OPTIONAL F M NO. 10

UNITED STATES GOVERNMENT

Memorandum

TO : R. W. Kirkman, Director
Region I, Division of Compliance
New York

DATE: May 14, 1965

FROM : Hilbert W. Crocker, Inspection Specialist (Criticality)
Region III, Division of Compliance, Chicago

SUBJECT: PART 70 INSPECTION, WESTINGHOUSE ELECTRIC CORPORATION, PITTSBURGH, PENNSYLVANIA - LICENSE NO. SNM-338 (DOCKET NO. 70-337)
INSPECTION DATE: APRIL 29-30, 1965

Attached is the account of my announced inspection of the subject licensee's facilities at Cheswick, Pennsylvania, on April 29-30, 1965.

One item of apparent noncompliance was observed in that the Material Status Report for December 31, 1964 was not submitted within 30 days as prescribed by 10 CFR 70.53. A Form AEC-592 and suggested cover letter is attached for distribution covering this apparent item of noncompliance.

I observed an unsafe geometry sink in the research and development area of Building No. 7. This area is being used for highly enriched uranium fuel studies and I pointed out the potential hazard of this sink to the licensee. Management was concerned about the problem and said that they would improve the nuclear safety control on the sink, probably by placing a cover over it to preclude its use when processing enriched uranium.

In the Navy Reactor Fuel Shop which is still exempt from license, but will soon be under Regulatory review, two items were noted. Two 5-inch diameter poly bottles of waste solution (100 g U-235 total) were stored together with 6 empty 5-inch diameter poly bottles. None of the bottles were adequately labelled and it was difficult to determine the SNM content without supervisory help. This practice comprimizes the philosophy of using adequately spaced 5-inch diameter (safe diameter) poly bottles for nuclear safety control. Also in the Chemistry Laboratory I noted that one 2-liter bottle of solid waste located on a storage cart was not adequately identified. Licensee management also recognized these practices and stated that each of the conditions would be corrected. I also called Mr. William Reese, Chief of Safety Branch, PNRO, to inform him of these situations.

- continued -

ITEM # 108 C/108

New activities to be started in 1966 include a scrap recovery system in the WAPD shop at Cheswick and a pilot plant for irradiated fuel recovery studies at the Waltz Mill, Pennsylvania site.

I believe that the licensee is conducting an adequate nuclear safety program and that management is sincerely interested in correcting nuclear safety inadequacies promptly.

Enclosures:
1. AEC-592 (orig. and 7 cys)
2. Draft Letter (1)
3. Backup Data (orig. and 6 cys)

UNITED STATES
ATOMIC ENERGY COMMISSION
DIVISION OF COMPLIANCE
REGION III
OAKBROOK PROFESSIONAL BLDG.
SUITE 410
OAK BROOK, ILLINOIS

DRAFT

May 14, 1965

Westinghouse Electric Corporation
Pittsburgh, Pennsylvania

Attention: Mr. H. C. Amtsberg, Manager
Administrative Services Dept., WAPD

Gentlemen:

This letter relates to the discussion Mr. H. W. Crocker of our Region III, Oak Brook, Illinois office held with Messrs. W. R. Castonguay and R. E. Tschiegg of your staff at the conclusion of the recent criticality control inspection. In particular, Messrs. Castonguay and Tschiegg were informed that certain of your licensed activities appeared to be in noncompliance with AEC requirements. These items and references to the pertinent requirements are listed in paragraph 5 of the attached Form AEC-592.

We note that corrective action was taken prior to the inspection by initiating a new record keeping system which will preclude a similar deficiency from occurring in the future.

Should you have any questions concerning this matter, you may communicate directly with this office.

Sincerely yours,

Robert W. Kirkman, Director
Region I

C1107

ITEM # 109

Form AEC-592
(5-62)

UNITED STATES ATOMIC ENERGY COMMISSION
DIVISION OF COMPLIANCE

1. LICENSEE	2. REGIONAL OFFICE
Westinghouse Electric Corporation Pittsburgh, Pennsylvania	Region I, Division of Compliance 376 Hudson Street New York, New York 10014
3. LICENSE NUMBER SNM-338 (Docket No. 70-337)	**4. DATE(S) OF INSPECTION** April 29-30, 1965

5. The following activities under your license (identified in Item No. 3 above) appear to be in noncompliance with AEC regulations or license requirements, as indicated.

A. You did not submit the required Material Status Report, Form AEC-578, for operations from July 1, 1964 through December 31, 1964 to the Commission within 30 days after the end of that operational period.

It is noted that you did send in the required Form AEC-578 on March 12, 1965 and that prior to the inspection corrective action was taken to prevent a recurrence of this condition and that the corrective action consists of using IBM machine tabulations for providing rapid assemblage of data and transmittal of forms on a timely basis.

ITEM # 110

Supplementary page None attached.

H. W. Crocker
AEC Compliance Inspector

5-14-65
Date

ORIGINAL: LICENSEE. COPIES: ☐ CO REGION ☐ CO HEADQUARTERS ☐ L&R HEADQUARTERS.

U.S. GOVERNMENT PRINTING OFFICE: 1963—O-685811

c/110

ANKEE ATOMIC ELECTRIC COMPANY

441 STUART STREET, BOSTON 16, MASSACHUSETTS 02116

April 30, 1965

. S. Atomic Energy Commission
ashington, D. C. 20545

YA-2267

ttention: Mr. Lyall E. Johnson
Acting Director
Division of Materials Licensing

Gentlemen:

We have issued Form OR-640 to Westinghouse Electric Corporation, Atomic Power Division, Special Nuclear Material Lease Agreement No. 245, License No. SNM-388; for 678.501 Kg (element) of Special Nuclear Material in the form of UO_2. This material has a weight per cent enrichment of 2.90228.

This material will be received under our License DPR-3 and our Special Nuclear Material Lease No. 167.

For identifying purposes, this order carries Yankee Order No. YAEC-65-3.

This material being transferred was originally allocated to Westinghouse for use in the Consolidated Edison cores.

Very truly yours,

Richard A. Cordin
Executive Assistant

RAC/mm

ITEM # 111

SNM - 338 Folder

OPTIONAL FORM NO. 10
MAY 1962 EDITION
GSA GEN. REG. NO. 27

5010-106

UNITED STATES GOVERNMENT

Memorandum

TO : All Inspectors

DATE: January 28, 1965

FROM : Paul R. Nelson, Radiation Specialist (Supervisory)
Region I, Division of Compliance

SUBJECT: MOUND LABORATORY PU-BE SOURCES

This office has been advised that Mound Laboratory Plutonium-Beryllium neutron sources fabricated prior to August 31, 1960 should be subjected to dimensional measurement checks, in addition to the required tests for leakage and/or contamination. These sources have been known to rupture due to gas evolvement within the capsule.

The technique for the conduction of dimensional checks is detailed in the AEC Research and Development Report, "Inspection and Recanning Program of Pu-Be Sources", MLM-1188, Mound Laboratory, Miamisburg, Ohio. A copy of this report is available in our files.

At the next inspection of this licensee you are requested to ascertain if the licensee still possesses sources of this type, and if so, whether the dimensional checks have been carried out. If the licensee has not conducted these tests, he should be informed of the hazard, and advised to contact Mound Laboratory as soon as possible for information and instructions concerning these sources. Information concerning these sources should be included in your inspection report, and discussed with me on your return to this office.

(WESTINGHOUSE, BETTIS)

This office has been advised that this licensee possessed or still possesses the following source(s) in this category:

Serial No.		
	M-235	M-644
	M-236	M-645
	M-525	M-646
	M-526	M-647
	M-625	M-648
	M-639	M-651
	M-640	M-692
	M-641	M-693
	M-642	
	M-643	

Pires, No knowledge of these sources JCH 10/6/65

P.K. Morrow (accountability) No knowledge of these sources JCH 10/6/65

also # M-581

All shipped to Bettis ???

ITEM # 112

C/112

40-852
For Div of Compliance
CO:1

MINNESOTA MINING AND MANUFACTURING COMPANY

W.J.B. Brown

January 11, 1965

RECEIVED
JAN 14 11 2 12
U.S. ATOMIC ENERGY COMM.
REGULATORY
MAIL SECTION

U.S. Atomic Energy Commission
Division of Materials Licensing
Washington 25, D.C.

Attention: Mr. Donald A. Nussbaumer, Chief
Source and Special Nuclear Materials Branch

Re: License no SNM-764
Request for authorization of certified shipments of fully enriched uranium to Westinhouse Astro Nuclear Laboratory, Cheswick, Pennsylvania.

COPY

Gentlemen:

The 3M Company herewith requests authorization to proceed with certified shipments of fully-enriched uranium to be made to Cheswick, Penn. from New Brighton, Minnesota. The shipping procedures which will be followed are presented herewith: Shipments will commence in late March, 1965 and continue through at least latter August, 1965.

Shipping Procedures

1. Material to be shipped:

   Enriched (93%) uranium, pursuant to WANL order 59-NY-46499; material is described in (classified) WANL specification no 30050-B.

2. Limits:

   48 kgU per shipment at 6 kgU per drum: limit 8 drums per shipment.

3. Shipping Containers:

   3M Shipping Containers as described in application dated 12-15-64.

4. Consignee:

   Westinghouse Astro Nuclear Laboratory
   Astrofuel Facility
   Cheswick, Pennsylvania
   D.A. Brown,
   SS Materials Engr

5. Packaging and Labeling:

   The packaging and labeling of this material will comply with I.C.C. and A.E.C. regulations.

C/113
(2)

ITEM # 13

From CO - Hdqrs. 158

MINNESOTA MINING AND MANUFACTURING COMPANY

6. Carriers:

a. New Brighten, Minn. to Cleveland, Ohio:

Gateway Transportation Company, Inc
2230 Kasota Avenue
St Paul, Minnesota
Attn: Mr. C.J. Schaab

b. Cleveland, Ohio to Cheswick, Pennsylvania:

Valley Freight Lines, Inc
P.O. Box 231
New Castle, Pennsylvania
Attn: Mr. R.K. Frampton
General Traffic Manager

c. Point of Transfer:

Valley Freight Lines, Inc
901 Clark Street
Cleveland, Ohio

C O P Y

7. Certifications:

The following certifications will be obtained from each carrier in writing prior to the making of the first shipment:

(a) " No cargo containing other special nuclear material will be transported in the same vehicle. (General cargo may be transported with this vehicle)."

(b) " At the point of inter-change with the connecting carrier no other special nuclear material will be placed within twenty (20) feet of these shipments while on your dock".

Since the material to be shipped is classified (Confidential Restricted Data) the following certification will be required:

(c) " This shipment will be transported in Sealed Van Service throughout. "

8. Notifications:

a. Bills of lading will be marked with the above certifications to place the carrier on alert at the time, of these requirements. The first carrier will carry this information on freight bills so that the connecting carrier is also alerted to these requirements.

b. A telegram notification of each shipment will be sent to the consignee at the time of each shipment.

Please expedite this request.

Very truly yours,
MINNESOTA MINING & MANUFACTURING CO

William E. Rose
Supervisor, Nuclear Materials Control

[illegible]
[illegible]

APR 16 1965

Westinghouse Electric Corporation
1 Gateway Center
P. O. Box 2870
Pittsburgh, Pennsylvania 15230

Attention: Mr. C. F. [illegible]
License Administrator

Gentlemen:

[illegible]
Special Nuclear Material License No. SNM-[illegible] and confirms the telephone conversation on March 22, 1965, between Mr. [illegible] Barnes and myself. The reference to your application dated November 13, 1964, pertains only to the emergency plan which was submitted in this application.

Very truly yours,

Donald A. Nussbaumer, Chief
Source and Special Nuclear Materials
Branch
Division of Materials Licensing

DISTRIBUTION:
Doc. Rm.
Br. & Div. rfs
Compliance (2) HQRs
Suppl.
R. Layfield, ML

ML ML
RLayfield/jc DNussbaumer

ITEM # 114

UNITED STATES
ATOMIC ENERGY COMMISSION
WASHINGTON, D.C. 20545

IN REPLY REFER TO:
DML:RLL
70-337

APR 7 1965

Westinghouse Electric Corporation
3 Gateway Center
Box 2278
Pittsburgh, Pennsylvania 15230

Attention: Mr. C. F. Skillern
License Administrator

Gentlemen:

This refers to your application dated March 8, 1965, requesting amendment of Special Nuclear Material License No. SNM-33 to authorize the fabrication of SENA Rods and Assemblies.

The basic criteria for nuclear safety of fuel assembly storage are (1) 12 inches edge-to-edge spacing between assemblies to assure isolation under fully-flooded conditions and (2) subcriticality of single, water-moderated and reflected assemblies. However, you have not provided any information concerning the possibility of neutron interaction between partially moderated assemblies. This condition might result from wetting of the assembly arrays by a fire sprinkler system. Accordingly, please submit a nuclear safety analysis for fuel assembly storage taking the above comments into consideration.

On page 12 of this application, regarding the safe slab thicknesses for UO_2 powders, it is stated that the limits will be 5.7 inches (3.75 w/o U-235), 6.1 inches (3.35 w/o U-235) and 6.5 inches (2.95 w/o U-235). It is further stated that these limits are within the permissible limit for 6 w/o (U-235) uranium powder as shown in K-1019, Rev. 5, Table XIII. In reviewing this table, we determine a thickness of 4.5 inches which is less than any of the above quoted safe slab thicknesses. Please clarify.

Very truly yours,

DISTRIBUTION:
Doc. Rm.
Br. & Div. rfs
Compliance (2) HQRs
Suppl.
C. Luke, ML
R. Layfield, ML

Donald A. Nussbaumer, Chief
Source and Special Nuclear Materials Branch
Division of Materials Licensing

C/113

ITEM # 115

From CO - Hdqrs:

PART 70 INSPECTION

BY: Hilbert W. Crocker, Inspection Specialist (Criticality)
Division of Compliance

DATE: November 12, 1964

TITLE: PART 70 INSPECTION, WESTINGHOUSE ELECTRIC CORPORATION, PITTSBURGH, PENNSYLVANIA - LICENSE NO. SNM-338 (DOCKET NO. 70-337)
INSPECTION DATE: OCTOBER 28 - 29, 1964

INTRODUCTION

1. An announced inspection was made of the subject licensee's facilities at Cheswick, Pennsylvania on October 28 - 29, 1964 by H. W. Crocker, Region III, Division of Compliance. The purpose of the inspection was to determine the adequacy of the licensee's nuclear safety program and status of compliance to the 10 CFR 70 Regulations and conditions of License No. SNM-338.

2. No items of noncompliance or unsafe practices were observed.

DETAILS

Scope

3. The licensee's nuclear safety program and practices were discussed with Messrs. R. E. Bish, P. J. Koppel, F. Cellier, R. E. Tschiegg, W. Piros, and R. J. French. Messrs. Bish, Tschiegg, and Piros accompanied the inspector on the plant tour.

Organization

4. Mr. Piros continues to be responsible for furnishing health physics services and nuclear safety enforcement for the fuel fabrication facilities which are under Mr. Bish. Mr. Tschiegg is the license representative for the Atomic Power Division. Mr. Tschiegg stated that all license amendments generated by the various corporate divisions are now given a final review by Mr. E. C. Barnes or C. P. Skillern, the license administrators. The purpose of the final review is to pinpoint license amendment deficiencies and provide a uniform presentation to the AEC. An organization chart for the Atomic Power Division is attached as Appendix A.

Process

5. The licensee is currently processing UO_2 fuel, 2.8% enriched in U^{235} for Consolidated Edison Corporation. This work was started about four weeks ago, and represents the first fuel processing since early

- continued -

C/116

ITEM # 116

(H)

in the year. The licensee is now embarking on a very active fuel processing schedule which is expected to continue for at least three years. Most all the fuel orders are for UO_2 fuels with less than 5% U^{235} enrichment. Small orders of highly enriched fuel, enriched to 93% U^{235}, will be processed in the developmental laboratory.

6. A 28,000 sq ft building addition is now in construction at the Cheswick site. This addition will more than double the size of the fuel processing facilities. Present plans are to provide conveyors to eliminate manual handling operations as much as possible and provide adequate space to eliminate congestion around the processing stations. The major portions of the plant expansion will be completed within six months.

7. A scrap recovery system is also included in the expansion program. Mr. Bish stated that this system will be activated in the latter part of 1965. They plan to use geometry control for criticality prevention in the recovery plant. A tri-butyl phosphate (TBP) extraction system will be utilized for the uranium recovery operation. Only internally generated scrap will be processed; Mr. Bish stated that they are definitely not interested in doing customer scrap recovery.

8. An inspection of the processing area showed that the SNM was being handled in accordance with license conditions. The processing stations were adequately labeled as to SNM processing limits. The present fuel manufacturing process consists of the following operations: a) blending UO_2 with binder, b) pressing into pellets, c) sintering at 1700 C, d) size grinding, e) inspection, f) fuel loading, g) fuel weld and inspection, and h) fuel assembly. It was noted that the fuel processing line was very neat, all SNM storage was in order, and all material batches clearly labeled. The only wet operation on exposed fuel is the pellet size - grinding step. Nuclear safety at this step is provided by a fixed volume (<4.8 liters) liquid reservoir on the grinding lubricant stream.

Inventory

9. All the work in the Fuel Manufacturing and Development component is under Regulatory review. Approximately 247 kg of U^{235} (most all material <5% enriched in U^{235}) was on hand at the time of the inspection.

Control

10. Mr. Bish stated that all new employees are given a nuclear safety orientation prior to working in the uranium facilities. In addition,

- continued -

special nuclear safety instructions are provided to cover any job procedure changes.

11. Mr. Cellier has the responsibility of contacting the nuclear safety specialists to obtain criticality control evaluations for the processes used in Fuel Manufacturing and Development. Mr. French is in charge of the criticality evaluations for the site. Mr. French stated that he used to do the calculations himself, but that a Mr. P. Lacey now does the actual calculations. Mr. Lacey has been making the criticality evaluation analyses for almost a year. Mr. Lacey has had extensive experience in reactor design and in comparing reactor design calculations with experiments. Mr. French stated that he provides a judgement type review of Mr. Lacey's evaluations. Mr. French has been in this work since 1956 and has had considerable experience with low enriched uranium systems. His group is in the process of publishing a paper titled "Criticality Calculations For Uniform Water Moderated Lattices" which covers their computor calculation procedure for uranium with low U^{235} enrichments.

12. Mr. Bish stated that a management inspection is made of the fuel processing system each week. Messrs. Bish, Cellier, Koppel, and Bossick are on the inspection team. In addition, Mr. Piros and Mr. Lacey accompany the inspectors once each month. The findings of the inspection team are permanently recorded. The inspection covers nuclear, radiological, and general safety. A review of the reports from past inspections showed that corrective action was taken to improve any deficiencies detected by the inspectors.

13. They have not had a practice evacuation since early in the year. Mr. Bish stated the reason for not having one was that the processing operations were shut down from about March until September.

Summary Discussion

14. A summary discussion was held with Mr. Bish and Mr. Tschiegg at the termination of the inspection. Some of the problems associated with uranium recovery operations were discussed. Mr. Bish stated that the addition of the solvent extraction recovery system presents additional nuclear safety problems for their plant and that they plan to make a very careful review of all phases of the recovery operation before proceeding with the equipment installation.

- continued -

15. The desirability of practice evacuation drills was discussed. Mr. Bish stated that he plans to have an unannounced practice evacuation in November, 1964. Mr. Bish stated he prefers unannounced type practice evacuations for his plant.

Conclusion

16. The licensee appears to have an adequate nuclear safety program. The management safety inspection and follow-up program appears to provide an effective policing system. Both management type and operator type employees appear to have a good understanding of their job responsibilities.

17. The inspector was favorably impressed with the tidy appearance and well thought out equipment arrangement in the fuel fabrication facilities.

Attachment:
Appendix A

cc: R. B. Chitwood, Division of Compliance, HQ
E. R. Price, Division of State & Licensee Relations
L. Johnson, Division of Materials Licensing
W. J. Cooley, Division of Compliance, Region V
W. G. Browne, Division of Compliance, Region I
H. W. Crocker, Division of Compliance, Region III

APPENDIX A

WESTINGHOUSE ELECTRIC CORPORATION 76-D
Atomic Power Division
Reactor Engineering & Materials Department
9/64

- Atomic Power Division - J. C. Rengel, General Manager
  - Reactor Engineering & Materials Department - P. G. DeHuff, Manager
    - Assistant to the Manager - N. R. Nelson
    - Reactor Development - W. E. Abbott, Manager
      - Reactor Physics - G. H. Minton, Manager
      - Reactor Evaluation - D. F. Hanlen, Manager
      - Reactor Engineering - A. G. Thorp II, Manager
        - Advisory Engineer - L. S. Tong
        - Mechanical Analysis - E. Paxson, Manager
        - Thermal & Hydraulic Development - A. A. Bishop, Manager
        - PWR Thermal & Hydraulic Design - E. A. McCabe, Manager
        - Mechanical Design & Development - H. N. Andrews, Manager
          - Reactor Internals Design - B. L. Silverblatt, Manager
          - Mechanical Development - N. J. Georges, Manager
          - Core Mechanical Design - S. Kmonk, Manager
      - Nuclear Engineering - H. W. Graves, Jr., Manager
        - Nuclear Operations Analysis - F. L. Langford, Jr., Manager
        - Nuclear Design - R. J. French, Manager
          - Nuolear Core Design - D. L. Miller, Manager
          - Nuclear Fuel Design - J. D. McGaugh, Manager
          - Nuclear Development - L. E. Strawbridge, Manager
    - Fuel Manufacturing & Development - R. E. Bish, Manager
      - Fuel Fabrication Development - R. W. Brown, Manager
      - Superintendant - P. J. Koppel
      - Manufacturing Engineering - F. Cellier, Manager
      - Quality Control - R. H. Rahiser, Manager
      - Production Planning & Control - B. J. Bossick, Manager
    - Manufacturing Engineering - J. F. Chalupa, Manager
      - Quality Control - R. B. Bremmer, Manager
      - Drafting - C. G. Taylor, Manager
      - Core Manufacturing - E. F. Manning, Foreman
    - Materials & Processes Development - R. J. Allio, Manager
      - Materials & Processes Engineering - W. S. Hazelton, Manager
      - Irradiation Design & Testing - H. M. Ferrari, Manager
      - Advanced Materials

ITEM # 117

117

UNITED STATES
ATOMIC ENERGY COMMISSION
WASHINGTON, D.C. 20545

IN REPLY REFER TO:
DML:HLL
70-337

JUN 10 1964

Westinghouse Electric Corporation
3 Gateway Center
Box 2278
Pittsburgh, Pennsylvania

Attention: Mr. C. F. Skillern

Gentlemen:

This refers to your application dated May 19, 1964, requesting renewal of Special Nuclear Material License No. SNM-336.

