery dates to Article 10.
2. Alteration of the control rod qualification date in Article 10.
3. Elimination of Article 43, Optional Work.

Attachment 3, List of Spare Components, dated May 4, 1962 has been revised by the addition of item AP, the Spare Head Assembly.

Attachment 4, Master List of Drawings and Specifications, dated May 4, 1962 was altered by the addition or correction of element type numbers on pages 5, 11, 17, and 18. On page 39, the date for MIL-C-19381A was corrected.

Attachment 5, List of Government Material, Components and Equipment to be Furnished by Westinghouse, dated May 4, 1962, has been revised as follows:

1. Corrections have been made to items 1.7.18 and 1.7.23, and 1.7.48 was deleted.
2. Items 1.7.55 through 1.7.61 have been added to accommodate supply of inconel for the spare head assembly. Item 2.15 was altered in quantity.
3. Item 2.19 was deleted.

Attachment 9, Order Clarifications and Schedule of Westinghouse Furnished Material, dated May 4, 1962, contains a new schedule of furnished material, which reflects continued negotiation in this area.



Westinghouse Electric Corporation

Bottis Atomic Power Laboratory

Box 1462, Pittsburgh 20, Pa.

WAPD-EAC-PA-1171

August 10, 1962

Metals & Controls, Inc.  
P. O. Box 898  
Attleboro, Mass.

Attention: Mr. R. L. Churchill

Gentlemen:

In answer to Mr. P. Duff's query about shipment of enriched material. Westinghouse intends to ship this in containers 3 inches in diameter and 4-1/2 inches high. To prevent spillage upon opening, containers will be filled only up to 3/4 of an inch from the top.

Very truly yours,

G. G. Ritter, Supervisor  
Naval Cores Procurement Department

By

  
J. A. Spangler, Buyer

/lft

cc: J. Peterson  
E. L. Juell  
R. Kropp  
J. E. Howell

*Correct  
to mtc*



Westinghouse Electric Corporation

East's Atomic Power Laboratory

Box 1467, Pittsburgh 30, Pa.

WAPD-EAC-PA-1004

June 28, 1962

Metals & Controls, Inc.  
P. O. Box 898  
Attleboro, Mass.

Attention: Mr. R. L. Churchill

Subject: Purchase Order 73-Y-297000-MET

Gentlemen:

The following instructions are designed to implement the use of forms in connection with the subject order and to expedite the flow of information and the various requests for changes, dispositions and approvals required. This supplements the procedures for AR's, DMR's, and Req's transmitted by WAPD-EAC-PA-966 on June 20, 1962.

Contractual Documents

1. Purchase Order
2. Change Notice
3. Purchase Order Informational Release
4. Approval Request Form 73649 (EC-3)
5. Request for Engineering Changes Form 73650 (EC-5)
6. Deviation Notice - Disposition Request Form 73651 (EC-6)

All official communications in connection with the order must first appear or must subsequently be confirmed in one of the forms listed above.

Documents 2 and 3 will confirm changes, modifications, releases, clarifications, or additions to any term, condition or requirement of the order as appropriate for the particular form.

Documents 4, 5, and 6 will be initiated by EAC. When signed by the EAC Purchasing Agent, Mr. J. A. Hecke, Jr., or his designee, Mr. G. G. Ritter or Mr. J. A. Syangler, no further document need be issued to make the action official. Westinghouse approval of the documents does not relieve the vendor of the responsibility of meeting all requirements of the design drawings and specifications.

Bettis Personnel

An authorized Bettis signature must appear on all contractual documents. For this order, the signature will be that of Mr. J. A. Heeke, Jr., Purchasing Agent, or his designee, Mr. G. G. Ritter, Supervisor, Mr. J. A. Spangler, Buyer, or Mr. J. L. Howell, Resident Supervisor. Although Mr. Howell will not be signing change notices, P.O.I.R.'s or NC-3's, 5's, or 6's, his signature on other correspondence is to be considered by Metals & Controls to be contractual and binding on Westinghouse.

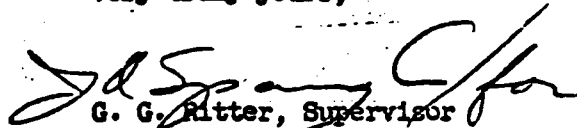
Correspondence on the order pertaining to changes in the order price or in the terms and conditions are to be addressed to Mr. J. A. Spangler with a copy to Mr. J. L. Howell, Bettis Resident Supervisor (BRS). Correspondence relating to schedules, core follow, and obtaining resolution of technical questions are to be addressed to Mr. J. L. Howell with copies sent to Mr. F. W. Hassett, Manager, Core Contractor Operations and Mr. J. A. Spangler.

All submittals of forms 73649 (NC-3), 73650 (NC-5) and 73651 (NC-6) are to be addressed to Mr. F. W. Hassett with a copy to Mr. J. L. Howell.

General

Requests for quotations on changes will be transmitted to M&C in letter form. A firm price should be quoted for each change together with a breakdown of the change in accordance with the change notice pricing formula. Bettis shall identify each proposed change by number beginning with P-1 and continuing with P-2, P-3, etc. After the price has been agreed upon between Bettis and M&C a change notice number shall be assigned. Change notices shall be numbered consecutively beginning with No. 1 and independent of corresponding proposed change number. The period of time allotted for quoting changes will depend on the magnitude of the change and the urgency of problems from the point of view of production in the shop.