Since the renewal application was filed more than thirty (30) days prior to the expiration date of the license, pursuant to 10 CFR 70.33, License No. SNM-336 shall not expire until the application has been finally determined by the Commission. The estimated date for completion of a revised application is satisfactory.

Very truly yours,

Donald A. Nussbaumer, Chief
Source and Special Nuclear
Materials Branch
Division of Materials Licensing

DISTRIBUTION:
Doc. Room
Compliance
Suppl.
Br. & Div. RFs

ITEM # 118 C/118

RSC Cleveland

JUN 8 1964

W.K. Browne

Files

G. W. Kerr, Enforcement Branch
Division of State and Licensee Relations

ad

COMPLIANCE INSPECTION REPORT FOR
WESTINGHOUSE ELECTRIC CORPORATION
PITTSBURGH, PENNSYLVANIA
INSPECTION CONDUCTED ON JANUARY 7-8, 1964

LICENSE NOS. SNM-33 DOCKET NOS. 70-43
SNM-338 70-337
SNM-576 70-536
37-497-16

SLR:CWK

We do not plan to correspond with the licensee regarding the use of the WTR cask which had an insufficient void volume. Drawing No. ED SK 282 584 J-SUB 6, submitted with the licensee's letter dated December 12, 1961, clearly indicates the use of a false bottom to provide void volume in lieu of the triangular sections at the base of the cask as originally shown on Drawing No. ED SK 232 584 J-SUB 3. The Division of Licensing and Regulation did not question the need for additional void volume due to this modification of the cask design. In addition, there appears to be a discrepancy in the amount of void volume to be provided as represented in Section 3.1.5 and Page D-1 of Appendix D of Amendment II to WCAP-1762 dated January 29, 1962. Finally, the licensee corrected this discrepancy when the cask was modified for shipment of spent Saxton fuel.

cc: Compliance Div., HQ (2)

SIGNED CONCURRENCE COPY IN DOCKET NO. 70-43

SLR:KB SLR:KB
GWKerr:lna RGPage

6-5-64

c/119

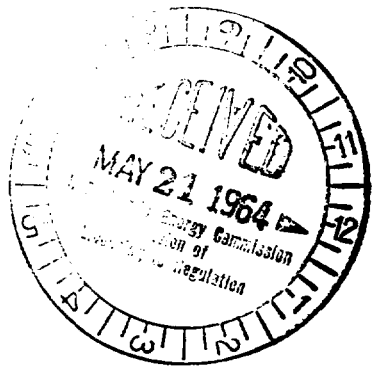
R-I ITEM # 119

Westinghouse Electric Corporation

3 Gateway Center
Box 2278, Pittsburgh, Pa. 15230

May 19, 1964

U. S. Atomic Energy Commission
Division of Materials Licensing
Washington, D. C., 20545



Attention: Mr. Lyall Johnson, Acting Director

Reference: DML:DN 70-337

Gentlemen: For Div. of Compliance

Westinghouse desires to renew the Special Nuclear Materials License SNM-338, Docket 70-337. Because the license expires June 30, 1964, and we are in the process of preparing an amendment request involving a general revision of this license which will not be ready for transmittal before the expiration date, we desire the provisions of the existing license be effective until the details of the license revision can be arranged and submitted with subsequent approval. It is anticipated we will need an additional 150 days to complete this application.

If you have any questions, please call me collect 412-391-2800, Extension 3449, or write to the above address.

Very truly yours,

C. P. Skillern

C. P. Skillern
License Administrator

C/120

ITEM # 120

OPTIONAL FORM NO. 10
5010-104

UNITED STATES GOVERNMENT

Memorandum

TO : Jack R. Roeder
Radiation Specialist (Supervisory)
Division of Compliance, Region I

DATE: MAR 2 0 1964

FROM : Hilbert W. Crocker, Inspection Specialist (Criticality)
Division of Compliance, Headquarters

SUBJECT: PART 70 INSPECTION, WESTINGHOUSE ELECTRIC CORPORATION, PITTSBURGH, PENNSYLVANIA - LICENSE NOS. SNM-38, SNM-333, SNM-576 AND 37-497-16

Attached are the results of the inspection of the subject licensee made by H. W. Crocker and R. B. Chitwood on January 7 and 8, 1964. R. B. Chitwood has made the technical review for this report. In general, we feel that the operations are being conducted in a manner that demonstrates a high level of competency.

We did not observe any items of noncompliance.

A vault and weighing box in a contract work area at Cheswick were deficient in posted limits. The licensee representatives indicated that these situations would be corrected before the end of the workday. See page 4 of the report for pertinent details.

The absence of suitable instrumentation to detect a nuclear excursion of the magnitude postulated in 10 CFR 70.24 in a hot cell was questioned. The licensee had received exemption from 10 CFR 70.24. See page 4 of the report for the details.

The work at the APD sites has been limited in the past to dry systems. However, the new facilities being constructed at Cheswick will include a recovery system which will involve solution chemistry operations. The addition of SNM solution handling will pose additional criticality prevention problems.

H. Walchli was questioned about the construction of the WTR tank in that it apparently did not have the void volume for lead expansion which was required by the original conditions for License No. SNM-576.

Attachment:
Copy rpt dtd 1/17/64

cc: W. J. Cooley, CO:V, w/att

c/121

ITEM # 121 (1)

PART 70 INSPECTION

BY: Hilbert W. Crocker, Inspection Specialist (Criticality)
Division of Compliance, Headquarters

DATE: January 17, 1964

TITLE: WESTINGHOUSE ELECTRIC CORPORATION, PITTSBURGH, PENNSYLVANIA
LICENSE NOS. SNM-38, SNM-338, SNM-576 AND 37-497-16

A. INTRODUCTION

A visit was made to the Westinghouse Electric Corporation facilities at Forest Hills, Waltz Mill, and Cheswick, Pennsylvania, on January 7 and 8, 1964, by Messrs. R. B. Chitwood and H. W. Crocker of Headquarters, Division of Compliance. The purpose of the visit was to inspect the licensee for compliance, with particular emphasis on criticality prevention practices. No items of noncompliance were noted in the course of the visit.

B. DETAILS

1. Scope

Discussions were held with the licensee's management concerning administrative practices, emergency procedures, employee training and SNM handling practices. The licensee's management personnel contacted on the visits are listed below.

APD - Forest Hills Plant (SNM-38)

H. C. Amtsberg, Manager, Administrative Service Department
E. C. Barnes, Director, Corporation Radiation Protection
R. E. Tschiegg, Licensing Coordinator, A. S. D.

APD - Waltz Mill Plant (37-497-16)

N. E. Gordon, Manager, Technical Service Laboratory
D. T. Galm, Supervisory Engineer, T. S. L.
A. T. Sabo, Supervisor, Safety and Industrial Hygiene, T. S. L.
P. Bordell, Health Physicist, T. S. L.

APD - Cheswick Plant (SNM-338)

R. E. Bish, Manager, Fuel Manufacturing and Development
P. J. Koppel, Consulting Forester, T. M. D.
L. A. Niederkord, Manager, Mobile Fuel Division
W. Piros, Health Physicist, M. F. D.

(continued)

APD - (SNM-57C)

H. Walchli, Supervisor, Fuel Service, APD

The inspectors were accompanied to all sites by A. T. Sabo and R. E. Tschiegg.

2. Atomic Power Division

a. Organization

The organizational structure for the Atomic Power Division is attached as Appendix A.

Organizationally, each plant site is staffed with health physics, safety and security personnel. However, since a given plant site may have several organizational divisions at the location, a specific division is selected to perform the health physics, safety and security functions for the entire plant site, and in some cases, for more than one plant site.

The Technical Service Laboratory provides health physics, safety and industrial hygiene services for Forest Hills and Waltz Mill. A. T. Sabo is supervisor for Safety and Industrial Hygiene. In addition, it is Mr. Sabo's responsibility to assure that the Cheswick APD personnel are provided with adequate services from the A. F. D. Safety and Industrial Hygiene group which serves the entire Cheswick facility.

R. J. French provides criticality guidance for the APD facilities at Forest Hills, Cheswick and Waltz Mill. In practice, division personnel develop the operating requirements and submit the information to Mr. French, who in turn furnishes the required criticality limits and directions. The limits provided by R. J. French are evaluated by the Health Physics group and the Site Safeguards Committee (composed of six management group heads located at that particular plant). In addition, independent nuclear and general safety audits are conducted by E. C. Barnes. While this type of practice has been in effect in the past, it is now being set up on a formal basis with each plant site equipped with a Site Safeguards Committee.

b. Control

Hanford-type meters have been received and are being installed throughout the Forest Hills, Waltz Mill and Cheswick plants.

(continued)

Formal evacuation procedures have been prepared for each of the three APD sites. Copies of emergency evacuation procedures were obtained from each site, except Cheswick. The procedures for Cheswick are currently being revised. Daily independent criticality control checks are made at each operative station by supervision and the site Health Physicist.

3. APD - Forest Hills Plant (SNM-38)

The active work at Forest Hills consists of inspecting the SNAP control rod followers. An SNM inventory of 6 kg U-235, as UO_2 pellets, at <10% enrichment, was on site. The Technical Service Laboratory has been relocated to Waltz Mill and the SNM inventory at Forest Hills is expected to diminish to less than 250 g by February 1, 1964. A new SNM-38 license application for approximately 250 g SNM to cover all Forest Hills activity is being drafted. Future Forest Hills activity will include small scale development and analytical work.

4. APD - Waltz Mill Plant (37-497-16)

Post irradiation studies on Yankee elements are in progress at Waltz Mill (Hot Irradiation Facility). Fourteen fuel assemblies are in the storage pool. About 56 rods will be removed from the assemblies for the hot cell examination activity. Up to the time of our inspection, only Yankee elements have been examined. One Santee assembly has been received and is still located in the cask on the truck trailer.

The normal procedure for inspection of fuel rods is to transfer the rod from the storage pool through the canal and then into the hot cell which is located above the canal. Fuel elements are then punctured and the fission gas is collected for analysis. A gamma traverse is then made over the entire length of the fuel element using a gamma monitor equipped with print out. Selected sections of the fuel element (determined from gamma scan) are then cut out of the element for examination. The examination includes metallographic work and in many cases, dissolution for complete analysis of the fuel specimen.

Hot cell UO_2 pellet dissolution is accomplished using 200 ml nitric acid per pellet. Solutions are stored in one-gallon cans (ca. 80 g uranium per can) with two cans placed in the lead-concrete cask for transfer to a recovery agent.

The Technical Service Laboratory analytical equipment is currently being relocated at Waltz Mill. They will be using X-ray Fluorescent

(continued)

as a method for determining the plutonium-to-uranium ratio in irradiated fuels. Relatively pure Pu^{239} samples will be used for standards. They expect 1.5% accuracy in the determination.

If a nuclear excursion of the magnitude postulated in 10 CFR 70.24 took place in one of the hot cells, it would not be detected by the gamma monitors located behind or in front of the cells. The licensee does have an approved exemption from 10 CFR 70.24 covering the hot cell operation. However, this brings up a point--neutron monitors installed at hot cells would detect such a postulated excursion. The chance of accidental exposure of personnel to radiation if a cell door is opened during criticality would be minimized if a neutron detection instrument is used.

Concern was expressed by licensee supervision over the gradual discoloration of the hot cell windows. The windows have been exposed to megacurie amounts of gamma radiation from a cobalt source. They have contacted Corning Company for removal and surface polishing of the glass, but Corning personnel are unwilling to guarantee the job because static discharge may cause the expensive window to break. From this situation, a person may wish to consider the consequences of a static discharge during normal hot cell operation--what is the possibility of the window breaking?

5. APD - Cheswick (SNM-338)

Past practice of the licensee has been to fabricate the first reactor cores at Forest Hills and to fabricate repeat cores at Cheswick. Fabrication work at Forest Hills has been terminated. All conversion, fabrication and fuel assembly is currently done at the Cheswick plant.

Contract work is also being conducted at Cheswick by the Atomic Fuels Division. In one area of the plant, contract and license work are both being performed. Inspection revealed that the SNM for license and contract work are handled according to approved amendments.

Two items were noted in the contract work area at Cheswick; the vault limit on 93% U^{235} storage was not posted, and the weighing box was posted with a 350 g limit. Packages from the vault (containing more than 350 g SNM) are brought into the weighing box, 350 g weighed out for fuel makeup and the remaining UO_2 packed and returned to the vault. Thus at a given time, more than 350 g are brought into the weighing box. R. E. Dish

(continued)

assured us that the proper limits would be posted in the vault and weighing box before the end of the workday.

Additional fuel conversion, assembly and recovery facilities are being constructed at Cheswick. The new facilities are [illegible] and will be license facilities. The proposed recovery [illegible] involve dissolution, solvent extraction and/or ion exchange, precipitation, drying and reduction operations. The introduction of solution chemistry operations at Cheswick represents a significant change from the strictly dry systems presently in operation. A new license application for SNM-338 is currently being developed for the Cheswick APD plant.

6. WTR Cask - SNM-576

[illegible]. Walchli went into detail in explaining the construction and modifications of the WTR cask. The cask was originally constructed with insufficient void volume for lead expansion. According to Walchli, this error was discovered after all WTR fuel had been shipped to ICPP, when the cask was weighed in connection with the preparation of an amendment to the extant license which would authorize the shipment of fuel from Saxton to the Waltz Mill Post Irradiation Evaluation Facility. The cask assembly was found to be overweight. Rechecks on the calculated weight from fabrication drawings indicated the cask weight should be substantially less than the actual observed weight. The originally desired void volume had been partially filled with lead and to provide adequate void volume, additional box-type sections were added to the cask (accompanied by proper hole drilling into the cask inside the box additions).

7. Summary Discussion

A summary discussion was held with management members at the end of the inspection. Licensee management displayed full cooperation concerning correction of the vault and weighing box deficiencies.

Licensee personnel stated that they felt the present license is somewhat restrictive and that they are interested in obtaining a broader type of license. Their interest had developed to the point that they ordered and received from the public document room a copy of General Electric's application for a broad license at Vallecitos. They indicated that they will be following the progress of General Electric's application with considerable interest.

Westinghouse personnel stated that they may again review the practicality of [illegible] detection instrument for excursion detection in the [illegible] cells.

(continued)

3. CONCLUSIONS

The operations of APD at Forest Hills, Waltz Mill and Chestwick appear to be conducted in a well-organized manner. It appears that the licensee has an adequate program for criticality prevention and that inspection and enforcement are performed by qualified personnel. The overall safety program appears to be adequate for the operations conducted in their facilities.

Attachment:
Appendix A

UNITED STATES
ATOMIC ENERGY COMMISSION
WASHINGTON 25, D.C.

Distribution:
Compl., 2 cys Hdqtrs w/o inc.

IN REPLY REFER TO:

DLR:RLL
70-337

JAN 9 1963

Westinghouse Electric Corporation
Atomic Fuel Division
Cheswick, Pennsylvania

Attention: Mr. L. A. Meierkord, Jr.
Manager of Marketing

Gentlemen:

This refers to the portions of your applications dated July 11, September 26 and October 18, 1962, pertaining to the shipment of wastes resulting from the processing of special nuclear materials.

In order to continue the review of your shipping procedures and containers, we require the applicable information outlined in Items IV and V of the enclosure.

Very truly yours,

Donald A. Nussbaumer, Chief
Source and Special Nuclear Materials Branch
Division of Licensing and Regulation

Enclosure:
As indicated

From SO - Hdqtr.

DOCKET No. 70-337

For Div. of Compliance

Westinghouse Electric Corporation

December 4, 1962

United States Atomic Energy Commission
Division of Licensing and Regulation
Washington 25, D. C.

Attention: Mr. D. A. Nussbaumer, Chief
Special Nuclear Materials Branch

Dear Sir:

The following supplementary information is provided for the Amendment to License SNM-338 for SELNI Core "Fuel Assembly" request. Per my conversation with Mr. R. Layfield of your office, the following points are clarified.

1. Where are the gamma alarms located?

The gamma alarms are located at the intersection of the Assembly Area and the Fuel Area within ten (10) feet of the wall separating these areas from the Tool Storage Area. The gamma alarms are suspended from a rafter about sixteen (16) feet above the floor level. The wall pictured in the "Building #7 SELNI Assembly Layout" is composition board. There are no physical barriers between the Assembly Area, Fuel Area, Inspection Area, and Cleaning Area.

2. How will shipping of scrap be handled?

It is not expected that any uranium bearing process waste will be generated in these operations. However, should any such process waste occur, it will be packaged and shipped in a shipping container that will be approved by your office in a forthcoming Addendum to the Amendment to License SNM-338 for SELNI Core, dated July 10, 1962, Docket 70-337. No packaging or shipping will be done until approval is received.

ITEM # 123

C/123

ACKNOWLEDGED

Form 60 - Hdqrs.

3. Will other Special Nuclear Material be in Building #7, SELNI Assembly Area, during the duration of this project?

It is expected that there will be no other Special Nuclear Material in Building #7, SELNI Assembly Area, during the duration of this project. If the need should arise for other Special Nuclear Material to be in the area, it will be kept nuclear isolated from the SELNI material. The criteria to be used is:

An array of Special Nuclear Material shall be considered isolated from another array of Special Nuclear Material if the separation is greater than the larger of the following distances:

A. Twelve feet; or

B. The greatest distance across an orthographic projection of either array on a plane perpendicular to a line joining their centers.

4. Will WAFD ship the Fuel Assemblies to Westinghouse Atomic Power Division, Forest Hills, Pennsylvania?

WAFD will ship the Fuel Assemblies in approved shipping containers directly to Italy with no stop at WAPD, Forest Hills, Pennsylvania. The shipment procedure and container was submitted for approval by WAPD as "Application for Approval Shipping Container Designs and Transportation Procedures (License SNM-38, Docket 70-43)".

If there are any other questions on the License Amendment request, please feel free to call.

Thank you for your consideration.

Very truly yours,

WESTINGHOUSE ATOMIC FUEL DIVISION

W. D. Kelley

W. D. Kelley
Nuclear Safety Engineer

:ajb

I

70-337

for Div of Compliance

Westinghouse Electric Corporation

Atomic Fuel Department Cheswick, Penna.
Telephones: BRoad 4-6300
EMerson 2-4400

October 2, 1962

Mr. D. A. Nussbaumer
Division of Licensing & Regulation
United States Atomic Energy Commission
Washington 25, D. C.

Dear Mr. Nussbaumer:

This letter is to advise you of a change in destination for encapsulated and sealed rods shipped under amendment to License SNM-338 for SELNI Core, WAFD-L-102, July 10, 1962.

The SELNI rods were to be shipped to Westinghouse Atomic Power Division, Forest Hills, Pennsylvania, on a Westinghouse vehicle, exclusive use service. The rods will now be shipped to L & S Machine Co., Latrobe, Pennsylvania.

There will be no change in shipping arrangements or shipping containers.

Thank you for your cooperation.

Very truly yours,

WESTINGHOUSE ATOMIC FUEL DIVISION

William D. Kelley

W. D. Kelley
Criticality Engineer

:ajb

NYOO COMPLIANCE DIVISION
OCT 8 1962
RECEIVED

RECEIVED
OCT 4 1962
U.S. Atomic Energy Commission
DIVISION OF
LICENSING & REGULATION

C/124

ITEM # 124

9458

UNITED STATES
ATOMIC ENERGY COMMISSION
WASHINGTON 25, D.C.

IN REPLY REFER TO:

LRs:DCD
70-337

Westinghouse Electric Corporation
Cheswick, Pennsylvania

Attention: Mr. L. A. Meierhord, Jr.

Gentlemen:

As requested by your teletype of September 19, 1962, we will consider your request of August 29, 1962, for license amendment cancelled.

Your cooperation in advising us that this amendment is no longer required is appreciated.

Very truly yours,

Donald A. Nussbaumer, Chief
Source and Special Nuclear Materials Branch
Division of Licensing and Regulation

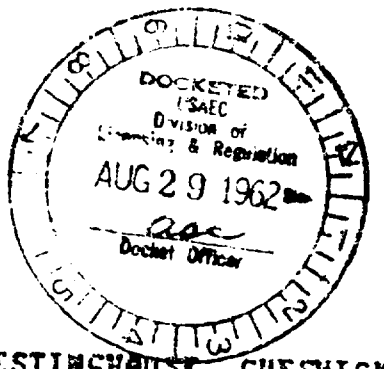
Distribution:
Compliance (Hdqrs) 2 copies w/cy ltr dtd 9/19/62

9/24/62

From CO - Hdqrs.

C/125

ITEM # 125



TWX INCOMING

ITEM # 126

1962 AUG 29 AM 11:09

WESTINGHOUSE, CHESWICK, PENNA. SPDA PA 959 CLG U.S. 8/29/62 11:09 EDST

WEC-6

TO MR B MUSSBAUMER USAEC DIVN OF LICENSING AND REGULATIONS

CC MR R LANGFIELD USAEC " " " "

DOCKET NO. 70-337

FM MR L A MEIERKORD, JR. MGR OF MARKETING, WAFD

For Div of Compliance

WESTINGHOUSE ELECTRIC CORPORATION, ATOMIC FUEL DIVISION, CHESWICK, PENNA. REQUEST A 90 DAY TEMPORARY AMENDMENT TO LICENSE NUMBER SNM-338 TO PRESS AND SHEAR 49 WTR SCRAP FUEL ASSEMBLIES INTO PIECES SMALL ENOUGH FOR RECLAMATION.