Very truly yours,

  
G. G. Ritter, Supervisor  
Naval Cores Procurement Department

/LSC

cc: E. L. Juell  
F. W. Hassett  
J. L. Howell  
J. A. Heeke, Jr.

## WIRE MESSAGE

WESTINGHOUSE FORM 19-B



MAKE IT SHORT!

TO	MR. <u>R. L. Churchill</u>	DATE	TIME
	WORKS, DIVISION, S.O./COMPANY	<u>May 23, 1962</u>	
	<u>Metals &amp; Controls</u>		
	DEPT./ADDRESS		
	<u>Attleboro, Mass.</u>		

You are reminded of the requirement that Westinghouse must approve all subcontract work prior to placement of orders.

Repeat - All subcontract work.

You are also reminded that requests for facility approval are required whenever classified work is subcontracted.

SIGNED	DEPT.	BUDGET
<u>J. A. Spangler, Buyer</u>	<u>Naval Cores Procurement</u>	<u>641</u>

OM  
BETTISATMPGH

METALS AND CONTROLS INC 4 617-222-1259 1250P EDT  
MR JA SPANGLER BETTIS

*Comes from m & C*

REUR TWX OF 11-21-62, YOUR REFERENCE TO "CONFIRMING TELECON OF 10-21" CONFUSES ME, HOWEVER, WE APOLOGIZE FOR REQUESTING INFO ALREADY AT M&C. UNFORTUNATELY THIS OFFICE HAD NOT BEEN KEPT AWARE OF PREVIOUS TRANSMISSIONS. THIS PROBLEM SHOULD BE MINIMIZED AS A RESULT OF RECENT AGREEMENTS THAT COPIES OF ALL LETTERS, ETC, WILL BE SENT TO THE NAVY PRODUCTS OFFICE. YOUR STATEMENT THAT BETTIS HAS NO CONTRACUAL OBLIGATION TO SUPPLY CRITICALITY DETAILS IS OPEN TO QUESTION IN VIEW OF YOUR BEING THE DESIGNER OF THE END PRODUCT. HOW WE COULD UNDERTAKE A HAZARDS EVALUATION WITHOUT THE BENEFIT OF YOUR CALCULATIONS AND DESIGN CRITERIA IS CERTAINLY OPEN TO QUESTION. WE DO RECOGNIZE THAT M&C MUST MAKE ITS OWN DECISION AS TO PROCESSING CRITERIA, HOWEVER, EVEN THOSE DECISIONS MUST BE APPROVED BY THE COMMISSION BEFORE USE.

R L CHURCHILL  
ENDO

SECOND MESSAGE

J A SPANGLER  
CC J AYALA  
J HOWELL AT M AND C

*Covered  
from  
m & c*

CONFIRMING PHONECON OF 10/8/62, MATERIAL ITEMS 1.7.13 AND 1.7.20 SUPPLIED BY BETTIS HAVE BEEN MACHINED ON ALL FOUR SIDES AND ULTRASONICALLY INSPECTED IN ACCORDANCE WITH CHANGE NOTICE NO. 12. ITEM 1.7.20 HAS BEEN REJECTED FOR SERXXX SEVERAL DISCREET INDICATIONS EXCEEDING 20 PERCENT OF END REFLECTION AND TOTAL LOSS OF BACK REFLECTION. MACHINING PROCEEDING ON ADDITIONAL ITEMS AND NEXT TESTING TO BE DONE NEXT WEEK. PLEASE ADIXX ADVISE DISPCOSITION INSTRUCTIONS FOR 1.7/20/XXXX 1.7.20. MATERIAL MSXX MUST BE REPLACED OR PROCESSING MAY CONTINUE AT BETTIS RISK FOR MACHINING COSTS.

R L CHURCHILL

~~TO J A SPANGLER~~

CONFIRMING PHONECON THIS DATE, M AND C HAS SERIOURXXX SERIOUS DISAGREEMENT WITH C. E. QUOTES FOR P-7 AND P-9. MEETING WAS HELD AT C. E. ON 10/4 TO TRY TO RESOLVE DIFFERENCES. C. E. IS TO BE AT M AND C ON 10/12/62 WITH FINAL FIGURES XDGFM\*ZUTFTXRFIGATIONS. THEREFORE, AS WE ADVISED YOU LAST WEEK, THE COMMITMENT DATE OF 10/-XXX 10/10 CARRIED IN LAST WEEKS MINUTES WILL NOT BE MET. M AND C HAS ESTABLISHED AND IS PRESSING FOR TRANSMITTAL OF FINAL PROPOSAL BY 10/17/62. PLEASE ADVISE COGNIZANT PARTIES THERE OF THIS PROBLEM

R L CHURCHILL  
M AND C NUCLEAR PRODUCTS  
ENDO

---

M AND C NUCLEAR

ATTN

MASS

10/1/2XXX 1

220 PM

TO F HASSETT BETTIS

J HEEKE BETTIS

R B LONG PNRO AEC

PURSUANT TO RECENT CONVERSATIONS, M AND C CONSIDERS THAT THEY ARE COMPLYING WITH P O 73-Y-297300-MPT GENERAL PROVISIONS ARTICLES 14, 24, AND 27 AS REGARDS ACCOUNTABILITY AND SECURITY BY VIRTUE OF FOLLOWING PROCEDURES AND DIRECTIVES PREVIOUSLY APPROVED AND AS ENFORCED BY SCHENECTADY NAVAL REACTORS OFFICE. M AND C IS AND ALWAYS HAS BEEN UNDER THE CONTROL AND JURISDICTION OF SNRO FOR SUCH MATTERS. OBVIOUSLY, WE CANNOT BE RESPONSIBLE TO MORE THAN ONE AEC OFFICE FOR THESE MATTERS

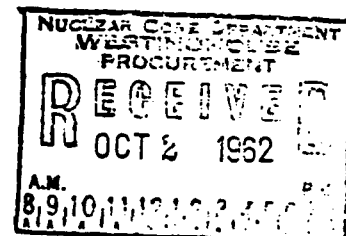
WE HAVE PREVIOUSLY GIVEN TO PNRO A COPY OF OUR ACCOUNTABILITY MANUAL SETTING FORTH DETAILED PROCEDURES, IF YOU WISH TO REVIEW THOSE PROCEDURES, THE COPY SHOULD BE BORROWED FROM PNRO, SINCE WE HAVE NO EXTRA COPIES AVAILABLE

IT IS UNDERSTOOD THAT THERE IS AN INDUSTRY-WIDE REVIEW AND REVISION OF HEALTH AND SAFETY PROCEDURES PRESENTLY UNDERWAY, AS A PART OF WHICH M AND C HAS SUBMITTED TO SNRO AND BETTIS ROUGH DRAFT COPIES OF OUR METHODS OF COMPLIANCE. WE PRESUME A DISPOSITION FOR OUR HEALTH AND SAFETY PROCEDURES WILL BE FORTHCOMING IN THE IMMEDIATE FUTURE

R L CHURCHILL

M AND C NUCLEAR

END





DETTISATMPCH

M AND C NUCLEAR

ATTIL

MASS

9/10/62

1030 AM

From  
mtc

ATTN: J. SPANGLER

CONFIRMING OUR CONVERSATION OF 9/7/62, M AND C REQUESTS A REPLY TO OUR  
TVX OF 8/14/62 TO G RITTER REGARDING SHXX SCHEDULING OF ITEMS 1.1,  
1.1.1, 1.2, 1.3, 1.4, 2.1 THRU 2.8, 3.17, AND 3.19. IN ADDITION, ANY  
SHIPMENTXXX SHIPMENT OF THESE MATERIALS IN ADVANCE OF THE REQUESTED  
DATES MUST BE SPECIFICALLY AGREED TO BY M AND C, SINCE SHIPMENTS IN  
ADVANCE OF OUR PRODUCTION REQUIREMENTS SERVE TO INCREASE OUR INSURANCE  
COSTS AND MAY PRODUCE STORAGE PROBLEMS

R L CHURCHILL

WAPD-EAC-PUR-180

September 19, 1962

Manager,  
Pittsburgh Naval Reactors Office  
U. S. Atomic Energy Commission  
P. O. Box 1105  
Pittsburgh 30, Pennsylvania

Attention: Mr. D. D. Blumstein

Subject: Request for Approval of Change Notice to  
Purchase Order 73-Y-297800-MPT with  
Metals & Controls, Inc.

Dear Sir:

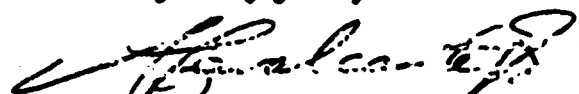
Pursuant to telephone conversation of 9/18/62 between Messrs. D. D. Blumstein and A. R. Sabol of your office and Mr. A. Cavalcante, Jr. of Westinghouse, your formal approval is requested for issuance of the attached unnumbered change notice to Westinghouse Purchase Order 73-Y-297800-MPT.

This change notice applies only to the ultrasonic examination portion of the order specifications for Items 1.7.2, 1.7.3, 1.7.4, 1.7.6, 1.7.8, 1.7.9, 1.7.10, and 1.7.11.3 of Attachment 5, and of the end products to be manufactured from this material.

This change notice is required because the Westinghouse supplied material was ultrasonically tested in accordance with Ladish modified procedure 941 per Westinghouse Purchase Orders 73-Y-298010 and 73-Y-309608. These purchase orders were approved by your WAPD-EAC-(PUR)-65 and WAPD-EAC-(PUR)-158.

These modified requirements are considered by Bettis to be technically acceptable for forgings of this size and shape procured to the Ni-Cr-Fe forging specification MIL-N-22987. Therefore this change notice is necessary to clarify ordering specifications in Attachment 5 and to impose the same requirements on the end products to be manufactured from the forgings.