THESE 49 WTR SCRAP FUEL ASSEMBLIES /209 GRAMS U-235/ ASSEMBLY/ WILL BE TRANSFERRED FROM WTR, WALTZ MILLS, PENNSAYLVANIA TO WAFD, CHESWICK PENNSYLVANIA VIA EXCLUSIVE USE OF WESTINGHOUSE TRUCK.

THESE FUEL ASSEMBLIES HAVE NOT BEEN IN A REACTOR. THEY WERE, HOWEVER, UTILIZED IN A CRITICAL EXPERIMENT IN WHICH THEY UNDERWENT FISSION AS FOLLOWS..

PEAK FLUX IN WHICH OPERATED IS CONSERVATIVELY ESTIMATED TO HAVE BEEN A MAX OF 10 9 NEUTRONS PER SQUARE CENTIMETER PER SECOND, TOTAL INTEGRATED POWER ESTIMATED TO HAVE BEEN 50 KWS/HRS. TOTAL TIME AT FLUX APPROXIMATELY 500 HOURS. THIS CRITICAL EXPERIMENT WAS SHUT DOWN ON 3/21/62. ACTIVITY LEVEL ON 8/27/62 WAS 20MR/HR AT 2 INCHES AND 8/HR /HR AT 12 INCHES FROM THE SURFACE OF THE HOTEST ASSEMBLY.

C1126

XXXXXX CORRECTION

UNDER ITEM 1 ENTITLED SHIPMENT PLEASE CHANGE LINES 5 &6

TO READ AS FOLLOWS..

NUCLEAR SAFETY DURING TRANSIT IS CONTROLLED BY POISON AND BY NOT PERMITTING THESE SHIPPING CONTAINRXXX CONTAINERS TO BE STACKED ONE ON TOP OF ANOTHER .

END TU HPM

R 1 TNX PWS END

TWX INCOMING

8636

1

WESTINGHOUSE ATOMIC FUEL 412 374-3651 SEPTEMBER 11, 1962

APT-4

TWX INCOMING

DOCKETED USAEC Division of Licensing & Regulation SEP 11 1962 Docket Officer

1962 SEP 11 PM 3 47

For Div of Compliance

U.S. ATOMIC ENERGY COMM. TWX CTR

TO MR D NUSSBAUMER

DIVISION OF LICENSING

WASHINGTON, D.C.

PERMISSION IS REQUESTED TO STORE LOADED AND WELDED YANKEE-3 FUEL RODS MANUFACTURED UNDER AMENDMENT 70-337 TO LICENSE SNM-338 UNDER STORAGE CONDITIONS APPROVED BY AMENDMENT 70-337 /SAFE ~~SCAB~~ SLAB THICKNESS OF 2 1/2" MAX., 12 " MIN. SEPARATION OF SCABS/ BUT IN AN AREA TEMPORARILY NOT COVERED BY GAMMA ~~ALARMS~~ ALARMS. SPECIAL CONDITIONS TO ASSURE SAFE STORAGE ARE.......

1. STORAGE WILL BE IN A LOCKED ROOM WITH INGRESS AND EGRESS AND LIMITED CONTROLS.

2. THE ROOM IS IN THE DEVELOPMENT LABORATORY BUILDING WHICH IS ONLY PARTIALLY OCCUPIED AND WHICH ITSELF IS THEREFORE A LIMITED ACCESS BUILDING. THIS BUILDING IS SEPARATED FROM ALL MANUFACTURING BUILDINGS.

3. USE OF THIS ROOM WILL BE LIMITED TO STORAGE OF YANKEE-3 FUEL RODS ONLY.

4. GAMMA ALARMS WILL BE INSTALLED IN THIS AREA BY OCT. 29, 1962.

ITEM # 127 9127

5. CRITICALITY AUDITS OF THIS ROOM WILL BE MADE DAILY.

YOUR EARLY ATTENTION TO THIS REQUEST IS RESPECTFULLY REQUESTED AND WILL BE SINCERELY APPRECIATED.

TM I A MEYERHORD, JR,

MANAGER OF MARKETING

WESTINGHOUSE ATOMIC FUEL DIVISION

CHESWICK, PENNA.

ONE CORRECTINONE CORRECTION FIRST PARAGRAPH FIFTH LINE FIFTH WORD SHOULD BE

XXXX ALARMS NOT ACARMUS

MSG SENT 5.50 END

RCVD ONE MSG TO OUR END

RECEIVED SEP 17 1962 U.S. ATOMIC ENERGY COMMISSION

TWX INCOMING

WESTINGHOUSE ATOMIC FUEL DIVISION CHESWICK, PENNA.

ON WAFD -3 TWX SENT AT 3.59 TODAY THERE WAS A CORRECTION IN THE FIRST PARAGRAPH THIRD LINE EIGHTH WORD SHOULD HAVE BEEN SLAB HOT SCAN.

MSG SENT S4.25 END

TU LRC 3

C/128

ITEM # 128

Collect

X

X

AUG 16 1962

DONALD A. NUSSBAUMER, CHIEF
SOURCE AND SPECIAL NUCLEAR MATERIALS BRANCH
DIVISION OF LICENSING AND REGULATION
GERMANTOWN, MARYLAND

WESTINGHOUSE ELECTRIC CORPORATION
CHESWICK, PENNSYLVANIA

ATTENTION: MR. W. D. KELLEY
CRITICALITY ENGINEER

UNABLE TO COMPLETE REVIEW YOUR JULY 31, 1962, LETTER IN THAT DRAWINGS ATTACHED THERETO ARE NOT LEGIBLE. ON RECEIPT OF LEGIBLE DRAWINGS WE WILL CONTINUE THE REVIEW. REFERENCE DOCKET 70-337 LR:JCD

Distribution:
Compliance (2)

NYOO COMPLIANCE DIVISION

AUG 21 1962

RECEIVED

JCDelaney/ey
3:15 p.m.
xl693
8-1962

From CO - Hdqrs.

NY

C/129

ITEM # 129

ITEM # 133

1. SHIPMENTS

WTR SHIPPING CONTAINERS /BE 522/ WILL BE USED TO SHIP WTR FUEL ASSEMBLIES FROM WALTZ MILLS TO CHESWICK VIA EXCLUSIVE USE OF WESTINGHOUSE TRUCK. EACH SHIPPING CONTAINER ACCOMADATES TWO WTR FUEL ASSEMBLIES /H O B CRANE U-235/ AND IS LINED WITH A MINIMUM OF 0.002 INCHES OF CADIMUM. NUCLEAR SAFETY DURING TRANSIT IS CONTROLLED POISON AND BY NOT PERMITTING THESE SHIPPING CONTAINERS TO BE STACKED ONE ON TOP OF ANOTHER.

2. PRESSING AND SHEARING OPERATIONS

A. PRESSING

IN THE MANUAL ENTITLED " A CRITICALITY STUDY OF WTR FUEL ASSEMBLIES", IT IS FOUND THAT A MINIMUM OF SEVENTEEN WTR FUEL ASSEMBLIES WILL GO CRITICAL UNDER IDEAL CONDITIONS OF GEOMETRY AND MODERATION. THEREFORE EIGHT WTR FUEL ASSEMBLIES WILL BE WAFD"S CRITICALITY BATCH DURING THE PRESSING OPERATION. THIS IS A 2.1 SAFETY FACTOR.

B. SHEARING OPERATIONS

EIGHT PRESSED WTR FUEL ASSEMBLIES WILL BE BROUGHT TO THE SHEARING OPERATION AT A TIME. THEN EACH WTR FUEL ASSEMBLY WILL BE SHEARED INTO FOUR INCH SQUARE PIECES OR SMALLER. THESE PIECES ARE COLLECTED IN A 5 INCH O.D. CONTAINER AS THEY ARE GENERATED. AFTER EACH 5 INCH O.D. CONTAINER IS FILLED, IT IS TRANSFERRED IMMEDIATELY TO A YANKEE TYPE BIRDCAGE BE-963. THIS BIRDCAGE IS A 5 INCH I.D. CYLINDER. THESE YANKEE BIRDCAGES FILLED WITH SHEARED WTR FUEL ASSEMBLIES WILL THEN BE SENT TO NUMEC, APOLLO, PENNSYLVANIA FOR RECLAMATION. AGAIN NUCLEAR SAFETY IS CONTROLLED BY THE 5 INCH I.D. CONTAINER AND BY NOT PERMITTING THESE BIRDCAGES TO BE STACKED ONE ON TOP OF ANOTHER DURING STORAGE OR SHIPMENT.

C/134

70-337 X

Westinghouse Electric Corporation - 43

ATOMIC POWER DIVISION
P.O. Box 355
Pittsburgh 30, Pa.

June 29, 1962

Division of Licensing and Regulation
United States Atomic Energy Commission
Washington 25, D.C.

Dear Sirs:

Westinghouse Electric Corporation hereby applies for an allocation of special nuclear material to be processed and fabricated for the first core of the reactor which reactor is the subject of Export License XR-44; Docket No. 50-196.

Westinghouse's requirements and the schedule for the withdrawal of such special nuclear material is attached as Appendix A.

The special nuclear material to be allocated would be licensed under License No. SNM-338 issued to Westinghouse with respect to its Atomic Fuel Division in Cheswick, Pennsylvania, License No. SNM-38 with respect to its Atomic Power Division in Forest Hills, Pennsylvania, and under appropriate licenses granted to such fuel processor or processors as may be selected by Westinghouse for the conversion of the UF_6 gas into UO_2 powder. Any necessary applications for amendments to existing licenses will be filed promptly.

Westinghouse recognizes (a) that the grant of the allocation to Westinghouse will not imply a present undertaking by the Commission to authorize its exportation upon completion, and (b) that Westinghouse will be directly responsible to the Commission for use charges or any other Commission applicable charges until such time as arrangements between the Commission and the foreign Government concerned are consummated.

Failure to grant the requested allocation would result in a delay in fabrication of the SELNI core and, therefore, a probable delay in the start-up of the plant.

Very truly yours,

WESTINGHOUSE ELECTRIC CORPORATION

By H C Armstrong

Subscribed and sworn to
before me this 2nd of July, 1962

Mrs Grace F Peebles
Notary Public

7227

ITEM # 134

4/134

Appendix A

1. Total uranium in finished core — 86,560 lbs.

2. Total uranium required for fabrication — 97,800 lbs.

3. Range of enrichments

		Quantity lbs.
Enrichment 1	2.73 w/o	36,000
Enrichment 2	3.12 w/o	30,900
Enrichment 3	3.90 w/o	30,900
	TOTAL	97,800

4. The quantities given are maximum and are based on a 99% powder yield and a 90% pelletization yield. If pelletization yields can be increased to 94% the maximum quantities of each enrichment may be reduced by approximately 1400 lbs/enrichment as determined during the fabrication cycle.

5. The above enrichments are to be withdrawn one enrichment at a time starting with the lowest enrichment until the quantities given above are complete and in accordance with the following schedule:

DATE	LBS. OF URANIUM IN UF_6
August 15, 1962	3,000
September 1, 1962	3,000
September 8, 1962	3,000
September 15, 1962	4,000
September 22, 1962	4,000

Thereafter, Westinghouse will require weekly shipments for some period of time at the rate of 4,000 lbs. U in UF_6 per week. As this rate is commensurate with powder producers' schedules, but faster than Westinghouse requires or can utilize, there will be interruptions in draw-off throughout the nine month period. For planning purposes, from September 22 on, Westinghouse will require material at the average weekly rate of 3,000 lbs. of U in UF_6, but in actual shipments of 4,000 lbs. of U in UF_6 with some interruptions. All material is scheduled to be withdrawn by June 1, 1963.

I

XX COLLECT

AUG 13 1962

USAEC, GERMANTOWN, MARYLAND
DONALD A. NUSSBAUMER, CHIEF
SOURCE AND SPECIAL NUCLEAR MATERIALS BRANCH
DIVISION OF LICENSING AND REGULATION
WESTINGHOUSE ELECTRIC CORPORATION
ATOMIC POWER DEPARTMENT
PITTSBURGH 30, PENNSYLVANIA
ATTENTION: E. C. AMBERG

REFERENCE IS MADE TO OUR TWX OF JULY 31, 1962, AND TO THE AUGUST 2, 1962, TELEPHONE CONVERSATION BETWEEN MR. R. S. CAMPBELL AND DR. LUKE. AS MENTIONED DURING THE CONVERSATION, ADDITIONAL INFORMATION IS REQUIRED to demonstrating safety against ~~ACCIDENTAL CRITICALITY WILL BE TO BE MADE FOR~~ MIXING OF THIS MATERIAL WITH HEN IN RECIRCULING PROCESS, STORAGE AND OTHER AREAS, (E.G., YANKEE CORE III PRODUCTION LINE) SINCE A TWELVE INCH SEPARATION IS NOT A SUFFICIENT GUARANTEE AGAINST INTERACTION. REFERENCE LR:JCD DOCKET 70-43

Distribution:
Formal
Compliance, (2) HDQS

RECEIVED

AUG 14 1962

OFFICE

Delaney/jm
4593
C-177

C/131

ITEM # 131

FM WESTINGHOUSE ATM PWR DIV PGH PA E PG 505 8-7 GOOD AFTERNOON

TO U S ATOMIC ENERGY COMMISSION

DIVISION OF LICENSING AND REGULATION

ITEM # 132

ATTN.. MR DONALD A NUSSBAUMER, CHIEF

SOURCE AND SPECIAL NUCLEAR MATERIALS BRANCH

REFERENCE.. LRCLN JCB DOCKET 70-43 AEC 910

WITH REFERENCE TO YOUR TELEGRAM DATED JULY 31 AND A TELEPHONE CONVERSATION BETWEEN MR. R. G. CAMPBELL OF WESTINGHOUSE AND MR. J. C. DELANEY AND DR. C. D. LUKE, USAEC ON AUGUST 2, CONCERNING QUESTIONS ABOUT THE WESTINGHOUSE APPLICATION FOR AMENDMENT DATED JUNE 5 AND SUPPLEMENTED JULY 26, 1962 THE FOLLOWING INFORMATION IS PRESENTED IN ANSWER TO THE QUESTIONS RAISED IN THE JULY 31 TELEGRAM....

1. IF SIGNIFICANT SCRAP RESULTS FROM THE WORK DESCRIBED IN THE APPLICATION FOR AMENDMENT, THE SCRAP WILL CONSIST OF THE FOLLOWING.. NON-SPECIFICATION PELLETS, CHIPS, BROKEN PELLETS, POWDER, AND VENTILATION SYSTEM FILTERS, IF THE LATTER ARE UNRECOVERABLE. PAST EXPERIENCE WITH PELLET HANDLING AND LOADING OPERATIONS INDICATE AN AVERAGE SCRAP GENERATION OF 1 PER CENT FROM THE TOTAL MATERIAL HANDLED. THIS WOULD RESULT IN A DEVIATION OF 1 PER CENT OF 10 KG OR 0.1 KG OF SCRAP FROM THE ENTIRE LOT OF MATERIAL. A MAXIMUM OF 200 GRAMS U-235 AS SCRAP WILL BE PERMITTED ON THE PLANT SITE AT ANY TIME UNDER THE TERMS OF THIS AMENDMENT.

C/132

2. SCRAP WILL BE COLLECTED AND STORED IN A POLYETHENE LINED 1-GALLONG PAINT CAN. IF THE STORAGE AREA FLOODS AND DRAINS, THE SCRAP STORAGE PAINT CAN MIGHT HOLD WATER. HOWEVER, THERE WILL BE ONLY ONE SUCH CAN ON THE SITE.

3. THE SINGLE SCRAP PAINT CAN WILL BE STORED IN THE PELLET STORAGE RACK, IN A CUBBY HOLE SEPARATED BY 12 INCHES OF FLOODABLE SPACE FROM ALL OTHER SNM.

4. - 6. ALL SHIPMENTS OF SCRAP WILL BE MADE IN ICC SPEC. CONTAINERS IN ACCORDANCE WITH THE MASS LIMITS AND MODE OF SHIPMENT DEFINED IN 10 CFR PART 71. ADDITIONAL SHIPPING PROCEDURES WILL BE PROVIDED IN THE FUTURE IF THE CONDITIONS OF OPERATION PURSUANT TO 10 CFR PART 71 BECOME ONEROUS.

H C ANTSBERG, MANAGER
ADMINISTRATIVE SERVICES

TWX INCOMING

END AND PLS ACK

2

R 1 TNX PWS END

ATOMIC EQUIPMENT DIVISION ORGANIZATION

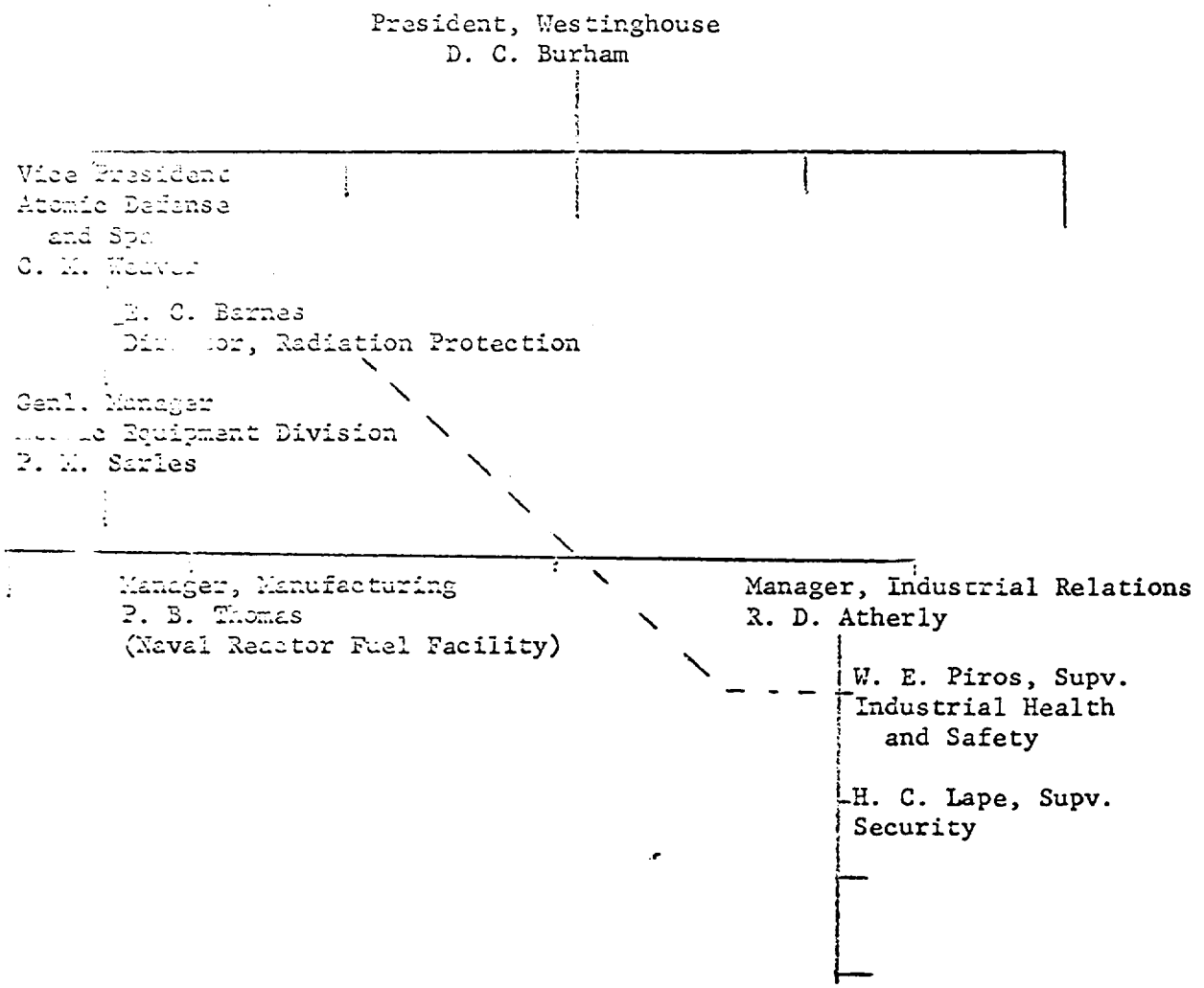


EXHIBIT A

4130

ITEM # 130

70-337

For Div of Compliance

WESTINGHOUSE ATOMIC FUEL SPDA SEL 6-21-62 AFD-21

1962 JUN 21 PM 4 13

U.S. ATOMIC ENERGY COMM.

TO MR. D. NUSSBAUMER, U.S. ATOMIC ENERGY COMMISSION
DIVISION OF LICENSING & REGULATION
WASHINGTON 25, D.C.

ATTN MR. R. L. LAYFIELD

REFERENCE YANKEE - 3 AMENDMENT FOR SNM 336, BE ADVISED THAT A SAFE MASS LIMIT OF 52 POUNDS UO-2 WILL BE APPLIED FOR AIR FILTERS. FILTERS WILL BE CHANGED IF AIR FLOWS /I.E. PRESSURE DROPS/ REQUIRE IT. NORMALLY WHEN AIR FLOW DECREASE REQUIRES FILTER CHANGE, ONLY 5-10 POUNDS TOTAL FILTER WEIGHT INCREASE IS EXPERIENCED.

FROM L. A. MEIERKORD, JR.
MANAGER OF MARKETING
WESTINGHOUSE ATOMIC FUEL DIVISION
CRESWICK, PA.