Very truly yours,



A. Cavalcante, Jr., Supervisor  
Naval Core Procurement Department

/lft

Attachment

cc: B. H. Hoffman  
K. W. Schunakamp  
L. B. Pruett  
P. F. Dundon  
E. T. Cox

W. H. Linton  
G. H. Cohen  
C. D. Malloy  
F. W. Bassett

BETTISATNPGH

END KB

OT

BETTISATNPGH

METALS AND CONTROLS INC 3 617-222-1259

11-12-64 215PNEST ATTIL MASS

CFM

JIM SPANGLER

RE LICENSING CONSIDERATIONS FOR WORK DONE UNDER PO 297800. IN REPLY TO UR TELEPHONE INQUIRY WE DO NOT NOW HV A LICENSE NOR HV WE CONTEMPLATED OBTAINING ONE FROM THE DIVN OF REGULATION WHICH WUD COVER FUEL FAB WORK UNDER UR PO. AS U KNO FEASIBILITY REPORT APPROVAL WAS OBTAINED MONTHS AGO AND THIS WORK IS NOW COMPLETE. NEITHER HV WE SOUGHT A LICENSE FOR SCRAP RECOVERY UNDER THE ORD INASMUCH AS U HV INDICATED NO CHANGE TO THE CONTRACT WHICH GIVES U URANIUM RECOVERY RESPONSIBILITY AND DIRECTS THAT WE PACK AND SHIP RECOVERABLE SCRAP IN ACCORDANCE WITH UR INSTRUCTIONS. FOR UR INFO, CERTAIN PHRO CONTRACTS HV BEEN SPECIFICALLY AMENDED BY THAT OFFICE TO PROVIDE FOR LICENSING APPROVAL FOR ALL CONVERSION, FUEL FAB, AND SCRAP RECOVERY OPERATIONS ON THOSE CONTRACTS.

G P HOWLAND MGR NAVY NUCLEAR PRODUCTS

END MARSHA

2ND MESSAGE

CFM

MR. J. A. SPANGLER - BETTIS

REUR TWX OFS9/4 AND PRIOR COMMUNICATIONS, M&C WILL SUBMIT INITIAL SS  
MATERIAL STATUS REPORT FOR PERIOD ENDING LAST OF SEPTEMBER, 1963.  
REPORT WILL BE TRANSMITTED BY FIFTH WORKING DAY AFTER MONTH END.

R. L. CHURCHILL

2ND MSG

MR. J. A. SPANGLER

*CFM About 8/1/2*

IN ACCORDANCE WITH KWS MEETING AT M&C IN MID-JUNE, M&C REQUESTS YOU UPDATE YOUR MASTER LIST AND LISTS OF COMPONENTS TO AGREE WITH M&C BILL OF MATERIALS PRESENTLY AT BETTIS ON AR SUBMITTED JULY 3 AND INDICATE FULL AGREEMENT WITH THAT BILL OF MATERIALS IN ORDER TO ALLOW US A STARTING POINT FOR FUTURE CHANGES. PLEASE ADVISE BY RETURN TWX WHEN ABOVE ACTIONS CAN BE TAKEN.

R.L. CHURCHILL

3RD MSG

MR. J.A. SPANGLER

CONFIRMING EARLIER PHONECON, DRAWING 950D573, REV. 3 CALLS OUT PDS-22058 FOR ITEM 3. WE PRESUME SPEC. SHOULD BE PDS-28058.

R.L. CHURCHILL

4TH MSG

MR. J. A. SPANGLER

CONFIRMING EARLIER PHONECON, M&C HAS REQUESTED NUMEROUS TIMES THAT YOU SEND COPIES OF AP-293778 REFERENCED IN SEAL WELD SPECS. WE NOW UNDERSTAND AP-293790 WILL REPLACE THAT SPEC AND THAT PDS-28095 WILL REPLACE NX-0007-B. PLEASE TAKE US OUT OF THE DARK BY SENDING COPIES OF SOMETHING AND TELLING US WHAT YOU INTEND. THEN PLEASE FOLLOW WITH P-CHANGE SO OYLER,S SUCCESSOR WILL NOT BE EQUALLY FRUSTRATED.

R.L. CHURCHILL

C O P Y

METALS & CONTROLS, INC.

File: WAPD-203  
January 22, 1963

Westinghouse Electric Corporation  
Bettis Atomic Power Laboratory  
P. O. Box 1468  
Pittsburgh 30, Pennsylvania

Attention: Mr. A. Cavalcante, Jr., Supervisor  
Naval Cores Procurement Department

Subject: Change Notices - Purchase Order 73-Y-297500-MPT

Reference: WAPD-NAC-PA-2095

Gentlemen:

The referenced letter indicated your concern with the cost of estimating proposed changes to your purchase order and requested "written assurance that change notice proposals submitted henceforth by M&C under the subject purchase order will not include any amount for costs incurred prior to the actual issuance of the change notice by Westinghouse."

We, too, have been concerned with the mounting costs of assessing these proposed changes and are willing to discuss with you some alternative solutions, one of which we trust will meet with your satisfaction.

Article 45 of the purchase order specifies that the planned rates negotiated for use on Pittsburgh Naval Reactors Office contract changes will be used in pricing the cost of change notices to the subject purchase order. Included in these overhead rates is a reasonable allowance, based upon our experience, to cover the cost of assessing changes proposed to a contract. This allowance has customarily been included in our overhead since historically the cost of estimating changes in our overall business has been less than 1% of our total costs and is therefore not significant and within the limits of any normal estimating capability.

Apparently you are aware that the cost of estimating changes proposed to your purchase order has become a significant cost factor. The situation has become painfully obvious to us and we believe that this cost factor is worthy of separate and distinct consideration.

Study of the "Changes Article" of the General Provisions by both our Legal and Contracts departments leads us to question the contention that the Article permits our recovery of certain costs and precludes others. Neither are we sure that the gross effort being expended by us on "proposed" changes of your selection should not be considered as reimbursable. Our providing the written assurance that you request, as mentioned in the first paragraph of this letter, would imply that we would have the right to refuse to quote on any proposed change which was

C O P Y

C O P Y

Mr. Cavalcante, Bettis

-2-

January 22, 1963

not covered by or included as part of a mandatory change. Otherwise, a significant number of our engineering and quality control personnel, procurement people, estimators, contract administrators, field men, and management representatives could be tied up endlessly in evaluating alternative courses of action proposed to your purchase order. Under these terms you would be free to reject any and all proposals and seek yet additional alternatives and none of these costs would be considered reimbursable.

As a practical matter we do not choose to deny quotations to you on proposed changes even though we consider the number of them grossly excessive. Neither do we feel that we can continue to absorb the increasing costs of assessing the proposed changes to your order. It should be obvious to you that your purchase order already incurs a disproportionate amount of overhead costs in view of the numerous meetings at both Bettis and our subcontractors' plants, the tight scheduling, customer visitations, the number of resident customer personnel, and the priority service rendered by all supervisory and management personnel. Much of this very effort is associated with the gross number of proposed changes to your purchase order currently under consideration (67 to date).

In view of the unprecedented number of proposed changes to your purchase order, and with no relief in sight, we feel that you will recognize the correctness of our position and help us reduce this excessive cost burden. We invite your review and acceptance of one of the following alternatives:

1. Solicitation and negotiation into the contract a price for review and assessment of each change as proposed or - in the interest of saving time -
2. Negotiate a firm price (flat rate) for each proposed change to be added consecutively to the contract price.
3. Negotiate a higher profit level for application to the Article 45, Change Notice Pricing Formula for each change incorporated, which would, on average, equal and offset the excess cost of evaluating the total number of proposed changes.

We propose to use whichever method you select on all changes outstanding as of the date of the agreement and for all future changes as processed thereafter.

Very truly yours,

Original Signed By

George P. Howland  
Manager, Nav. Nuclear Products

GPH/bs

C O P Y

WAPD-O-(NE)-F-1281

April 7, 1967

Metals & Controls, Inc.  
Post Office Box 898  
Attleboro, Massachusetts 02702

Attention: Mr. J. W. White

Subject: Final Documentation, P.O. 73-Y-297800-MPT

Gentlemen:

May we call to your attention the following final documentation requirements for closeout of the subject order:

1. Furnish Form 73163B, "Seller Closeout Certification Data." Complete only Sections A, D, and E. Return five (5) signed copies to Westinghouse. Forms are attached.
2. Furnish Form 73394E, "Certification of Non-Possession or Retention of Classified Matter." Complete Sections A.1 or A.2 as applicable. Complete Section B. Return six (6) signed copies to Westinghouse. Forms are attached.
3. Furnish Certificate on Taxes, Article 4 of the General Provisions.
4. Furnish final release of claims per Article 11.d. of the General Provisions. This should be furnished after all product has been shipped, after M&C no longer has any SS Material or any other Government property in its possession under the order, and after agreement has been reached on the total amount of M&C liability for SS Materials. The attached Release of Claims form may be used. Furnish three (3) signed copies to Westinghouse.

Please contact the undersigned if you have any questions.

Very truly yours,

J. E. Hurley, Supervisor  
Nuclear Core Purchasing

  
J. V. Myers, Buyer

/mjc





WAPD-O-(AO)-3939

BETTIS ATOMIC POWER LABORATORY

From Bettis Atomic Power Laboratory

Date August 3, 1966

To: V. W. Lehtonen, Buyer  
Nuclear Core Purchasing

Subject Disposition of Normal Uranium  
at Subcontract Locations

cc: T. P. Kelleher  
W. B. Thomas

In order to provide Bettis subcontractors with disposition instructions for normal uranium starting materials, elements and residual scrap, it is necessary to receive a descriptive breakdown of such inventories.

In general, most normal uranium scrap can be returned to the AEC; however, some scrap in the form of filters, combustible waste and solutions may require discard to industrial burial; classified discards would be returned to Oak Ridge for burial. Disposition instructions for normal uranium scrap forms would be furnished by the AEC (PNR Oak Ridge) from a recovery evaluation of materials described by the subcontractor.

Disposition instructions for normal uranium in starting materials and/or finished components would be based on Bettis needs for retention, or, on Bettis recommendations for dispositions as approved by PNR.

Attached is an excerpt from the Bettis Manual of SS Materials Management relative to the categories of normal uranium scrap for reporting by a subcontractor. Also, for each form of scrap in any category, or for quantities of starting materials or finished components, the subcontractor is to advise the total net weight and the uranium containment in terms of kilograms of total uranium. If scrap is packaged, the subcontractor is to advise the number and size of all containers according to the various categories.

Ray D. Davis  
SS Materials Management

/rjo

Attachment

VWV  
ZNR

P13 1750Z

FM WESTINGHOUSE BETTIS ATOMIC POWER LAB V W LEHTONEN PGH PA  
TO METALS & CONTROLS INC J W EWHITE ATTLEBORO MASS

AEC

BT

UNCLAS - PLEASE SUBMIT DETAILED SUMMARY OF ALL NORMAL  
URANIUM IN ITS VARIOUS FORMS - IN YOUR POSSESSION SO WE CAN  
ADVISE DISPOSITION INSTRUCTIONS.