MSG SENT 4.05 END DONA

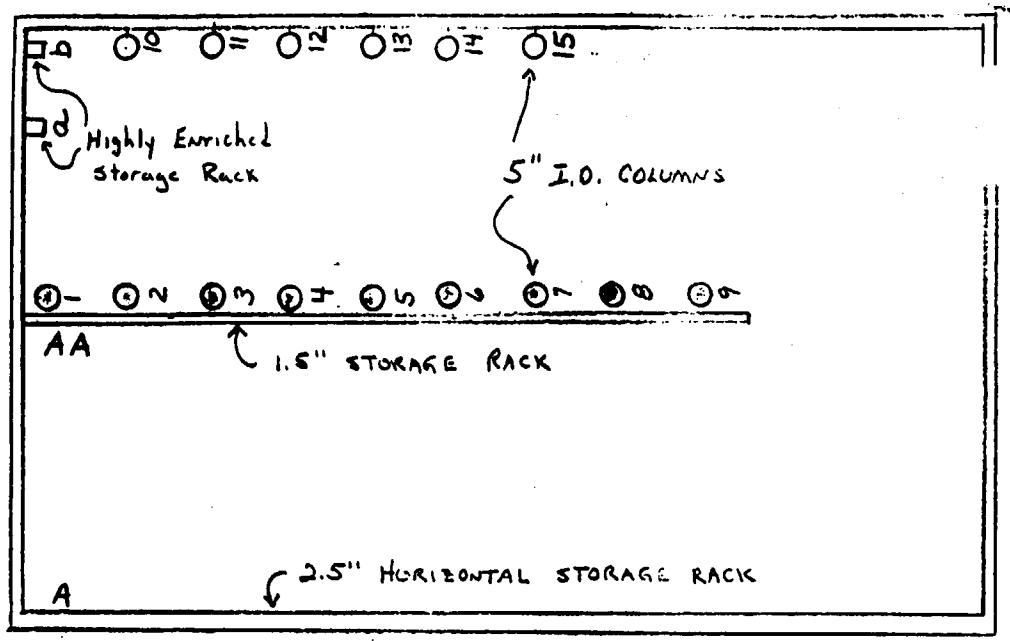
ACK TU EH

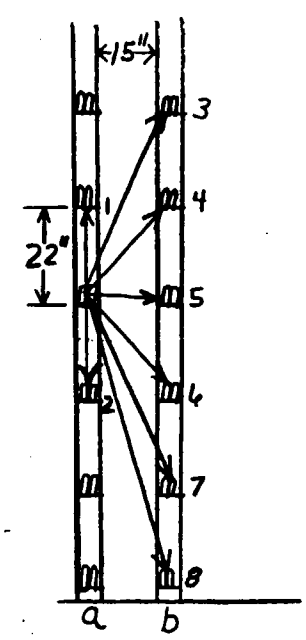
DIV. OF COMPLIANCE
RECEIVED

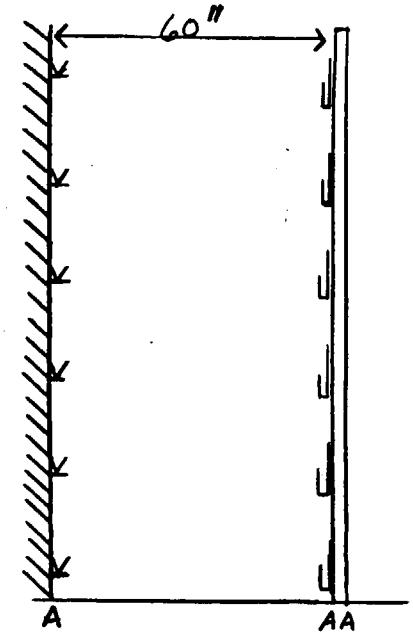
JUN

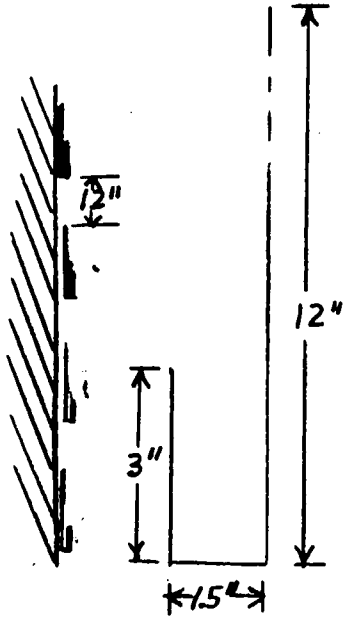
C/135

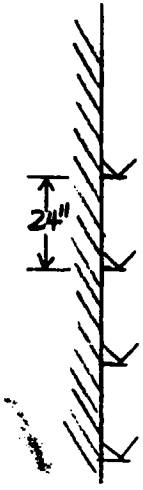
ITEM # 135











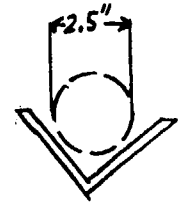


Figure 1
Vault 4-a
Scale: 1" = 4'-0"
6-8-62

ITEM # 136

C/126

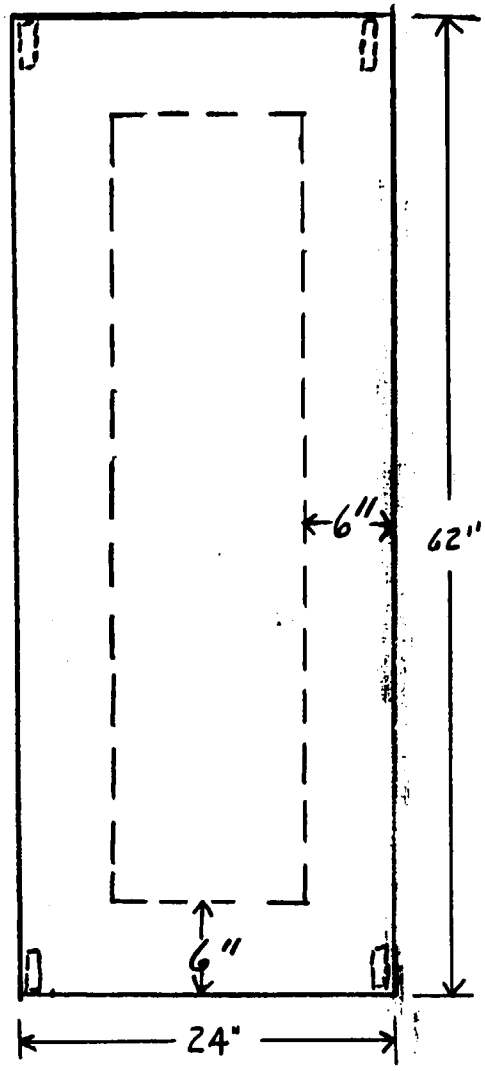
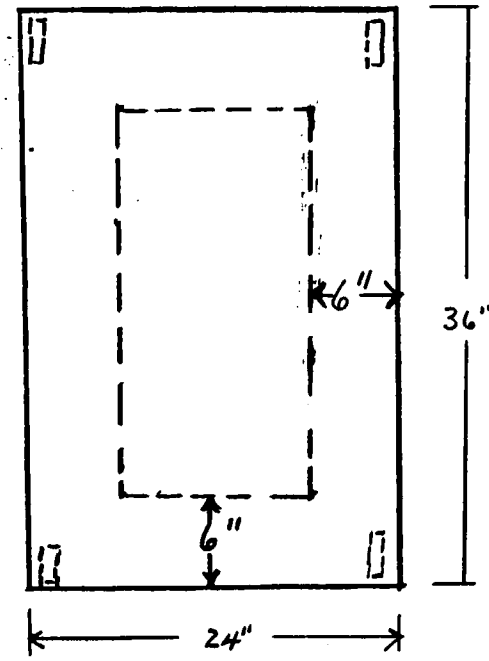


PLATE MOVECART



INGOT w/ FILLER

MOVECART

Figure 2
A.T.R. Movecarts
Scale 1"=4'-0"

6-8-62

ITEM # 121

JUN 6 1962

LA:COW
70-43 70-101
40-3613

Westinghouse Electric Corporation
Atomic Power Department
Avenue A and West Street
Forest Hills
Pittsburgh 30, Pennsylvania

Attention: Mr. H. C. Antoberg, Manager
Administrative Services

Gentlemen:

This refers to the inspection conducted on August 1 and 2, 1961, of your activities authorized under AEC Special Nuclear Material License Nos. SNM-30 and SNM-87, and Source Material License No. [redacted]. [redacted] of noncompliance noted for License Nos. SNM-87 and [redacted].

With respect to License No. SNM-30, it appears that certain of your activities were not conducted in full compliance with the requirements of the AEC's "Standards for Protection Against Radiation," Part 20, Title 10, Code of Federal Regulations, in that:

1. The rear entrance to the High Bay production area and storage vaults within the High Bay area were not posted as required by Section 20.203(c)(1), "Caution signs, labels and signals."

2. Cans containing special nuclear material in the Spectrographic and Metallurgical laboratories were not labeled as required by Section 20.203(f)(1), "Caution signs, labels and signals."

You are requested to take the necessary steps to correct the above posting and labeling deficiencies to bring your licensed activities

ITEM # 138

JUN 6 1962

into full compliance with Commission regulations. Should you have any questions concerning these items, please feel free to write us. Posting and labeling will be reviewed during the next inspection of your facilities.

We appreciate the cooperation given the AEC representative.

Very truly yours,

Ebar R. Price
Assistant Director
Division of Licensing
and Regulation

Enclosures:
10 CFR 20

bcc: Compliance Div., HQ
Compliance Div., I
Public Document Room

SIGNED CONCURRENCE COPY IN DOCKET 70-43

LR:EB	CO	LR
CGW:lrm:REC		ERPrice
5-21-62		

DOCKET NO. 70-334

Westinghouse Electric Corporation
Atomic Fuel Division
Cheswick, Pennsylvania

For Div of Compliance

June 13, 1962

United States Atomic Energy Commission
Division of Licensing and Regulation
Washington 25, D. C.

Attn: Mr. D. A. Nussbaumer, Chief
Special Nuclear Materials Branch

Gentlemen:

Reference is made to the telephone conversation between Mr. R. Layfield, Miss Frances Dirkin, Mr. P. K. Morrow, and Mr. L. P. Hackler on June 1, 1962, in which additional information was requested on the Advanced Test Reactor Amendment dated April 25, 1962.

I. CRITICALITY

Comment 1. Please submit solid angle calculations for Vault 4-a.

Reply: Vault 4-a (Fig. 1) is used to store scrap material for the Advanced Test Reactor and to store Westinghouse Testing Reactor material such as enriched virgin uranium metal, ingots, fillers, plates, tubes, and scrap. The following table shows how criticality is controlled in Vault 4-a.

	Mass
a. Virgin Uranium	5" I.D. Columns
b. Recyclable Scrap, Chips, Fines	1.5" slab geometry
c. Plates, Ingots, Fillers	2.5" horizontal columns
d. Tubes, Fuel Elements	

See Appendix I for solid angle calculations.

Comment 2. Please confirm that mass control will be used on all ingot, filler and plate movecarts instead of the planar concept.

Reply: Mass control is used to control the loading limit on the movecarts. The 27 weight percent uranium-73 weight percent aluminum alloy has a fractional density of 0.05. The allowance factor on the mass limit is 5.9 (TID-7016, Fig. 5, p. 12). The individual movecart systems are discussed below:

a. Ingot Movecart Limit

Each ingot contains ~1500 grams of uranium. The ingot is placed on a plate movecart (Fig. 2) with a criticality limit of one. Since the ingot cannot be moderated, the allowance factor of 5.9 would be applied to 11,000 grams for the worst case of a thick water reflector (TID-7016, Table I). The total allowed limit (11,000 x 5.9 = 64,900 grams uranium) exceeds the actual case by a factor of better than 43.

A minimum distance of 12 inches between ingots on adjacent carts is assured. The 12-inch separation guarantees isolation of the individual ingots in the event of water flooding.

b. Filler and Plate Movecart Limit

The filler movecart, (See Fig. 2) is 24 inches wide and 36 inches long, while the plate movecart is 24 inches wide and 62 inches long. Both movecarts are designed to permit 40 fillers or 40 plates. These movecarts have wooden pegs to aid in assuring that it cannot contain more than the allowed number of fillers or plates. When 40 ATR fillers or plates are on the ATR movecart, the uranium present is:

$$\frac{40 \text{ ATR fillers or plates}}{\text{movecart}} \times \frac{\text{Grams U-235}}{\text{ATR filler}} = \frac{1960 \text{ Grams U-235}}{\text{movecart}}$$

$$350 \text{ Grams U-235} \times 5.9 \text{ allowance factor for U-235 dilution} = 2065 \frac{\text{gr U-235 allowed}}{\text{movecart}}$$

This limit is conservative since the moderation upon flooding will be only partial and the geometry is far from optimum.

The ATR movecarts are designed to assure a minimum distance of 12 inches between material on adjacent carts (Fig. 2). The 12-inch separation guarantees isolation in case of water flooding. As the water is drained the system will return to normal conditions. Thus safety is guaranteed throughout the complete cycle of water flooding and draining.

Comment 3. Please explain the Scrap Accumulation Control Procedures for ATR.

Reply: All scrap will be collected after each batch is melted and after each shearing operation. The alloy scrap will be collected in 5-inch diameter cylinders and stored in Vault 4-a. If the scrap is in the form of a plate, it will be stored in the 1.5-inch slab racks located in Vault 4-a.

Comment 4. Will there be Special Nuclear Material in the Charge Preparation Room of Line #4 other than that used for ATR?

Reply: ATR material will be the only Special Nuclear Material in the Charge Preparation Room during the entire ATR project.

Comment 5. What is the frequency of testing the Gamma Alarm Units located in Building 5-B?

Reply: The Radiation Detectors are tested every three months using a low level radiation source. This testing involves a functional check of the entire system from the radiation detector up to and including the alarm signal.

II. HEALTH PHYSICS

Comment 1. How is airborne radioactivity controlled on the hot rolling mill in Line #4?

Reply: Before rolling ingots into plates, they are coated with a viscous STP type oil. This oil serves a dual purpose in that it protects the plates and reduces the airborne radioactivity to a level where ventilation is not needed.

Comment 2. Please list all dust producing operations and describe the type of hood used on the ATR project.

Reply: a. Charge Preparation Hood

Here the virgin uranium metal is weighed out into charges. The type of hood used in this operation is made of clear plexiglass and has sliding doors.

b. Melting Area

A large 6" I.D. duct is placed directly above the 5" I.D. crucible which collects any airborne radioactivity that is generated by this operation.

c. Filler Reconditioning Hood

This hood is 4 feet by 4 feet by 3 feet where the fillers are inspected and reconditioned if necessary.

Note: All air being pulled through hoods which handle radioactive material is first filtered through MSA absolute filters before being exhausted to the atmosphere.

It is our understanding that this information resolves this amendment request.

Very truly yours,

WESTINGHOUSE ELECTRIC CORPORATION
Atomic Fuel Division

L. A. Meierkord, Jr.
Manager of Marketing

:ajb

Attach.

Appendix I

The following solid angle calculations for deriving a fast neutron surface density limit will be used to show the array in Vault 4-a:

Highly Enriched Storage Rack

Mass control is used in the highly enriched storage rack, Figure (2), (3), and (4). Each part is 4" x 6" x 6". A 6-inch diameter sphere is assumed for interaction calculations (See Fig. 1).

$$\Omega_1 + \Omega_2 = 2 \times 2\pi (1 - \cos\theta) = 4\pi \left[1 - \frac{19.0}{19.235}\right] = 0.153$$

$$\Omega_3 + \Omega_7 = 2 \times 2\pi (1 - \cos\theta) = 4\pi \left[1 - \frac{48.0}{48.094}\right] = 0.025$$

$$\Omega_4 + \Omega_5 = 2 \times 2\pi (1 - \cos\theta) = 4\pi \left[1 - \frac{27.0}{27.17}\right] = 0.079$$

$$\Omega_6 = 2\pi (1 - \cos\theta) = 2\pi \left[1 - \frac{18.0}{18.25}\right] = 0.086$$

$$\Omega_8 = 2\pi (1 - \cos\theta) = 2\pi \left[1 - \frac{66.0}{66.068}\right] = 0.006$$

$$\Omega_t = 0.349$$

Interaction between the central highly enriched storage rack and the 5-inch I.D. columns must be included. The calculations follow for each column:

$$\Omega = \frac{2\,D\,L}{h\sqrt{L^2 + h^2}} \qquad D = 5/12 = 0.416' \qquad L = 6'$$

$$\Omega_1 = \frac{(2)(0.416)(6)}{3.5\sqrt{(6)^2 + (3.5)^2}} = 0.205 \quad \text{where } h = 3.5'$$

$$\Omega_2 = \frac{(2)(0.416)(6)}{4.0\sqrt{(6)^2 + (4.0)^2}} = 0.173 \quad \text{where } h = 4.0'$$

$$\Omega_3 = \frac{(2)(0.416)(6)}{5.0\sqrt{(6)^2 + (5.0)^2}} = 0.119 \quad \text{where } h = 5.0'$$

$\Omega_4 = \frac{(2)(0.416)(6)}{6.25\sqrt{(6)^2 + (6.25)^2}} = 0.092$ where h = 6.25'

$\Omega_5 = \frac{(2)(0.416)(6)}{7.75\sqrt{(6)^2 + (7.75)^2}} = 0.066$ where h = 7.75'

$\Omega_6 = \frac{(2)(0.416)(6)}{9.25\sqrt{(6)^2 + (9.25)^2}} = 0.049$ where h = 9.25'

$\Omega_7 = \frac{(2)(0.416)(6)}{10.75\sqrt{(6)^2 + (10.75)^2}} = 0.038$ where h = 10.75'

$\Omega_8 = \frac{(2)(0.416)(6)}{12.5\sqrt{(6)^2 + (12.5)^2}} = 0.029$ where h = 12.5'

$\Omega_9 = \frac{(2)(0.416)(6)}{14.25\sqrt{(6)^2 + (14.25)^2}} = 0.023$ where h = 14.25'

$\Omega_{10} = \frac{(2)(0.416)(6)}{2.33\sqrt{(6)^2 + (2.33)^2}} = 0.333$ where h = 2.33'

$\Omega_{11} = \frac{(2)(0.416)(6)}{3.67\sqrt{(6)^2 + (3.67)^2}} = 0.193$ where h = 3.67'

$\Omega_{12} = \frac{(2)(0.416)(6)}{5.33\sqrt{(6)^2 + (5.33)^2}} = 0.117$ where h = 5.33'

$\Omega_{13} = \frac{(2)(0.416)(6)}{6.92\sqrt{(6)^2 + (6.92)^2}} = 0.079$ where h = 6.92'

$\Omega_{14} = \frac{(2)(0.416)(6)}{8.42\sqrt{(6)^2 + (8.42)^2}} = 0.057$ where h = 8.42'

$\Omega_{15} = \frac{(2)(0.416)(6)}{10.0\sqrt{(6)^2 + (10.0)^2}} = 0.043$ where h = 10.0'

$\Omega_t = 1.616$

$\Omega_T = 0.349 + 1.616 = 1.965$

The allowable interaction is 2.5 steradions (K-1019 Table XVII, p. 29).

Slab and Horizontal Rods

The critical interaction on this side will be on the central 2.5-inch diameter horizontal rod.

For the calculations, all 6 slab racks will be considered at the closest position.

$$\Omega = \frac{ab \cos\theta}{q^2}$$

$a = 15'$ $\quad q^2 = 81.8$
$b = 0.83'$ $\quad \cos\theta = \frac{5}{9.02} = 0.555$
$q = 9.02'$

$$\Omega = \frac{(15)(0.83)(0.555)}{81.8} = 0.08447$$

$$\Omega_T = (6)(0.08447) = 0.506$$

$$\Omega_{rod} = \frac{2\,D\,L}{h\sqrt{L^2 + h^2}}$$

$D = 0.208'$ $\quad h = 2.25'$
$L = 9.75'$

$$= \frac{(2)(2)(0.208)(9.75)}{2.167\sqrt{(9.75)^2 + (2.167)^2}} = 0.380$$

$$\Omega_T = (0.506) + (0.380) = 0.886$$

The interaction is less than 1 steradion.

70-337

For Div of Compliance

Westinghouse Electric Corporation

Atomic Fuel Department Cheswick, Penna.
Telephones: BRoad 4-6300
EMerson 2-4400

May 8, 1962

United States Atomic Energy Commission
Division of Licensing & Regulations
Washington 25, D. C.

Attention: Mr. D. A. Nussbamer, Chief
Special Nuclear Materials Branch

Gentlemen:

Reference is made to the telephone conversation between Mr. R. Lacefield and Mr. L. P. Hackler on May 4, 1962 in which additional information was requested on the Health Physics Manual WAFD-HP-103 dated March 1, 1962.

Comment 1: Page 5: The use of respirators to control the exposure of individuals exposed to airborne radioactivity which exceeds the permissible levels in 10 CFR 20, Appendix B, Table 1, requires that an application for respirator use under such circumstances be submitted in accordance with Section 20.103 (3).

Reply: Respirators (MSA, Comfo, Ultra Filter) will only be worn by employes when air samples indicate that a potential exposure is possible. If the operation produces airborne activity above the MPCa (220 dpm/m^3), then it is stopped immediately. The cause is then determined and corrected before the operation is permitted to start up.

Comment 2: Page 8, Part C: Please be more specific about the locations and frequency of WAFD's Contamination Surveys.

Reply: The following table gives a breakdown of smears taken at WAFD.

Location	Daily	Weekly	Monthly
Controlled Areas (CA)	X	X	X
Uncontrolled Areas (UA)	X	X	X
Exits Leading from CA	X		

ITEM # 140

C/140

4647

Location	Daily	Weekly	Monthly
Exits Leading to Navy Assembly		X	
Navy Assembly Area			X
Chem. Lab.		X	
Met. Lab.		X	
Core Assembly Room		X	
Offices		X	

Comment 3: Page 9: Please give more information about the Personnel Monitoring Program at WAFD.

Reply: One LCRM-1 (Log Count Rate Meter), also known as a Personnel Monitor, is placed in the clean locker room of each facility where protective clothing is worn. All employes can monitor themselves before leaving the plant. An audible alarm is activated if the radiation exceeds 300 cpm beta gamma. This instrument (see Page 7, Part V A6) is checked daily by Health Physics.

Comment 4: Page 9, Part VF: Environment Sampling. A minimum sampling frequently of once every quarter for air exhausted to the environment would not appear to be adequate for assurance that above permissible levels of radioactivity are not being discharged to the environment. The basis for choosing such a frequency should be explained in the procedures.

Reply: Please note that air from exhaust systems is sampled after each change of filters and are taken according to the type of system.

Several exhaust systems at WAFD are connected to only one or two hoods such as the Met. Lab. or the Engineering Development Lab. Since the radioactive work in these hoods is limited, weekly monitoring by Health Physics is not necessary. From past experience, it is felt that this type of exhaust system needs to be monitored once every quarter. This is indicated by the fact that hoods of this type have been operated for as long as one year without loss of filtering effectiveness or release of radioactive material to the effluent. All past air samples show that the MPCa (9 dpm/m^3) is not exceeded.

On the other hand, exhaust systems which are used constantly, such as the powder processing operations, are monitored more frequently, usually every ten days.

The statement that "a minimum sampling frequency of once every quarter for air exhausted to the environment" was made so that Health Physics could use their discretion on which exhaust system should be monitored and the frequency of monitoring.

Comment 5: Please list all dust producing operations and describe the type of hood used.

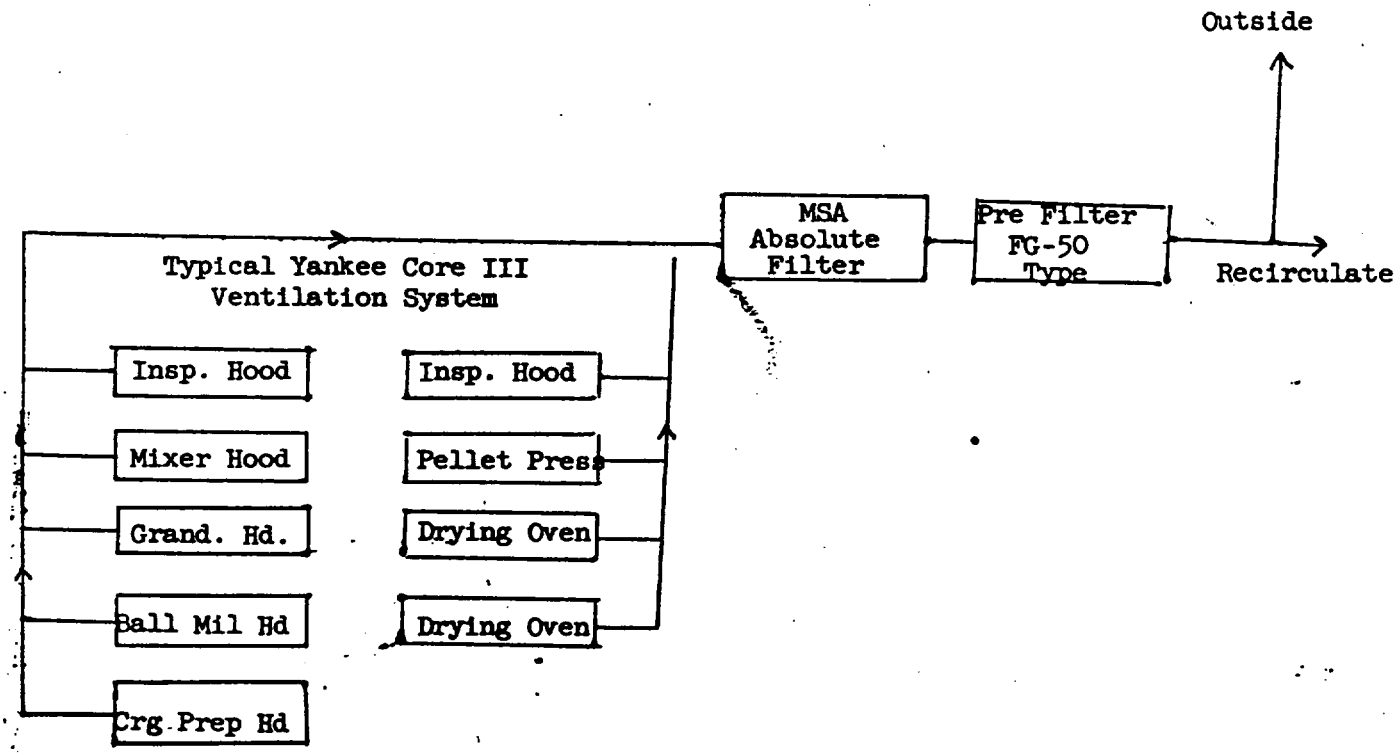
Reply: a. Types of hoods

1. All hoods are made of stainless steel or clear plexiglass.

2. Loading operations are performed inside of a chemistry-type hood which has a sliding door. All doors are provided with hand port holes.

3. Machinery which produces high airborne radioactivity are enclosed and ventilated.

b. Dust Producing Operations - Ventilation Systems



Comment 6: Please state WAFD's fixed contamination limits for both controlled and uncontrolled areas. Also give the type of instrument used to measure fixed contamination.

Reply: a. Fixed Contamination Alpha Limits:

Controlled Areas - 0-9,000 dpm/61 cm^2
Uncontrolled Areas - 0-900 dpm/61 cm^2

b. Instrument Used to Measure Fixed Contamination

Portable Gas Proportional Alpha Counter

The Model PAC-3G alpha survey meter (Eberline) is a portable, battery operated instrument for measuring alpha radiation only. The three sensitivity ranges are 1,000, 10,000, and 100,000 cpm (2π geometry). The detector is an external gas flow proportional counter probe (approximately 61 cm^2 of fuce area), window of 0.85 mg/cm^2 aluminized myler.

Very truly yours,

P. K. Morrow, Supervisor
Accountability, Criticality, &
Health Physics

MAR 2 1962

Form AEC-591 (Tentative)
(9-61)

UNITED STATES ATOMIC ENERGY COMMISSION
DIVISION OF COMPLIANCE

INSPECTION FINDINGS AND LICENSEE ACKNOWLEDGMENT

3/2/62 Initial

mailed to licensee: 2/5/62

1. LICENSEE
WESTINGHOUSE ELECTRIC CORPORATION
Atomic Fuel Department
Cheswick, Pennsylvania

2. REGIONAL OFFICE
REGION I, DIVISION OF COMPLIANCE
U. S. ATOMIC ENERGY COMMISSION
376 HUDSON STREET
NEW YORK 14, NEW YORK

3. LICENSE NUMBER(S)
SNM-338 Docket #: 70-337

4. INSPECTION FINDINGS

Date of Inspection 1/24-25/62

- ☐ A. No item of noncompliance was found.
- ☐ B. Rooms or areas were not properly posted to indicate the presence of a RADIATION AREA. 10 CFR 20.203(b)
- ☐ C. Rooms or areas were not properly posted to indicate the presence of a HIGH RADIATION AREA. 10 CFR 20.203(c)(1)
- ☐ D. Rooms or areas were not properly posted to indicate the presence of an AIRBORNE RADIOACTIVITY AREA. 10 CFR 20.203(d)
- ☐ E. Rooms or areas were not properly posted to indicate the presence of RADIOACTIVE MATERIAL. 10 CFR 20.203(e)
- ☒ F. Containers were not properly labeled to indicate the presence of RADIOACTIVE MATERIAL. 10 CFR 20.203(f)(1) or (f)(2)
- ☐ G. Storage containers were not properly labeled to show the quantity, date of measurement, or kind of radioactive material in the containers. 10 CFR 20.203(f)(4)
- ☐ H. A current copy of 10 CFR 20, a copy of the license, or a copy of the operating procedures was not properly posted or made available. 10 CFR 20.206(b)
- ☐ I. Form AEC-3 was not properly posted. 10 CFR 20.206(c)
- ☐ J. Records of the radiation exposure of individuals were not properly maintained. 10 CFR 20.401(a)
- ☐ K. Records of surveys or disposals were not properly maintained. 10 CFR 20.401(b)
- ☐ L. Records of receipt, transfer, disposal, export or inventory of licensed material were not properly maintained. 10 CFR 30.41, 40.61 or 70.51
- ☐ M. Records of leak tests were not maintained as prescribed in your license.

Paul B. Klevin
AEC Representative

5. LICENSEE'S ACKNOWLEDGMENT

The AEC representative has explained and I understand the items of noncompliance listed above, if any. The items of noncompliance will be corrected within the next 30 days.

ITEM # 141

2-14-62
Date

Licensee Representative

COPIES: ☐ LICENSEE; ☐ COMPLIANCE AREA; ☐ DIV. OF LIC. & REG.; ☑ DIV. OF COMPLIANCE (2)

GPO 918462

(5)

ITEM # 142

C1142

F. Nolan, Division of Compliance
Headquarters

J. Sears, Region I
Division of Compliance

February 20, 1962

WESTINGHOUSE ATOMIC FUEL DEPARTMENT, CHESWICK, PENNSYLVANIA

CO:I:JRS

The method by which the production people in this plant are made aware of possible criticality hazards appears to us to be an acceptable one. This is by the issuance of a written summary statement incorporating criticality limits on each job to the production people, who actually handle the material and perform the operations. The internal inspection and the method of enforcement, by discussions with responsible foremen, also appear to be adequate. The area of most concern to us in this plant is the pickle bath, and the item of most concern is that no analytical sample is taken of pickle bath liquors before they are transferred from an always-safe 5* polyethylene container to a 13 gallon carboy. We discussed this at some length with Mr. Morrow, and Mr. King, but Mr. Morrow appeared to be convinced that dependence upon accountability records was a more positive method of assuring against mistakes rather than by taking analytical samples.

Licensed material is not regularly used in this pickle bath. The Division of Licensing and Regulation may wish to consider contacting the contract office responsible for health and safety surveillance of contract material usage in this plant, with a recommendation that this particular area be further investigated.

Westinghouse Atomic Fuel Department
Cheswick, Pennsylvania

Nuclear Safety

At the time of the inspection, the only licensed special nuclear material in process was material for the fabrication of fuel elements for the Westinghouse Test Reactor. Contract material was being processed for naval cores. Pelletts fabricated from UO_2 powder were being made for the experimental gas cooled reactor at Oak Ridge. No items of noncompliance were noted as far as criticality control is concerned.

A. Organization

Mr. Paul Morrow is the Manager in charge of accountability, criticality control, and health physics. Mr. Howard King is the criticality engineer. King was formerly the criticality engineer at the Westinghouse, Blairsville plant. King stated that on all new proposed jobs, he studies the criticality control aspects before approval for operation is granted. He prepares the section on criticality control of the license amendment or the feasibility report. Pertinent sections which list specific numbers for criticality control are then condensed from that correspondence (the license amendment or the feasibility report) by King, and placed into a summary, which is issued to the operating men on the production floor. This was stated to be the principal ingredient in the criticality safety program, getting the rules and limitations to the man handling the material and performing the operation by means of these written instructions. King stated that, in general, he works alone in formulating the limits; however, on special jobs, he consults with reactor physicists in Westinghouse Atomic Power Division. He has also consulted with Mr. Schustzke of the Rocky Flats Plant on particular problems. King mentioned that there have been considerable consultations on the control problems associated with the fabrication of the new PWR fuel elements. Each of these elements will contain 17 kgs of U-235, and these will be the first elements in which nuclear poisons are used during fabrication as a control.

B. Inspection and Enforcement

King stated that he makes unannounced inspection tours of all sections of the plant on a weekly basis. The inspectors were shown copies of his inspection reports. These reports are issued to all members of the management staff, including the top manager of Westinghouse Atomic Fuel Division. King stated that any violations of criticality control procedures, which are observed by him, are brought to the attention of the foreman in that area

Westinghouse Atomic Fuel Department
Cheswick, Pennsylvania

Nuclear Safety

At the time of the inspection, the only licensed special nuclear material in process was material for the fabrication of fuel elements for the Westinghouse Test Reactor. Contract material was being processed for naval cores. Pelletts fabricated from UO_2 powder were being made for the experimental gas cooled reactor at Oak Ridge. No items of noncompliance were noted as far as criticality control is concerned.

A. Organization

Mr. Paul Morrow is the Manager in charge of accountability, criticality control, and health physics. Mr. Howard King is the criticality engineer. King was formerly the criticality engineer at the Westinghouse, Blairsville plant. King stated that on all new proposed jobs, he studies the criticality control aspects before approval for operation is granted. He prepares the section on criticality control of the license amendment or the feasibility report. Pertinent sections which list specific numbers for criticality control are then condensed from that correspondence (the license amendment or the feasibility report) by King, and placed into a summary, which is issued to the operating men on the production floor. This was stated to be the principal ingredient in the criticality safety program, getting the rules and limitations to the man handling the material and performing the operation by means of these written instructions. King stated that, in general, he works alone in formulating the limits; however, on special jobs, he consults with reactor physicists in Westinghouse Atomic Power Division. He has also consulted with Mr. Schustzke of the Rocky Flats Plant on particular problems. King mentioned that there have been considerable consultations on the control problems associated with the fabrication of the new PWR fuel elements. Each of these elements will contain 17 kgs of U-235, and these will be the first elements in which nuclear poisons are used during fabrication as a control.

B. Inspection and Enforcement

King stated that he makes unannounced inspection tours of all sections of the plant on a weekly basis. The inspectors were shown copies of his inspection reports. These reports are issued to all members of the management staff, including the top manager of Westinghouse Atomic Fuel Division. King stated that any violations of criticality control procedures, which are observed by him, are brought to the attention of the foreman in that area

from each of the two monitors in a particular location was necessary to actuate the alarm and the evacuation horn. He said that they found it more economic to design the system this way, since the circuit was such that if one monitor was out for service, only the remaining monitor would have to see the danger level in order to actuate the alarms on the evacuation horn. He said that this coincidence circuit prevented spurious evacuation signals from a monitor which may be malfunctioning. All installations were observed to be in locations such that they comply with the requirements of CFR 70.24.

It was observed by the inspectors during the tour that the most obvious evacuation route from the pickle bath where contract material is pickled, would lead an operator to a door out of the plant, which door was observed to be equipped with a lock. At the post inspection meeting with management, the inspectors suggested that more study be given to evacuation routes.

Westinghouse Electric Corporation

Atomic Fuel Department Cheswick, Penna.
Telephones: BRoad 4-6300
EMerson 2-4400

February 15, 1962

United States Atomic Energy Commission
New York Operations Office
376 Hudson Street
New York 14, New York

Attention: Mr. Paul B. Klevin

Dear Mr. Klevin,

Enclosed you will find four signed copies of Form AEC-591 on License SNM 338 as requested in your letter of February 5, 1962. (Reference CO:I:PBK)

Also included is a copy of Form AEC-578 prepared on February 14, 1962 for License SNM 338 which you requested during your visit here.

The information on inventories of natural and depleted uranium which were hurriedly given to you during your visit has been checked and found not to be correct. We are attaching a revised inventory listing of these material balances, and also including quantities of Thoria not previously given to you. I wish to apologize for this error and hope that it has not inconvenienced you in any manner.

Very truly yours,

P. K. Morrow, Supervisor
Health Physics, Criticality, &
Accountability

Attachments

ITEM # 143

C/143

UNITED STATES
ATOMIC ENERGY COMMISSION
NEW YORK OPERATIONS OFFICE
376 HUDSON STREET
NEW YORK 14, NEW YORK

REFER TO:
CO:I:PBK

February 5, 1962

TELEPHONE NO.:
YUKON 9-1000
EXT. 282

Mr. P. K. Morrow
Westinghouse Electric Corporation
Atomic Fuel Department
Cheswick, Pennsylvania

Re-Lic.: SNM-338

Dear Mr. Morrow:

Enclosed you will find five copies of Form AEC-591 which list the items of noncompliance noted during our inspection of 1/24-25/62 . Please sign all copies, retain the original for your files and return the four carbon copies in the enclosed self-addressed envelope. You will receive no additional correspondence concerning this inspection.

Your cooperation is appreciated.

Very truly yours,

Robert W. Kirkman, Director
Region I, Div of Compliance

Enclosure
5 cys Form
AEC-591 w/env.

ITEM # 144

c/144

Compl.

UNITED STATES
ATOMIC ENERGY COMMISSION
WASHINGTON 25, D.C.

IN REPLY REFER TO:
DLR:RLL
70-337

JAN 19 1962

Westinghouse Electric Corporation
Atomic Fuel Department
Cheswick, Pennsylvania

Attention: Mr. P. V. Morrow - Supervisor
Accountability, Health Physics and
Nuclear Safety

Gentlemen:

This refers to your application dated July 11, 1961, and supplement dated November 2, 1961, furnishing information requested by our letter dated August 22, 1961, for amendment to include all activities at Westinghouse Atomic Fuel Department under License No. SNM-338.

Before our review of your application can be completed, we require the following information:

1. All areas of your plant in which special nuclear material is handled or stored, including laboratories and waste storage areas, must have proper coverage by your radiation monitor alarm system unless these areas have been specifically exempt. It appears that Figure II does not present all areas in which special nuclear material is handled or stored. Your Figure II in the section titled "Drawings" is not consistent with Figure I and the figures called Appendix A in the section titled "Nuclear Safety Manual, Buildings 4, 5, 5-A". In addition, the radiation monitor alarm should be tested daily rather than yearly.

2. In many of the storage areas nuclear safety is based on water-tight storage containers. This implies moderation control, and requires conformance with the following conditions:

ITEM # 145

C/145

(30)

a. All granular material, powders and solutions shall be stored in unbreakable (if dropped on concrete from the point of storage), water-tight containers. Metallic components (pieces larger than one-eighth inch in diameter, fuel elements, ingots, plates, etc.) may be stored in perforated or wire mesh open containers to minimize the possibility of water retention and moderation of the stored unit.

b. No combustible special nuclear material should be stored in the same storage area with other special nuclear material. Such materials which are capable of spontaneous combustion in air are considered combustible even if stored under oil or water.

c. The storage area shall be designed so as to remain intact in the event of fire in adjoining rooms or buildings, shall be water-proof at walls and roof, and shall be equipped with dependable floor drains to accommodate water accidentally admitted through doors. No water or fire-protection sprinklers shall be permitted in the storage area.

Please submit your procedures for compliance on the basis of the individual storage areas.

3. We have reviewed work done at KAPL in derivation of a surface density criterion for storing fuel elements. Subject to certain imposed quantity limits for the assumed fuel elements the surface density criterion appeared acceptable. If you wish to apply this criterion to your operations, we request that you prove out the method for each operation, indicating a complete description and quantity limit for each material, the mass limit of each stored unit and the spacing and storage arrangement. Proof of the method should include the assumptions made and appropriate mathematical derivations.

4. In the Chemical and Metallurgical Labs., page 27, it is stated, "It is expected that a maximum of 5 kgs of U-235 in alloy form will be distributed between the two laboratories". Please provide precise information regarding the limiting quantity of material to be stored in each laboratory, the method of storage, and your analysis of the effectiveness of your procedures for the prevention of nuclear criticality.

5. In regard to waste disposal on page 27, please provide information regarding your procedures for storage of the alloy scrap and pickle liquor waste containers, along with your analysis of the effectiveness of your procedures for the prevention of a nuclear accident. In addition, please advise concerning your containers and procedures for shipping this waste.

6. As presented in Appendix B, C, D, and F, it appears that you have improperly applied geometric limits (safe diameter, safe volume and safe thickness) for solutions to operations involving metal alloys. Please re-evaluate your procedures for prevention of nuclear accidents in all process steps using the appropriate limits for metal and alloy systems.

7. In addition, in Appendix D, page 20, you have not correctly applied the limits of Figure 12, page F-17 in K-1380 to alloy materials. This curve is applicable only to fully enriched, unalloyed uranium metal pieces in water and not to alloys or compounds or any uranium materials of less than full enrichment.

In view of the type of comments we have made, we recommend that representatives of your staff meet with our staff here at Commission Headquarters to discuss the various aspects of your application. We are prepared to meet promptly upon your request.

Very truly yours,

Distribution:

Compl., w/cy twx dtd 1/16/62

Donald A. Nussbaumer, Chief
Source and Special Nuclear Materials Branch
Division of Licensing and Regulation

TWX INCOMING 3

70-33

WESTINGHOUSE ATOMIC FUEL DEPT SPDA PA 959 1/16/62/1505E

CHESWICK, PENNA.

AFD-C

TO MR E. LOWENSTEIN, ACTING DIRECTOR USAEC DIV. OF LICENSING AND REGULATING.

FM MR P K MORROW SUPERVISOR ACCOUNTABILITY, HEALTH PHYSICS AND NUCLEAR SAFETY.

ON JULY 11, 1961, A REQUEST FOR AMENDMENT OF LICENSE NO. SNM 338 WAS FORWARDED TO YOUR OFFICE. ON NOVEMBER 2, 1961, ADDITIONAL INFORMATION WAS SUPPLIED. SEVERAL PHONE CALLS HAVE BEEN MADE TO YOUR OFFICE CONCERNING THE STATUS OF THE AMENDMENT. THE MOST RECENT PHONE CALL ON JANUARY 12, 1962 REVEALED THAT YOUR OFFICE IS PREPARING A LETTER REQUESTING ADDITIONAL INFORMATION. DUE TO THE EXTENDED DELAY WE ARE EXPERIENCING IN THIS MATTER, IT IS RESPECTFULLY REQUESTED THAT PROVISIONAL APPROVAL BE GIVEN US PENDING COMPLETION OF YOUR STUDY. PLEASE REPLY BY RETURN WIRE, COLLECT AT YOUR EARLIEST CONVENIENCE.