SMR VWL 368 6/13/66

BT

368 6/13/66 R DAVIS

6/14 - expected reply soon  
7/19 - board J. White

7/28 Ray Davis to give specific info he needs

NNNN

ZNR

PO4 1425Z

FM WESTINGHOUSE BETTIS ATOMIC POWER LAB V W LEHTONEN PGH PA  
TO METALS & CONTROLS INC J M WHITE ATTLEBORO MASS

AEC

BT

UNCLAS - M&C'S OFFER TO CONSIDER WITHDRAWING A PENDING  
CLAIM - SEE ITEM 4 OF TASKERS 2/18/66 LETTER ON RETENTION  
PAYMENTS - IS UNACCEPTABLE BECAUSE IT REQUESTS RELEASE OF  
RETENTION BEFORE ORDER COMPLETION AND WOULD CONSTITUTE A  
VIOLATION OF ARTICLE 11 - ORDER ATTACHMENT 1.

SMR VWL 368 3/4/66

BT

368 3/4/66      BLAIR



METALS & CONTROLS INC.  
A CORPORATE DIVISION OF  
**TEXAS INSTRUMENTS**  
INCORPORATED

15 February 1966

Mr. V. W. Lehtonen  
Westinghouse Electric Corporation  
Bettis Atomic Power Laboratory  
P. O. Box 79  
West Mifflin, Pennsylvania 15122

SUBJECT: P. O. 73-Y-297800-MPT, MCP-82 Fuel Storage

Dear Mr. Lehtonen:

Metals and Controls requests reimbursement in the amount of \$5665 for storage of U-235 excess, and scrap and residue until June 1, 1966. In the event a shorter storage period is utilized, we will be pleased to negotiate a credit to amounts paid us for Item E below, in proportion to the actual storage time.

Metals and Controls has requested disposition of these materials since June, 1964. At that time, Westinghouse was notified, by NY-226 forms submitted, that approximately 43 kg. of U-235 were packaged and ready for shipment. Subsequent verbal requests for disposition of U-235 bearing materials were made in addition to the following:

- 2/18/65 - Letter to J. A. Spangler requesting disposition of excess fuel and Westinghouse furnished elements. In this letter we indicated our desire to enter into a storage agreement.
- 3/65 - Telecon V. W. Lehtonen/A. M. Tasker in which we pointed out our desire to dispose of scrap and residue. At this time Westinghouse indicated that there were problems with licensing and F.O.B. points; M&C indicated their desire to recover storage costs for this material.
- 8/4/65 - Letter to V. W. Lehtonen requesting shipping instructions for samples covered by P.O.I.R. 208. These samples have been held at M&C since 3/24/65 awaiting these instructions. In this letter we indicated our cc: T. Kelleher's willingness to submit a proposal for continued storage.
- 8/9/65 - TWX to T. Kelleher from R. L. Churchill requesting assistance in shipping excess fuel material.
- 9/15/65 - P-353 transmitted to M&C requesting proposal to change the delivery point of samples covered by P.O.I.R. 208 to F.O.B. destination. Proposal was transmitted on 12/20/65.
- 9/17/65 - P-355 transmitted to M&C requesting change in delivery point of scrap to F.O.B. destination. This proposal was transmitted on 12/17/65.

To date no action has been taken by Westinghouse on any of the items listed on page 1. Since the order does not state a specific date for disposition of U-235, the time allowance would be that which is "reasonable and proper" under the circumstances. We construe 30 days as being "reasonable and proper".

The costs involved in this estimate are as follows:

	<u>Storage</u>	<u>Insurance</u>
A. Store 48 kg. scrap in containers from 9/1/64 to 9/1/65	\$ 500	\$ 725
B. Store 31 kg. excess fuel from 4/1/65 to 9/1/65	125	195
C. Store 5.5 kg. U-235 in retainer samples from 5/1/55 to 9/1/55	16	30
D. Store 11.6 kg. U-235 in excess Westinghouse furnished elements from 4/1/65 to 9/1/65	50	73
E. Store 143 kg. U-235 excesses and scrap from 9/1/65 to 6/1/66	<u>1072</u>	<u>1523</u>
TOTALS	\$1763	\$2651

The cost to M&C for insurance is \$1100/31 million per year; for storage space, \$2/sq. ft. per year, with an average of 5 sq. ft. of storage area per kilogram of contained U-235.

We trust this information is satisfactory for your purposes, and we look forward to receiving an appropriate Change Notice.