END RPM

FLS ACK

RE OK TKS DI END

TWX INCOMING

ITEM # 146

C/146

1967

AND Pu 239

6/147

ITEM # 147

* ϕ DUE

Pu^{239} USED

OBSOLETE

OBSOLETE

NEEDS BATTERIES

U^{238} & Pu^{239} USED

[illegible] MISSILE

VIRGINIA (GONE)

[illegible]GRAPHY

[illegible] [illegible] 136 AA AFU

[illegible]	[illegible]	RMBA	[illegible]	DD	
[illegible]	"	"	3[illegible]	EE	
[illegible]	"	AIM-3	13[illegible]	FF	

			[illegible]		
[illegible]	NUCLEAR [illegible]	PC-3M	90[illegible]	—	AED
[illegible]	"	PEC-11	Mo[illegible]	—	"
[illegible]	[illegible]	SEC-3	10[illegible]	—	"
[illegible]	"	SEC-2	PEG-[illegible]	—	"
[illegible]	TECHNICAL ASSES.	ACM-11	DS-C [illegible]	—	"

ITEM # 18

9/14/8

UNCLASSIFIED

UNITED STATES
ATOMIC ENERGY COMMISSION
WASHINGTON 25, D.C.

x COLLECT

IN REPLY REFER TO:

U. S. A. E. C., GERMANTOWN, MARYLAND
DONALD A. NUSSBAUMER, CHIEF
SOURCE & SPECIAL NUCLEAR MATERIALS BRANCH
DIVISION OF LICENSING AND REGULATION

JANUARY 18, 1962

WESTINGHOUSE ELECTRIC CORPORATION
ATOMIC FUEL DEPARTMENT
CHESWICK, PENNSYLVANIA

ATTENTION: MR. P. K. MORROW, SUPERVISOR
ACCOUNTABILITY, HEALTH PHYSICS AND NUCLEAR SAFETY

REFERENCE YOUR TWX JANUARY 16, 1962, PROVISIONAL APPROVAL CANNOT BE GRANTED. LETTER REQUESTING ADDITIONAL INFORMATION FOLLOWS.

REFERENCE: DLR:RLL DOCKET NO. 70-337.

Distribution:
Compl.

DIV. OF COMPLIANCE
REG. 1, USAEC, N. Y.
RECEIVED
JAN 29 3 23 PM '62

RLLayfield:bar
DL&R
X3171 - Rm C-171
4:00 p.m.

ITEM # 149

01149

70-337

For Div of Compliance

Westinghouse Electric Corporation

Atomic Fuel Department
Cheswick, Penna
Telephones BRoad 4-63--
EMerson 2-44--

July 13, 1961

UNITED STATES ATOMIC ENERGY COMMISSION
Division of Licensing and Regulation
Washington 25, D.C.

Attention: Mr. R. Lowenstein, Acting Director

Subject: RADIATION DETECTORS IN WAFD BUILDINGS 5-A and 5-B

Dear Sir:

All Radiation Detectors in Westinghouse Atomic Fuel Department's Buildings 5-A and 5-B have not been installed as of July 13, 1961. However, these Radiation Detectors are on order and the contract awarded for their installation as per Figure II in WAFD Revision to SNM 338 dated July 10, 1961. It is anticipated that all Radiation Detectors will be installed and tested by September 1, 1961.

Very truly yours,

T. Sainsbury
Manager of Manufacturing Controls

jk

/enclosures (3)

DOCKETED USAEC Division of Licensing & Regulation JUL 17 1961 Docket Officer

RECEIVED JUL 17 1961 U. S. Atomic Energy Commission Division of Licensing & Regulation

ITEM # 150

notebook file

C/180

70-48, -337, -69
+ -997

For Div of Compliance I

Westinghouse Electric Corporation
3 Gateway Center
Box 2278, Pittsburgh, Pa. 15230

FYI

March 22, 1966

Dr. J. A. McBride, Director
Division of Materials Licensing
U. S. Atomic Energy Commission
Washington, D. C., 20545

Dear Sir:

The Westinghouse Electric Corporation requests amendment of the licenses listed at the end of this letter to provide for abandonment or disposition of small quantities of source, special nuclear and byproduct materials which are present as contamination on certain papers, notebooks, films and other items which are being retained for record purposes.

These records may be transferred to locations which are used primarily for their storage. No special control will be imposed on them and they will be randomly mingled with other non-contaminated records.

The records, from operations where radioactive contamination may occur, will be surveyed to determine the levels of radioactivity. They will not be released if the following levels, as determined by survey instrument measurements, are exceeded:

1. For alpha activity:

   Average: 100 pCi/100 cm^2
   Max.: 1000 pCi/100 cm^2

2. For beta (gamma) activity:

   Average: 300 pCi/100 cm^2
   Max.: 3000 pCi/100 cm^2

From CO - Hdqrs.

5

Cartons or bundles of such records will be surveyed and they will not be released if their external levels (above background) exceed:

β-γ:	0.1 mrem/hr (Probe within 1/4" of surface)
α on smear (average):	5 pCi/100 cm^2
$\beta(\gamma)$ on smear (average):	100 pCi/100 cm^2

It is felt that abandonment or disposition of these small quantities of radioactive material will not involve any risk to the health and safety of the public. A report "Evaluation of Exposures from Contaminated Records" which provides an analysis of estimated exposures is attached.

Westinghouse requests that the following licenses be amended in accordance with this application:

SNM- 47, Docket 70- 48
SNM-338, Docket 70-337
SNM-770, Docket 70-698
SNM-951, Docket 70-997
37-497-9, Control No. 74221

If there are any questions, please write to me at the above address, or telephone collect, 412-391-2800, Extension 3449.

Very truly yours,

Karl R. Schendel
License Administrator

Attachment: "Records" Report
9 copies transmitted

DOCKET NO. 70-48, -337, -698 + -99

Records

3/22/66

For Div of Compliance

EVALUATION OF EXPOSURES
FROM CONTAMINATED RECORDS

It is desirable to retain for indefinite periods certain original data sheets, forms, notebooks, films and other records. Some of these may have originated in operations where contamination with radioactive materials occurs. Periodically, these records are assembled and transferred to specific "records storage" locations. For example, certain records which are to be retained for a number of years are sent to a separate facility which has been provided solely for their safe and economical storage.

Surveys have been made of a number of these records from different operations where contamination could occur. It has been found that the small amount of contamination on these papers adheres to them rather tenaciously. For example, smears taken with a filter paper do not indicate any significant removable contamination. In addition, decontamination techniques such as brushing or wiping have not resulted in removal of the contamination. Measurements with survey meters indicate that much of the surface area of these records is so slightly contaminated that no reading is obtained, but spots of 200 to 1000 pCi/100 cm^2 for alpha and 3000 pCi/100 cm^2 for beta occur.

For storage, these records are normally packaged in new cardboard cartons which are sealed with tape. These cartons are usually 12-1/2" x 18-1/4" x 9-3/4", holding up to 4500 sheets of 8-1/2" x 11" paper and weighing about 45 pounds. The external

ITEM # _____

surfaces of these boxes are not contaminated. Occasionally, during storage, a particular carton may be temporarily opened to examine or remove a particular record. Because of the adherence of the contamination to the paper, no significant contamination of hands or area would result from this occasional handling of such records. With radiation levels of 0.1 mrem/hr or less on contact with the external surface of these boxes, exposures to personnel in their vicinity during a 40 hour work week would be a very small fraction of 500 mrem/yr.

Eventual disposal of these boxes of records is normally by burning in an incinerator. Since the boxes of contaminated records would not be segregated or separately identified, they would be included with other boxes at the time of burning. They would amount to a very small percentage of the total boxes burned in any one year. An estimate of the highest probable yearly average concentration of radioactivity in the stack of the incinerator at one records storage facility has been made using the following assumptions:

50 = max. number of boxes of contaminated records burned per year

45 lb. = average weight per box

4500 = max. number of contaminated 8-1/2" x 11" sheets in each box

100 pCi/100 cm^2 = average alpha contamination level on each side of each sheet

300 pCi/100 cm^2 = average beta contamination level on each sheet (survey meter would read beta radiation from both sides of sheet)

200 cu. ft. = air required to burn one pound of paper

1% = percentage of radioactivity released to stack

1 hr. = burning time for the 50 boxes

Alpha radioactivity in each box =

$$2 \times 4500 \times 8.5 \times 11 \times (2.54)^2 \times \frac{100}{100} \times 10^{-6} = 5.4 \ \mu Ci$$

Average alpha radioactivity concentration in stack during 1 year =

$$\frac{50 \times 5.4 \times .01}{50 \times 45 \times 200 \times 2.83 \times 10^4} \times \frac{1}{8.76 \times 10^3} = 2.4 \times 10^{-14} \ \mu Ci/ml$$

Beta radioactivity in each box =

$$4500 \times 8.5 \times 11 \times (2.54)^2 \times \frac{300}{100} \times 10^{-6} = 8.1 \ \mu Ci$$

Average beta radioactivity in stack during 1 year =

$$\frac{50 \times 8.1 \times .01}{50 \times 45 \times 200 \times 2.83 \times 10^4} \times \frac{1}{8.76 \times 10^3} = 3.6 \times 10^{-14} \ \mu Ci/ml$$

These concentrations, which would obviously be reduced further by dilution of the stack effluent, are less than the concentrations specified for any isotopes of uranium, plutonium or strontium in 10 CFR 20 Appendix B, Table II, Col. 1. If a normal amount of dilution is considered, the concentrations would be less than those specified for any listed isotopes.

In the unlikely event that some of these boxes of contaminated records should be sold as scrap paper, they would represent only a small fraction of the total scrap sold at any one time and subsequent dilution during the reclamation process would provide an extremely high dilution of the radioactivity.

From these estimates, it is concluded that any possible radiation exposure resulting from the storage and disposition of records contaminated to the specified levels would not involve any risk to the health and safety of the public.

DOCKET NO. 70-48, -337, -534, -698
-793, -826 + -997
50-22, -34 + -87
40-4739 + -974

Westinghouse Electric Corporation
3 Gateway Center
Box 2278, Pittsburgh, Pa. 15230

Dir. Div. of Compliance

March 15, 1966

U. S. Atomic Energy Commission
Washington, D. C., 20545

Attention: R. L. Doan, Director,
Division of Reactor Licensing

J. A. McBride, Director,
Division of Materials Licensing

Subject: Corporate Information for Licenses

Gentlemen:

We are submitting current information applicable to the Westinghouse Electric Corporation licenses listed at the end of this letter. Corporate information was originally sent to you in a letter addressed to Mr. R. W. Lowenstein, Assistant Director of Regulation, dated April 3, 1964. This letter referenced your Control Number 1129, which originally had been assigned to a letter to Mr. Lowenstein from Mr. C. H. Weaver, dated March 2, 1964. The corporate information was subsequently updated on April 22, 1965, referencing the same control number.

The Westinghouse Electric Corporation is incorporated in the Commonwealth of Pennsylvania, with principal offices located at 3 Gateway Center, P. O. Box 2278, Pittsburgh, Pennsylvania (15230). All of the Directors and Officers are citizens of the United States of America.

Westinghouse is a publicly held corporation whose stock is traded on the principal securities exchanges. It is not owned, nor is there (to the best of our knowledge) an appreciable ownership of Westinghouse stock, by any alien, foreign corporation or foreign government. No individual is known, from the records of the Corporation, to own one percent or more of its capital stock.

Westinghouse has entered into Lease Agreement No. 245 with the U. S. Atomic Energy Commission.

C152

From CO - Hdqrs.

ITEM # 152 ACKNOWLEDGED LC 795 (H)

Attached is the annual report of the Corporation which gives the current financial condition and lists the elected officers. The following section of this letter presents a description of the corporate technical qualifications.

The Westinghouse Electric Corporation has broad experience in the field of nuclear science and technology. The Corporation's history in the atomic energy field dates from the discovery of methods for production of metallic uranium at Bloomfield, New Jersey, in the 1920's, and construction of the first Industrial Van de Graaff generator in Pittsburgh in 1937. Westinghouse furnished a portion of the refined metallic uranium used in the first pile at Stagg Field, Chicago, early in the 1940's, at the beginning of the Manhattan District of the Corps of Engineers.

Westinghouse demonstrated the ability to execute complex programs in the atomic power business with the successful completion of the propulsion plant for the first nuclear powered submarine, the U.S.S. NAUTILUS. In conjunction with this project, the Bettis Atomic Power Laboratory was organized in 1948 to furnish a research and development effort. Westinghouse currently operates this Laboratory, which provides facilities for developing nuclear power plants for naval and advanced civilian applications, for the AEC. The AEC also awarded the contract to Westinghouse for the design and construction of the first large nuclear reactor plant for an electric power generating station, the Shippingport Atomic Power Station. Other projects include a minimum of six completed power reactors including the nuclear power plant for the Yankee Atomic Electric Company, a 185 Mwe closed-cycle water reactor; the Belgian Thermal Reactor, an 11.5 Mwe closed-cycle water reactor; the Saxton Reactor, a 23.5 Mwe experimental closed-cycle water reactor which is currently operating on an advanced plutonium-uranium based fuel; and the Carolinas-Virginia Nuclear Power Associates prototype nuclear electric power generating station, an advanced heavy water, pressure tube design of 19 Mwe. Currently, the Corporation is designing or building approximately eleven additional large reactor facilities, such as SENA, 260 Mwe; San Onefre, 450 Mwe; Connecticut Yankee, 490 Mwe; and Turkey Point, 650 Mwe; and is conducting active design and development programs on plants of 1000 Mwe or greater. Westinghouse is currently developing and manufacturing nuclear reactors for the NERVA program.

Various divisions of the Corporation have demonstrated other major accomplishments in the atomic power field. Westinghouse developed a canned motor pump, currently being manufactured for a variety of nuclear facilities, and it also manufactures many other non-nuclear components for reactor plants such as large heat exchangers, control rod drive mechanisms, valves, instruments and control equipment.

Westinghouse maintains design and development groups in the Pittsburgh area (about 2,200 engineers and scientists) that contribute to these accomplishments in the nuclear field. There is a coordinator and consultant for radiation protection activities, a license administrator for coordination of licensing activities, an accident prevention administrator, and a medical services administrator located at Gateway Center in Pittsburgh. At another Westinghouse headquarters location in Pittsburgh, there is an industrial hygiene administrator whose engineering and laboratory facilities are available to all locations. Each site performing atomic activities has at least one full time supervisor, with additional engineers and technicians as needed, in support of radiation protection, industrial hygiene and safety services. Full time scientists and engineers with extensive experience in nuclear design lend support to the various facilities for criticality analysis where special nuclear materials are used. Computer service is available for determining nuclear safety parameters in criticality analyses.

Facilities in the Pittsburgh area include a wide variety of operations, ranging from research and development to full scale manufacturing, which require handling and processing many types of radioactive materials ranging in quantity from a few microcuries up to megacuries. Approximately 6,500 employes (including the 2,200 engineers and scientists mentioned above) are engaged in atomic activities at facilities which occupy about 1,673,000 square feet of floor space.

Very truly yours,

Karl R. Schendel

Karl R. Schendel
License Administrator

Attachment: 1965 Annual Report

28 copies transmitted

Information for Licenses

March 15, 1966

CURRENT LIST OF LICENSES

User Division	License Numbers
Atomic Power Division	SNM-576, 738, 770, 783, 785; CX-6, 11; 37-497-9; 37-9442-3; TR-2
Atomic Equipment Division and Atomic Power Division	SNM-338; SMB-355
Atomic Equipment Division	37-5809-1; 37-5809-2
Research Laboratories	SNM-47; 37-497-6; SMB-550
East Pittsburgh Divisions	37-497-13
Astronuclear Laboratory	SNM-951; 37-5809-3; 37-9442-1; 37-9442-2
Semi-Conductor Division	37-7934-1

XXXXXXXXXXXXXXX
XXXXXXXXXXXXXXXXXXXXXXXXXX
631 Park Avenue
King of Prussia, Pennsylvania 19406

FEB 6 1974

Westinghouse Electric Corporation
ATTN: Mr. C. E. Anthony
General Manager, Electro
Mechanical Division
Uranium Fabrication Facility
Cheswick, Pennsylvania

Docket No. 70-337
License No. SNM-338

Gentlemen:

Thank you for your letter of December 10, 1973 in response to our letter dated November 16, 1973.

We note from your letter that you have contacted the Directorate of Licensing in order to resolve problems you have encountered in attempting to meet the Guidelines for Decontamination of Facilities and Equipment.

Your cooperation with us is appreciated.

Sincerely,

James P. O'Reilly
Director

bcc: RO Chief, FS&EB
RO:HQ (4)
L:D/D for Fuels and Mat'l
PDR
NSIC
RO FILES
DR Central Files
RO:I Regulatory Reading Room
State of Pennsylvania

ITEM # 153

OFFICE ▶	CRESS	FOL			
SURNAME ▶	Jerman/jd	Knapp	Nelson	O'Reilly	CROCKER
DATE ▶	2/5/74	2/5/74	2/6/74		2/5/74

Form AEC-318 (Rev. 9-53) AECM 0240

Westinghouse Electric Corporation Power Systems

Electro Mechanical Division

Box 217
Cheswick Pennsylvania 15024
Cable WECHESWICK
(412) 274 6300
(412) 363 8700

December 10, 1973

United States Atomic Energy Commission
Directorate of Regulatory Operations
Region I
631 Park Avenue
King of Prussia, Pennsylvania 19406

Attention: Mr. James P. O'Reilly

Gentlemen:

We have reviewed your letter of November 16, 1973, concerning the inspection of the Uranium Fabrication Facility.

In your letter, you requested reasons for our failure to adequately determine existing radiation levels prior to requesting a confirmatory survey. The "Guidelines" provided us show three categories for "Surface Contamination Levels." The first is for U-Nat, U-235, U-238, TH-Nat, TH-232, and associated decay products. It was our understanding that this was the only category which applied to the facility since only those decay products associated with these decay chains have been handled in the facility. In conversations with other sources, it was concluded that this assumption was correct. A contract was signed with Applied Health Physics for the decontamination of the facility. Their certification also only considered this category. Subsequent to their completion of the decontamination, we decided for completeness to include β-γ surveys. Major emphasis of course was placed on surveys for alpha contamination. We realize now the terminology "and associated decay products" as used in the guide apparently only refers to the α activity related to the daughter products.

Our instruments were calibrated according to procedures commonly used. The fact that uranium calibration standards are not commercially available further complicates the calibration. Apparently beta calibration has been a topic of wide discussion with one of the ANSI Committees and general agreement cannot be reached on this type calibration. It will be necessary for us to have agreement as to the method of calibration so that our survey readings will be comparable.

ITEM # 154 C/154

The main problem seems to resolve itself around several sewers. The only types of probes available with a window thickness of 7 mg/cm^2 or less are either the end window or pancake type. The "Guideline" indicates that readings will be made within 1 cm. of the surface. The end window probe will not accommodate placing the absorber next to the surface to be measured. The "pancake" type of probe can be used to measure the side; however, again due to the diameter of the probe, we will not be able to comply with the "Guideline."

So that we may satisfactorily conclude this close-out, we have contacted the Directorate of Licensing. It is our understanding the Directorate of Regulatory Operations inspects to guidelines as established by the Directorate of Licensing. Consequently we feel if there are to be any deviations, we must have their concurrence. We will contact Region I as soon as we feel we can satisfactorily meet your review.

Sincerely yours,

C. E. Anthony
General Manager

rs

UNITED STATES
ATOMIC ENERGY COMMISSION
DIRECTORATE OF REGULATORY OPERATIONS
REGION 1
631 PARK AVENUE
KING OF PRUSSIA, PENNSYLVANIA 19406

NOV 16 1973

Westinghouse Electric Corporation
Attention: Mr. C. E. Anthony
General Manager, Electro
Mechanical Division
Uranium Fabrication Facility
Cheswick, Pennsylvania

Docket No. 70-337
License No. SNM-338

Gentlemen:

This refers to the inspection conducted by Mr. Jerman of this office on October 31, November 1, 5-6, 1973 of activities authorized by AEC License No. SNM-338 and to the discussions of our findings held by Mr. Jerman with you and other members of your staff at the conclusion of the inspection.

Areas examined during this inspection are described in the Regulatory Operations Inspection Report which is enclosed with this letter. Within these areas, the inspection consisted of selective examinations of procedures and representative records, interviews with personnel, measurements made by the inspector, and observations by the inspector.

The effort of this inspection was to establish the validity of the survey report submitted with a letter from K. R. Schendel dated August 31, 1973. This letter stated that based on the report, buildings and facilities formerly utilized for work with special nuclear materials had been decontaminated to levels specified by the Directorate of Licensing as acceptable for unrestricted use.

To accomplish this purpose, many random checks were made. The results obtained were compared to the results recorded for your surveys of those same locations. The comparison showed that existing contamination levels were, in many cases, significantly higher than those you recorded. Your outside decontamination pad, which was found to be contaminated to levels exceeding guideline levels, was not covered in your survey report.

Based on our inspectors' survey results, we conclude that your survey report is not representative of existing conditions. Contamination levels are above those described in the Directorate of Licensing guidelines; therefore, the facilities cannot be released to unrestricted use.

ITEM # 155

OFFICE ▶						
SURNAME ▶						
DATE ▶						

Form AEC-318 (Rev. 9-53) AECM 0240

Our survey findings raise questions regarding the methods used to determine the final radiation status of the subject areas. For example, the instruments you used for beta-gamma surveys were not calibrated properly to measure uranium contamination levels. We expect that those responsible for the possession and use of licensed material will assure that adequate personnel, instrumentation and procedures will be employed to obtain an accurate evaluation of the radiation and contamination levels present.

In view of our findings we request that you provide us within 20 days, in writing, the reasons for your failure to adequately determine existing radiation levels prior to requesting a confirmatory survey. In addition, provide us with a description of your corrective action to assure that your next survey submittal will be representative of existing contamination and radiation levels.

In accordance with Section 2.790 of the AEC's "Rules of Practice", Part 2, Title 10, Code of Federal Regulations, a copy of this letter and the enclosed inspection report will be placed in the AEC's Public Document Room. If this report contains any information that you (or your contractor) believe to be proprietary, it is necessary that you make a written application within 20 days to this office to withhold such information from public disclosure. Any such application must include a full statement of the reasons on the basis of which it is claimed that the information is proprietary, and should be prepared so that proprietary information identified in the application is contained in a separate part of the document. If we do not hear from you in this regard within the specified period, the report will be placed in the Public Document Room.

Should you have any questions concerning this inspection, we will be pleased to discuss them with you.

Sincerely,

James P. O'Reilly
Director

Enclosure:
RO Inspection Report No. 70-337/73-02
bcc (w/encl):
RO Chief, FS&EB (2)
RO:HQ (4)
L:D/D for Fuels and Mat's
PDR
NSIC
RO Files
DR Central Files
State of Pennsylvania

OFFICE▶	CRESS				MARTIN	
SURNAME▶	Jerman/pss	Knapp	Nelson	O'Reilly		
DATE▶	11-15-73	11-15-73	11/15/73	11/17/73	11/15/73	

U. S. ATOMIC ENERGY COMMISSION

DIRECTORATE OF REGULATORY OPERATIONS

REGION I

RO Inspection Report No.: 70-337/73-02 Docket No.: 70-337

Licensee: Westinghouse Electric Corporation License No.: SNM-338

Uranium Fabrication Facility Priority: I

Category: (A)-1

Location: Cheswick, Pennsylvania

Type of Licensee: Fuel Fabrication

Type of Inspection: Verification of Survey for License Termination, Announced

Dates of Inspection: October 31, November 1, 5 and 6, 1973

Dates of Previous Inspection: January 10-12, 1973

Principal Inspector: Phillip C. Jerman, Radiation Specialist — Date: Nov. 15, 1973

Accompanying Inspectors: Joel O. Lubenau, Radiation Specialist — Date: Nov 15, 1973

_____ — Date

Other Accompanying Personnel: _____

Reviewed By: P. J. Knapp, Senior, Facility Radiological and Environmental Protection Section — Date: November 15, 1973

SUMMARY OF FINDINGS

Enforcement Action

A. Violations

None

B. Safety Items

None

Licensee Action on Previously Identified Enforcement Items

Not applicable

Unusual Occurrences

None

Other Significant Findings

A. Current Findings

The inspection, consisting of a radiation survey to verify contamination levels at the facility, as reported by the licensee, showed that existing beta-gamma contamination levels exceeded the Directorate of Licensing guidelines for release to unrestricted use. Several contaminated floor drains and rough and chipped spots in the floor of the pellet area, rod loading area, vault area, the outside decontamination pad, and the tank monitor pit exceeded 1.0 mR/hr, the maximum allowable beta-gamma contamination level. Readings were as high as 25 mR/hr when the correction factor for measuring dose rates from uranium is applied.

B. Status of Previously Reported Unresolved Items

None

Management Interview

The following individuals attended the management interview held at the conclusion of the inspection on November 6, 1973.

Westinghouse

C. E. Anthony, General Manager, Electro Mechanical Division
W. E. Piros, Manager, Health, Safety and Licensing
C. W. Bickerstaff, Supervisor, Industrial Hygiene

AEC

P. C. Jerman, Radiation Specialist
J. O. Lubenau, Radiation Specialist

The following subjects were discussed:

A. The inspectors noted that they had found that the licensee had covered surfaces by painting and by installation of tile on floors and walls, dry walls, and concrete platforms on floors. This made it impossible for the inspectors to survey all surfaces. The licensee agreed to remove a section of dry wall in the chemistry lab to permit the inspectors to survey previously covered areas.

B. The inspectors stated that they had found that the licensee's survey report was not representative of existing conditions and that many areas had contamination levels in excess of those specified for release to unrestricted use.

C. It was noted that covering surfaces which were possibly contaminated above Directorate of Licensing guidelines would further complicate the licensee's effort to terminate the license.

D. It was noted that the beta-gamma survey instruments used by the licensee were calibrated only with cesium-137 rather than by exposure to a source representative of the contamination under consideration.

DETAILS

1. Persons Contacted

W. E. Piros, Manager, Health, Safety and Licensing
C. W. Bickerstall, Supervisor, Industrial Hygiene
H. Kimbel, Manager, Industrial Relations
G. Perry, Technician, Industrial Hygiene
M. Milson, Local President, International Brotherhood of Electrical Workers (IBEW)
D. Moretti, IBEW
C. Lange, IBEW

2. Material Possessed and Processed under the License

A licensee representative stated that uranium enriched with 2 to 5 percent uranium-235 has been used exclusively at the facility.

3. Facility Status

a. By letter dated August 31, 1973, signed by K. R. Schendel, the licensee transmitted a report of surveys conducted by the licensee to the Directorate of Licensing. In the letter the licensee stated that the facilities had been decontaminated to levels which met the Directorate of Licensing guidelines for release for unrestricted use.

b. The inspection included surveys by the inspectors of those areas identified in the survey report. Also included was a survey of an area not included in the licensee's report. The survey consisted of spot checks of surfaces employing portable survey meters[1/,2/] and wiping 100 cm^2 surfaces with #541 Whatman filter papers.[3/]

c. An identical Eberline E-120, identically calibrated against cobalt-60 and exposed to a uranium plaque, indicated that reported readings in mR/hr should be multiplied by approximately 5 to yield mrad/hr through 7 mg/cm^2 absorber. The

---

1/ Eberline PAC 1SA (Survey results reported are corrected to 100 cm^2 of surface area).

2/ Eberline E-120 with 7 mg/cm^2 absorber.

3/ Wipes were counted in an Eberline SAC-4 with an alpha detector and an Eberline LCS-1 with RD-14 Beta Detector.

instrument used is in the process of being calibrated and any significant change in the above quoted factor will be noted in the final close out survey report.

d. A summary of the inspector's survey report superimposed on appropriate pages of the licensee's survey report is included as Attachment 1. The inspector's detailed survey report has been forwarded to the Directorate of Licensing.

e. Contamination levels associated with the decontamination pad outside the facility were not measured by the licensee prior to the inspection. During the inspection the licensee made measurements and found levels exceeding the guidelines. The pad drain was covered and sealed. The exposed drain piping at the side of the pad was removed. Contaminated concrete was chipped out. A survey of the pad by the inspectors following this effort revealed contaminated spots in the concrete up to 1.6 mR/hr.

4. Labor Union Contacts

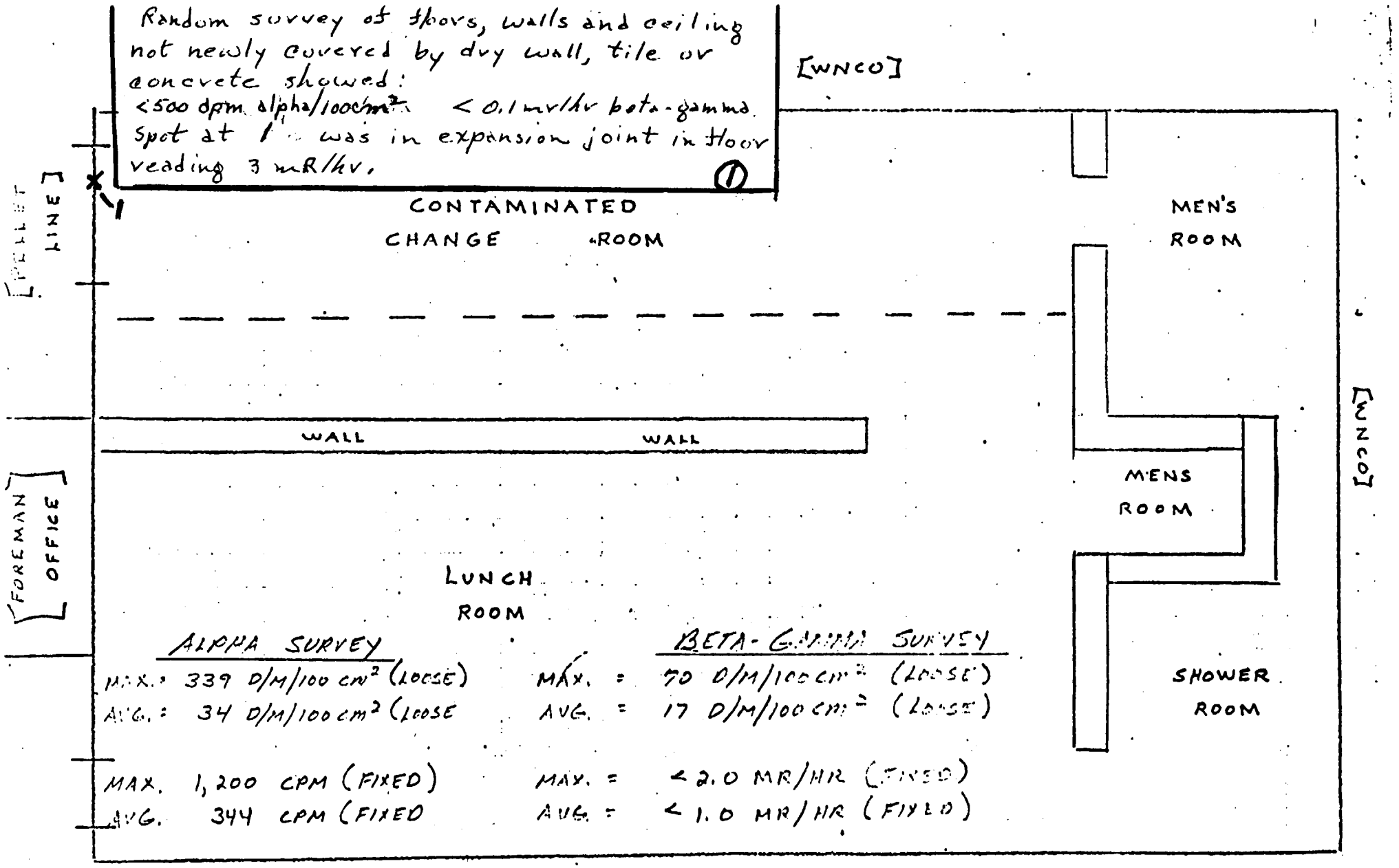
a. Employees who were local officials of the International Brotherhood of Electrical Workers, arranged through the licensee, to meet with the inspectors on November 5, 1973. Representatives of the licensee also attended the meeting.

b. The union representatives expressed concern that there was apparently contamination in the former NFD facilities which had been declared by the licensee to be an unrestricted area.

c. The inspectors explained the purpose of their current visit to the plant. It was stated that although levels of contamination had been found that would not permit release for unrestricted use, the nature and levels of this contamination were such that they were not a hazard to those employees who worked in the facility.

d. The regulations established by 10 CFR 19 were discussed. It was pointed out that the licensee would receive a report of the inspection from the AEC and that a copy of the report would be placed in the Public Document Room. A licensee representative agreed that the AEC inspection report and associated correspondence and any response from the licensee would be made available to the union officials.

e. A union representative requested a further meeting with the AEC inspectors at the conclusion of the inspection. This meeting was held on November 6, 1973 with one union representative attending. The inspectors informed him that the inspection had revealed no findings which would indicate a health hazard to plant employees.



NFD LUNCH AND LOCKER ROOMS

ATTACHMENT 1

NFD

CHEMISTRY

LABORATORY

11/1/73

AEC SURVEY

Instrument Survey

Random Survey of Floor

< 1000 dpm alpha/100cm²

< 0.1 mR/hr beta-gamma

Except at

14 (Floor) 11,000 dpm α/100cm²

14 (Wall) 4,000 dpm α/100cm²

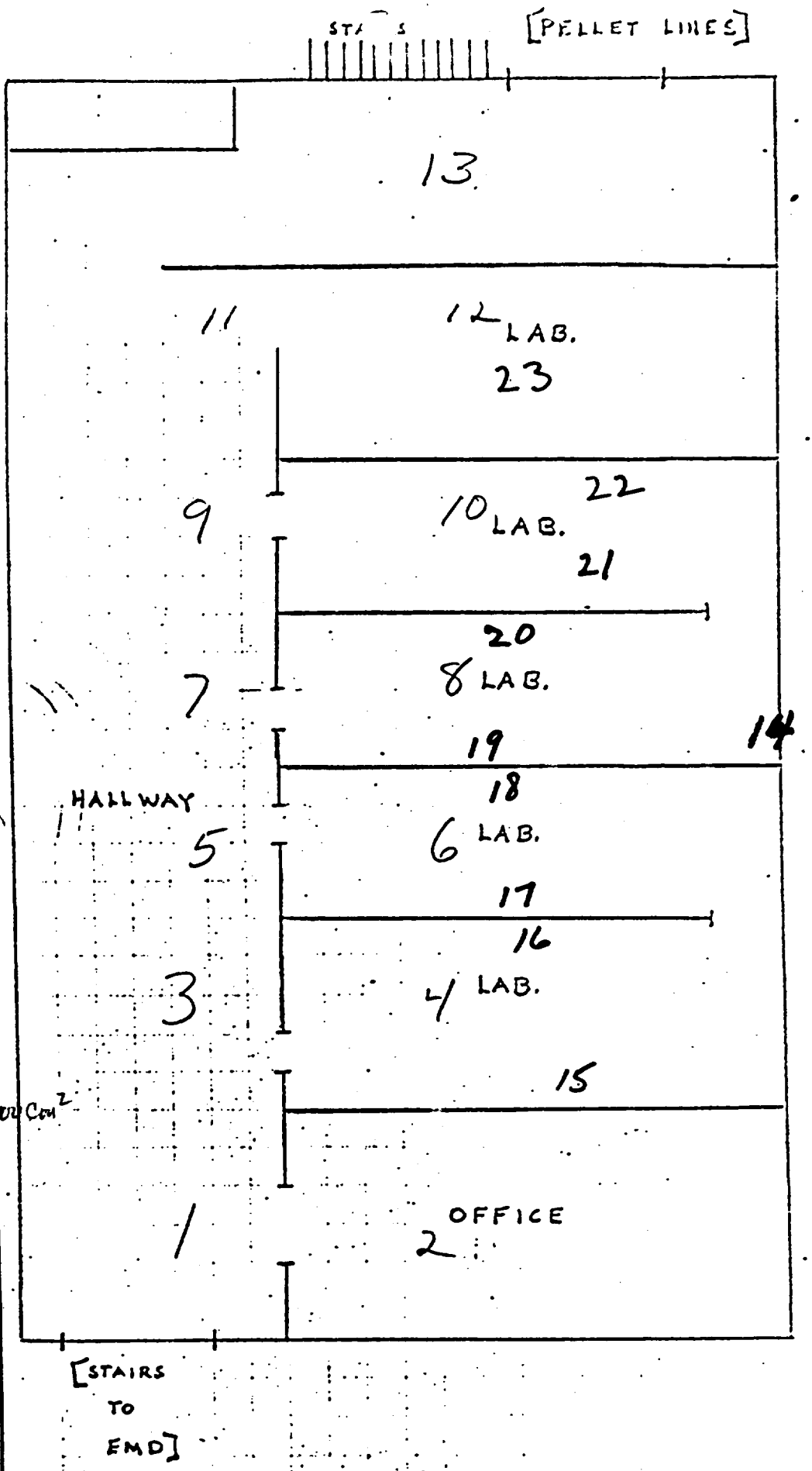
The room was entirely covered with dry wall. Section 4'x2' was removed at 14.

21 0.3 mR/hr beta-gamma

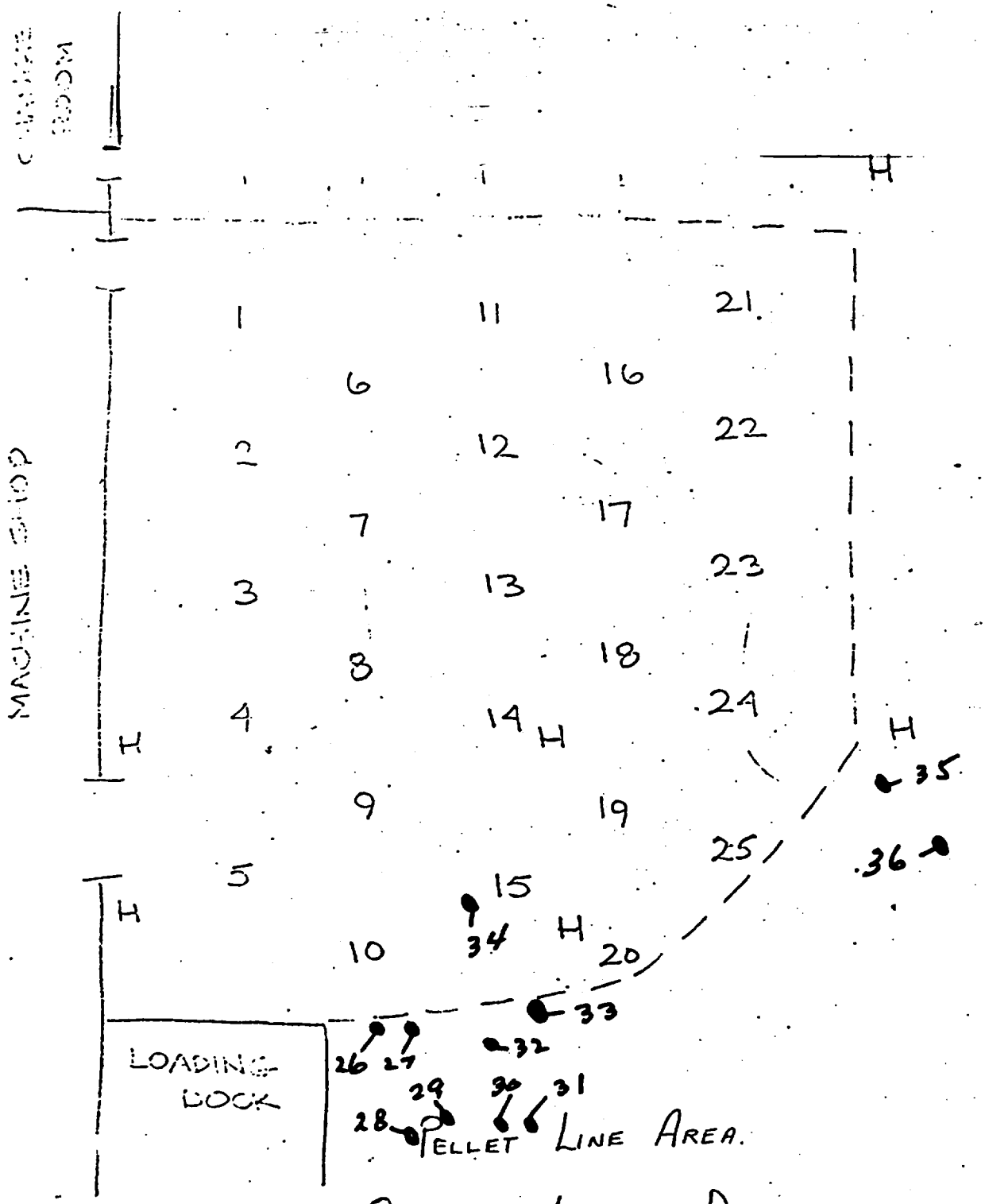
Wipes

	dpm α/100cm²	dpm βγ/100cm²
14 floor	12	164
14 Wall	202	446
15 floor	3	118
16 "	6	170
17 "	10	130
18 "	10	92
19 "	19	36
20 "	10	160
21 "	3	0
22 "	3	108
23 "	3	10

(2)



ATTACHMENT 1



ORIENT ON LOADING DOCK.

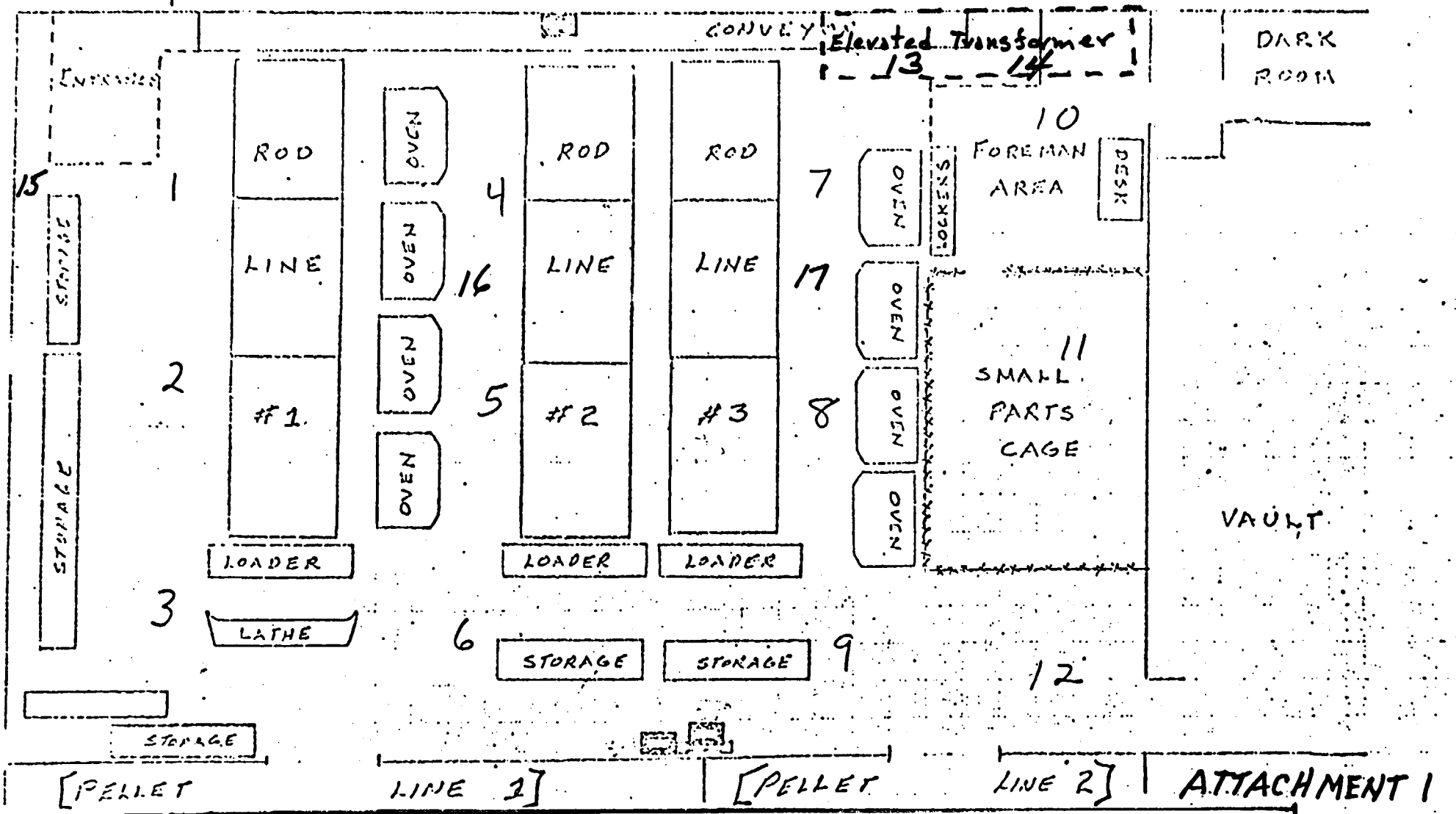
(KRJ.)