Yours very truly,

A. M. TASKER  
Contract Administrator  
Navy Nuclear Products

lc

cc: T. Kelleher

TPK



METALS & CONTROLS INC.  
A CORPORATE DIVISION OF  
**TEXAS INSTRUMENTS**  
INCORPORATED

FILE: WAPD-203

27 December 1965

Mr. John J. Duker  
Westinghouse Electric Corporation  
Bettis Atomic Power Laboratory  
P. O. Box 79  
West Mifflin, Pennsylvania 15122

SUBJECT: P. O. 73-Y-297800-MPT - Retention Payments

Dear Mr. Duker:

Confirming earlier conversations, we request your concurrence with our proposal to reduce the total retention on the subject purchase order to \$70,000 as of December 31, 1965. We believe the following considerations should support a favorable disposition of this request:

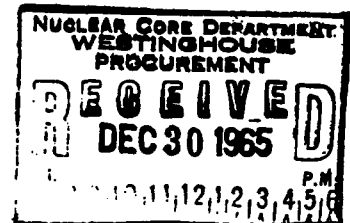
1. Our calculations of anticipated uranium loss indicate that our liability should not exceed \$50,000.
2. All spare components, with the exception of the test head, and several small items whose shortage is the subject of a separate proposal, will have been shipped prior to year end, thereby eliminating any need for retention applicable thereto.
3. All work has been completed on this purchase order with the exception of final assembly of the test head. Failure to make a timely delivery of this assembly is due to Westinghouse's late delivery of the adapter flange and certain items of equipment.
4. M&C's performance under the subject order has been particularly favorable.
5. We are heavily committed to PNRO/BAPL contracts, resulting in your having access to other large retention amounts.

If our request to bill retention is granted, a total of approximately \$125,000 of the total order price, including uranium loss allowance, will remain unbilled. We feel that this amount is adequate in the light of the amount of work remaining to be done, and that we should not be exposed to further financial penalty because of the extended order period.

We trust that we can arrive at a conclusion to this matter which is satisfactory to both Westinghouse and M&C. If you have any questions or wish additional information concerning this matter, please contact us.

Yours very truly,

R. L. CHURCHILL  
Marketing Manager





WAPD-PC-8814

BETTS ATOMIC POWER LABORATORY

From: Property Control

Date: December 2, 1965

1162  
Mr. J. A. Spangler  
Nuclear Core Purchasing

Subject: Metals & Control  
P.O. 73-297800

It is our understanding that the end item under the subject order has been delivered. Therefore, it is requested that you review the shipments of material designated as "Material with Supplier" and advise what portion would be feasibly closed out at this time.

*Helen Petrosko*  
Helen Petrosko  
Property Control,  
Accounting

/nsh

*Helen Petrosko*

*Jim Spangler and I have reviewed the  
proposed value of the furnished raw material in  
the test logs. The only major item that  
will be shipped after the test - a  
small amount of material to be prepared  
for the test.*

You show in this account may be  
considered as generated into the products  
shipping and being sent to the sender.  
However, we are of the opinion the \$3.4  
million is significant higher than the  
total value of (12) parcels it does not seem  
but this would not appear to be  
of any great significance at this  
point in time.

Witt Lehtonen



700

R 061015Z

FM W W LENTONEN WESTINGHOUSE BETTIS ATOMIC POWER LAB BGM PA  
TO A TASKER METALS & CONTROLS IN ATTLEBORO MASS

AEC

BT

UNCLAS/INFC/ R E WERE METALS & CONTROLS ATTLEBORO MASS

RESULT OF 3-2-65. ON MEETING 3-24-65/65 MINUTES---

- A. ORDER ATTACHMENT 2 WILL NOT BE UPDATED SINCE IT WOULD SERVE NO  
USEFUL PURPOSE. YOU HAVE ALREADY CERTIFIED THE COST TO  
THE LATEST COST COMPONENT DRAWINGS.
- B. ORDER ATTACHMENT 3 IS ENROUTE TO YOU VIA POIR 235.
- C. ORDER ATTACHMENT 6 CHANGES WERE SENT IN P-CHANGE 349.
- D. BILL OF MATERIALS LISTS WERE MERELY A CONVENIENCE AND NOT AN ORDER  
REQUIREMENT. THIS WILL NOT BE REVISED.
- E. OUR REVIEW OF INCONEL MATERIAL WILL BE FORWARDED 3-31-65 OR SOONER.

REF GMP WML 3-6-65.

BT

06/1010Z RUEPAN

cc J.J. Schiffgens  
T.P. Kelleher



METALS & CONTROLS INC.  
A CORPORATE DIVISION OF  
**TEXAS INSTRUMENTS**  
INCORPORATED

File: WAPD-203  
August 2, 1965

Mr. V. W. Lehtonen  
Westinghouse Electric Corporation  
Bettis Atomic Power Laboratory  
P. O. Box 79  
West Mifflin, Pennsylvania 15122

Subject: Order Attachment No.'s 2, 3, & 6, and Westinghouse Bill  
of Materials, P.O. 73-Y-297800-MPT

Reference: Meeting Minutes, March 24-25, 1965

Dear Mr. Lehtonen:

Review of the referenced meeting minutes brings to light numerous  
Westinghouse commitments which have not been met; they are summarized  
below:

Order Attachment 2 - List of Core Components  
Order Attachment 3 - List of Spare Components  
Order Attachment 6 - Special Requirements  
~~Westinghouse Bill of Materials~~  
Westinghouse "L-Orders" (for Inconel, particularly)

*Order - 8/13 Pending*  
*5 P.O.'s - 8/6 - not received in order*  
*Set of L-Orders*

Close-out of the Purchase Order and shipment of spare items are approach-  
ing rapidly. Prudence dictates that these commitments be met immediately  
to avoid unnecessary delays which might result from incomplete paper-  
work or misunderstandings among the Commission, Westinghouse, and M&C.

Please notify us of your firm dates for transmittal of the required  
information.

Yours very truly,

A. M. TASKER  
Contract Administrator  
Navy Nuclear Products

AMT/bs

cc: Mr. T. P. Kelleher, BAPL

AUG - 4 1965



METALS & CONTROLS INC.  
A CORPORATE DIVISION OF  
**TEXAS INSTRUMENTS**  
INCORPORATED

FILE: WAD-200

3 April 1966

Westinghouse Electric Corporation  
Bettis Atomic Power Laboratory  
P. O. Box 79  
West Mifflin, Pennsylvania 15122

ATTENTION: Mr. V. W. Lehtonen

SUBJECT: P. O. 73-Y-297000-12T

Gentlemen:

In response to your request enclosed are three executed copies of Form  
73300A, Certification of License, covering the storage of residual  
U-235 and scrap containing U-235 under the subject order.

Very truly yours,

*J. White*

J. WHITE  
Contract Administrator

1c

Encl: 3

APR 11 1966

CERTIFICATIONS OF LICENSE

I hereby certify that Metals & Controls Inc. is duly licensed,  
(Name of Firm)

pursuant to the Atomic Energy Act of 1954, and Title 10, Code of Federal Regulations  
or, if the work is to be performed in a State which has entered into an agreement  
with the U. S. Atomic Energy Commission pursuant to Section 274 of the Atomic Energy  
Act of 1954, as amended, pursuant to requirements of such State to perform the  
following described work: Storage of residual U-235 and scrap containing U-235  
(Description)

as required by Westinghouse P. O. 73-Y-297800-MPT. The applicable  
(P.O. or Subcontract Identification)

License No. is SNM-23 as amended; date of issuance is November 10, 1965;  
expiration date is August 31, 1968; issued by Division of Mtls. Licensing.

In the event that work under 73-Y-297800-MPT extends  
(P.O. or Subcontract Identification)

beyond the expiration date of the license, referred to herein, I certify that

Metals & Controls Inc. will obtain any necessary license  
(Name of Firm)

and will provide certification to this effect to Westinghouse by completing an  
additional copy of Westinghouse Form No. 73809A.

I further certify that I am authorized to make the certifications as included  
herein.

J. White  
(Signature)  
J. White  
Contract Administrator  
(Title)

(Three copies to be submitted to Purchaser)

8/20/63

TWX TO:

R. L. Churchill  
Metals & Controls  
P. O. Box 898  
Attleboro, Mass.

G. P. Howland  
Metals & Controls  
P. O. Box 898  
Attleboro, Mass.

G. G. Ritter  
Westinghouse Resident Engineer  
Metals & Controls  
P. O. Box 898  
Attleboro, Mass.

AR 431: Westinghouse will approve the AR with the following exceptions:

1. The updated Bill of Materials dated 8/2/63 will be approved as amended by joint BAPL - M&C agreement.
2. The approved BM will be for reference only and will not be a binding contractual document.

J. A. Spangler, Buyer      Naval Cores Procurement Dept.      641

/bk

cc: A. Cavalcante, Jr.  
J. J. Schiffgens

TWX TO:

1/22/64

Mr. G. P. Howland  
Metals & Controls, Inc.  
Attleboro, Mass.

Mr. G. G. Ritter, BRS  
Metals & Controls, Inc.  
Attleboro, Mass.

Confirming our telecon of 1/21/64:

P-72: Westinghouse has attempted for several months to complete negotiations on this P-Change. We reiterate the previous pertinent comments on both sides.

1. M&C comments that only one man, H. Way, has background to complete analysis and negotiations. Way will be tied up on structural follow until end of February; therefore, M&C estimates 3/10/64 is earliest date for resumption of negotiations.
2. Westinghouse notes that:
  - a. M&C is released on maximum price up to no change in order price.
  - b. Interim use of Westinghouse furnished material by M&C will constitute M&C liability for it.
  - c. Expenditure of funds will not be sufficient cause for reimbursement in amount expended.
  - d. M&C is responsible for safekeeping of any Westinghouse material which might be returned as a result of negotiations.
3. Westinghouse suggests another person be assigned immediately to complete negotiations.

  
A. Cavalcante, Jr., Supervisor

Naval Cores Purchasing

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cc: J. A. Heeks, Jr.  
J. A. Spangler  
A. R. Sabol

TWX TO:

1/17/64

Mr. G. P. Howland  
M&C, Attleboro, Mass.

Mr. G. G. Ritter  
M&C, Attleboro, Mass.

cc: P. K. Moffat - M&C

Reference M&C WAPD-203, Bettis 73-Y-297800-MFT, and M&C scrap recovery numbers SNR 133 and 134.

1. Order terms do not allow commingling, therefore your request SNR 134 to write off ten grams of ash, purportedly not economical for recovery, will be disapproved.
2. Your request SNR 133 to submit acid solution containing 260 grams U-235 for recovery along with material from other orders will be disapproved. Submit this and all other order 73-Y-297800 material for recovery separate from any other material. Submit to BAPL, not SNRO.

V. W. Lehtonen, Buyer      Naval Cores Purchasing Dept.

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cc: R. M. Matyas  
A. Cavalcante, Jr.  
J. A. Haeke, Jr.  
W. B. Thomas