Vault Area. 37

38

ATTACHMENT-1

NTU ROD LOADING



ATTACHMENT 1

AEC SURVEY 11/6/73

INSTRUMENT SURVEY

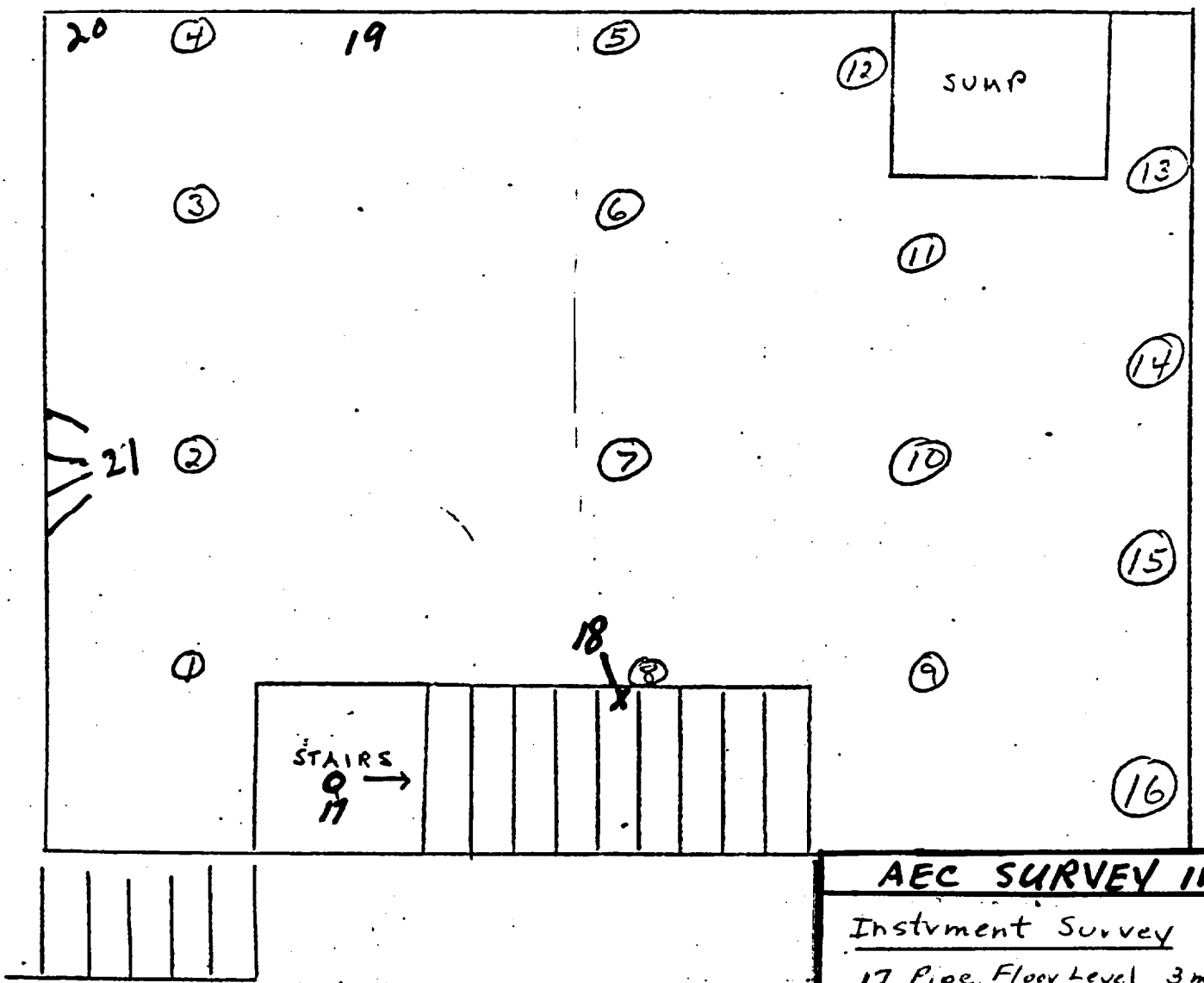
Random Spot Checks
Floor, Walls & Transformer
< 500 dpm alpha/100 cm²
< 0.1 mrad/hr beta-gamma
except mr/hr on two floor drains

SMEARS

(4)

	dpm α/100cm²	dpm β/γ/100cm²
13 Platform Floor	3	0
14 " "	0	0
15 Wall	0	0
16 Floor	3	0
17 Floor	0	0

NFD PIT



AEC SURVEY 11/6/73

Instrument Survey

17 Pipe, Floor Level	3 mR/hr B &
17 " " "	500 dpm α/100 cm²
18 Floor Level	1 mR/hr @ contact
18 " "	< 500 dpm α/100 cm²
19 Floor	2000 dpm α/100 cm²
19 "	0.2 mR/hr B &
20 Wall	3000 dpm α/100 cm²
20 "	0.05 mR/hr B
21 Wall (covered drain)	< 0.1 mR/hr B

D/M /100 cm²

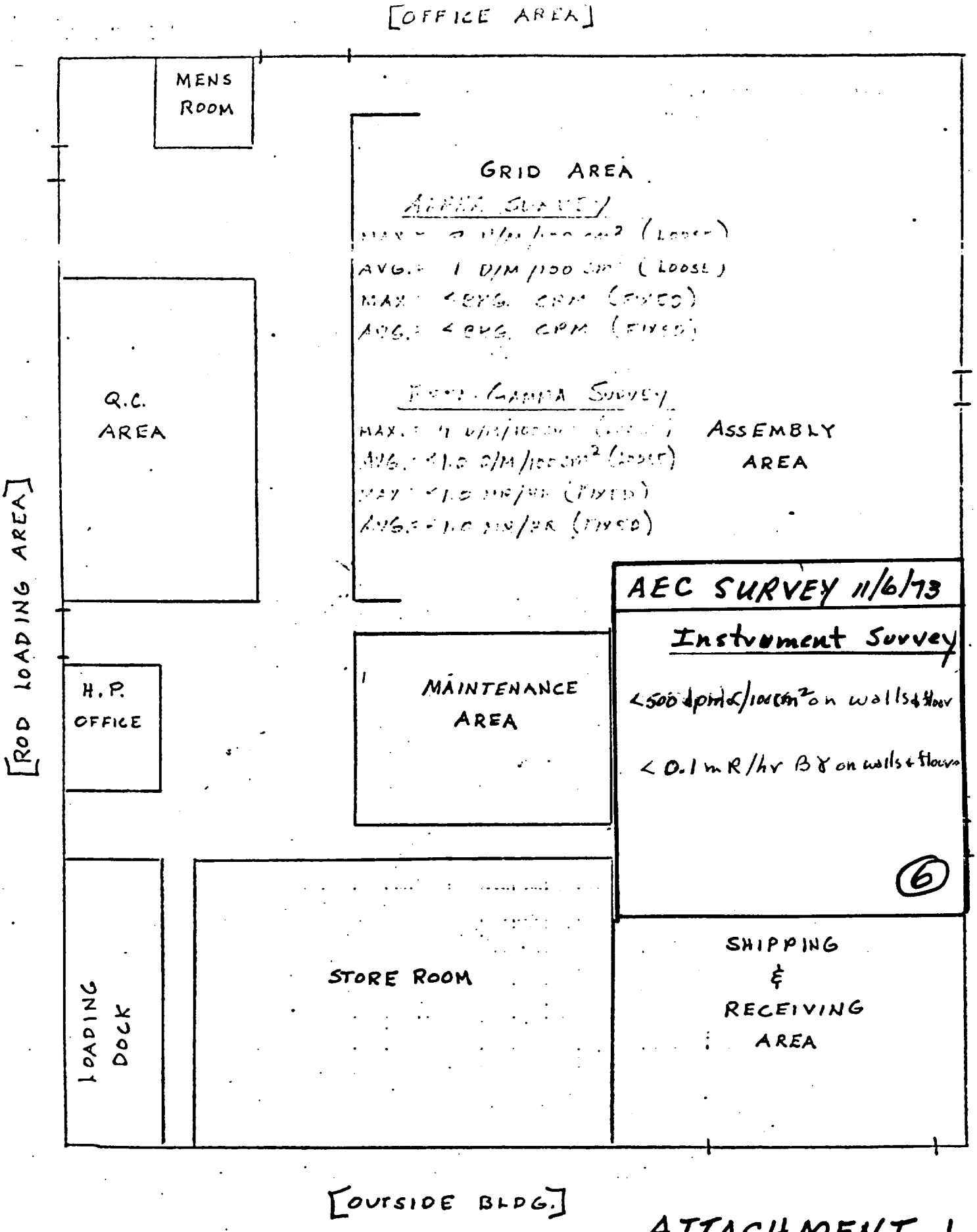
1.	39	11.	36
2.	6	12.	12
3.	18	13.	6
4.	18	14.	3
5.	6	15.	9
6.	3	16.	12
7.	6		
8.	6		
9.	16		
10.	16		

Wipes

4/16/73

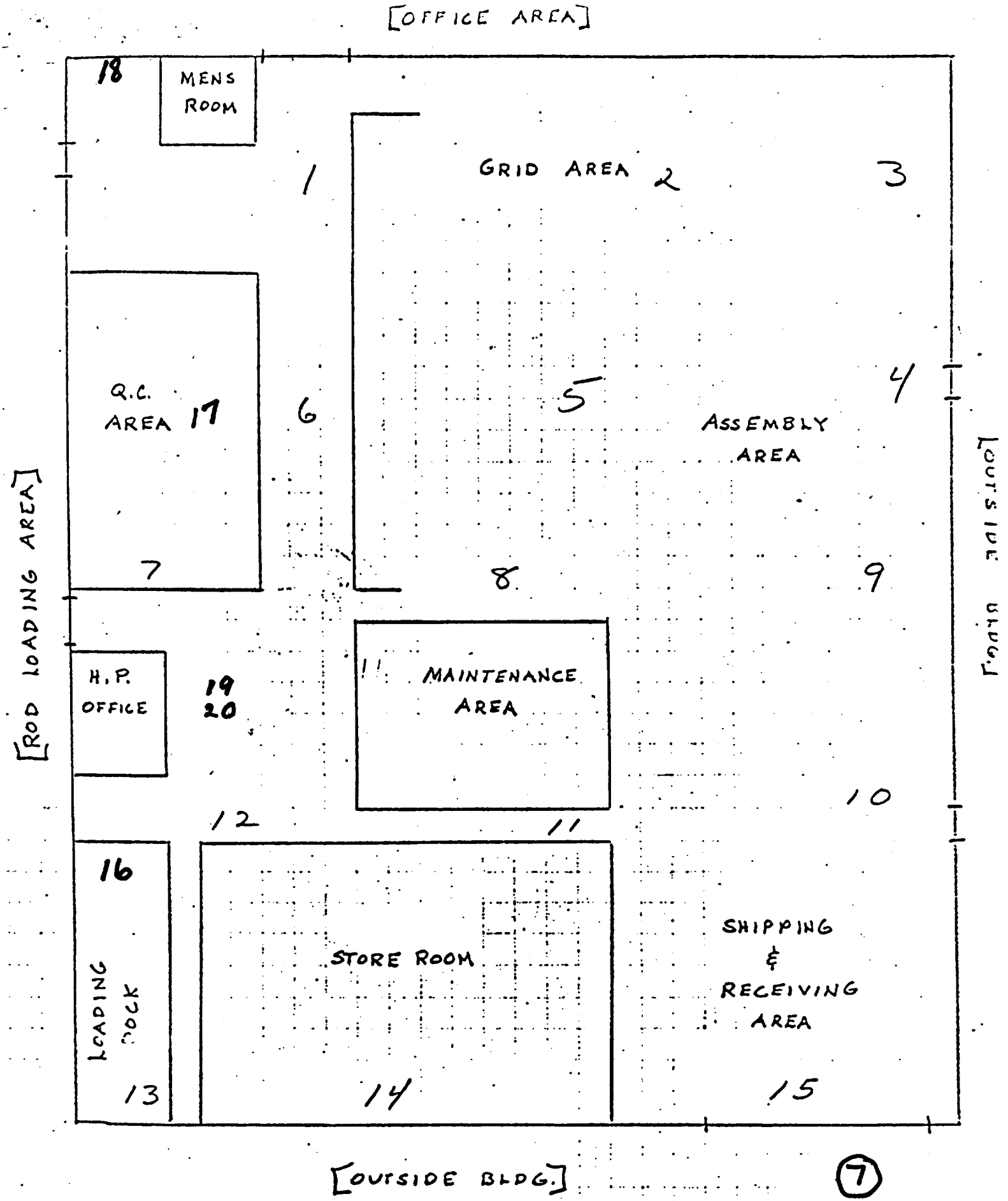
	dpm α/100 cm²	dpm β
17 Pipe, Floor level	356	284
19 Floor	19	14
20 Wall	83	26

ATTACHMENT 1



NFD HIGH BAY AREA

ATTACHMENT 1



7

NFD HIGH BAY AREA

ATTACHMENT 1

RESULTS OF BETA - GAMMA

SURVEY

N F U AREAS

	1	0	
	2	0	
	3	0	
	4	0	
	5	0	
	6	0	
	7	0	
	8	4	
	9	0	
	10	0	
	11	0	
	12	0	
	13	0	
	14	0	
	15	0	

AEC SURVEY 11/6/73

SMEARS

		dpm α/100cm²	dpm β/100cm²
16	Floor	1	0
17	Floor	0	0
18	Floor	3	0
19	Removed Electrical Conduit	0	0
20	" " "	3	0

(8)

E. Levy 8/7/73

ATTACHMENT 1

Summary of Investigation

Directorate of Regulatory Operations, Region I

Accident on January 29, 1972 Resulting in the Loss of the

Lower Left Arm of a Westinghouse Employee

Reasons for Investigation

1. Investigation was initiated February 10, 1972, by Regulatory Operations Region I, Newark, into the circumstances of an industrial accident on January 29, 1972 at the Westinghouse Electric Corporation Facility, Cheswick, Pennsylvania. RO:I was given notification by telephone on February 4, 1972, confirmed by a letter from the licensee dated February 4, 1972.

Summary of Facts

2. An employee was receiving initial instruction in operating equipment from another operator. During the initial operation, the employee was momentarily left alone. The material being processed in the equipment packed. He used a dowel stick to loosen the material in the feed hopper. He inadvertently dropped the stick when it was struck by the mixing bar and instinctively reached for the stick. His left hand became impaled on the mixing bar resulting in the loss of his left arm below the elbow. The employee was removed from the equipment, taken to a local hospital where surgery was performed. The radiological aspects of the accident were insignificant.

3. The licensee's training program, safety practices and emergency procedures were reviewed during the investigation. Two violations of AEC requirements and two safety items were observed as set out below:

   (1) Paragraph 20.206(a) - Failure to instruct an employee in precautions to be taken during operation of the equipment to prevent injuries involving radioactive material. The employee was not informed of the hazard associated with the use of a stick in and around moving parts.

   (2) License Condition 18 - Contrary to Emergency Procedures incorporated in License Condition 18, only initial contacts were made with the local hospital. Specifically, prior arrangements were not made with the hospital for handling low contaminated cases. Portable battery-operated detection instruments for area and wound monitoring were not available.

ITEM # 156

(2) C/156

(3) The licensee's system of having one employee train another provides no means by which the supervisor knows what instructions and precautions have been given to the trainee, no training follow-up by the supervisor is done to assure safety procedures are being followed and no periodic retraining is conducted to assure that employees remain knowledgeable.

(4) Modifications were made to the equipment at the Cheswick Facility and no safety review was made prior to placing it into service. This was also in violation of Westinghouse procedures entitled, "Safety Review for New, Modified, or Relocated Equipment."

Interview with Injured Employee

4. The injured employee was assigned to Nuclear Fuel Division on January 10, 1972. He did not work on the equipment until January 29, 1972, when his foreman assigned another employee to instruct him in the operation of the equipment. His instructor showed him how to work the control buttons which were on a cage behind him as he faced the equipment. The control buttons could not be reached from in front of the equipment without moving away from the equipment. His instructor showed him how to put material into the equipment and how to use a dowel stick to remove the material from the sides of the hopper.

5. His instructor put a batch of material into the hopper. When the material built up on the sides of the hopper, the instructor hit the equipment with a rubber hammer located by the side of the equipment to loosen the material from the sides of the hopper. The hopper was dented from having been hit with the rubber hammer previously. The material did not go down fast enough after the hopper had been hit with the rubber hammer. The instructor took a dowel stick which was lying nearby and inserted it into the hopper to shake the material down.

6. The injured employee then put a batch of material into the hopper. He told his instructor he could manage all right and that the instructor should get more material. The instructor left to do so. The injured employee noticed the material was sticking to the sides of the hopper and not being removed by the mixing bars. He took one of several sticks which were lying nearby and inserted it in the hopper to move the material down. The equipment was running at this time. The mixing bar struck the stick, knocking it from the injured man's hand. Instinctively, he reached in to recover the stick. His left hand got caught by one of the tines on the mixing bar. He was unable to pull his hand away and his lower arm was pulled into the hopper.

7. He was taken to the hospital in the ambulance. Further surgery was done on his left arm. He remained in the hospital from January 29, 1972 to February 8, 1972. He was receiving therapy to train him to use his right hand (he had been left handed). He will also be fitted with a prosthetic device to replace his left arm.

Interview with Instructor

8. The employee who had been instructing the injured man in the use of the equipment had received his instruction from another employee. This instruction had been limited to the use of the control buttons and observation of the pressure gauge. He had observed other men using the equipment and had seen them use both the rubber mallet and the dowel sticks to move the material. This man stated that he had used the equipment three times before the date of the accident. He stated that he had instructed the injured man in the use of the equipment on his own initiative. He instructed the injured employee in the use of the controls and how to put material into the equipment. He stated that he had also shown the man how to use the mallet. He did not show him nor did he tell him how to use a dowel stick to dislodge the material although some dowel sticks were near the equipment.

9. After inserting the first quantity of material and observing that it was moving satisfactorily, the injured employee suggested that he could run the equipment and requested his instructor to go get more material, which he did.

10. Immediately after leaving the equipment, the instructor heard yelling, looked and saw the injured employee had his arm caught in the equipment. The instructor followed the instructions for emergencies and telephoned to request that an ambulance be sent.

11. The instructor stated that the injured employee had informed him that he had dropped a stick into the equipment. The instructor stated that he had seen the injured man using the mallet.

Procurement and Modification of the Equipment

12. In May, 1971, equipment was installed for processing material used in the Nuclear Fuel Division. It was used for research and development. In January, 1972, it had been used for approximately three weeks on material that was difficult to process because it compacted.

13. The equipment was used primarily by employees on the first and second shift and occasionally by employees on the third shift.

14. Because the equipment was experimental, no job evaluation sheet had been made up. No written procedures for use of the equipment had been prepared.

15. In the summer of 1971, the men complained that they had to climb 12 feet up to the hopper to put material into the equipment. The safety representatives also complained of this hazard. As a result, the base of the equipment was removed, lowering it by about four feet.

16. In December, 1971, airborne contamination resulting from dumping material into the high hopper was recorded. Surveys taken during this time showed there had been an increase in the airborne counts. As a result, the high hopper was removed. The high hopper, not an original part of the equipment, had been fabricated at the Westinghouse plant and added to the original hopper in July, 1971. In addition, the high hopper was equipped with a vibrator. After removal of the high hopper, the vibrator was not re-installed because the heavier metal of the original hopper made the vibrator ineffective. In January, 1972, a suggestion was made by an employee that a vibrator be installed on the original hopper. The Engineering Department agreed to this, because it would feed the material more efficiently. Up to that time, if the material compacted, employees operating the equipment would stop it and use a dowel stick to dislodge the material from the sides of the hopper. The Engineering Department had not recommended the use of the dowel stick. Engineering personnel reported that the equipment was stopped when sticks were used to dislodge the material. In addition to the dowel sticks, some employees used a rubber mallet to hit the side of the equipment to dislodge the compacted material. The Engineering Department did not object to the use of the dowel stick when it became aware of this procedure because the equipment was stopped before the stick was inserted.

17. The equipment was not used after the accident on January 29, 1972. Modifications related to safety were made and an automatic feed was installed. These changes, made subsequent to the accident, also included: removal of the Westinghouse-built hopper, the installation of a screen and modification of the tines of the mixing bar by tying them together to sweep the sides of the hopper.

Safety Review of Equipment

18. It was ascertained that there had been no Safety Committee review of the equipment involved in the accident after it had been installed. A safety review had beem made by the Safety Engineer. This review included the control panels and switches. There was no write up of the safety review. Ordinarily, the initial review of a new piece of equipment is done by a maintenance foreman and the Safety Engineer. A caution tag, "Do not operate" is attached to the equipment until the review is completed. After the review, the tag is removed and equipment then put into use.

19. No protective devices had been installed on the equipment because it had not been contemplated that a man would do other than dump material from the container into the equipment. Representatives of the Bureau of Occupational Safety, Pennsylvania State Department of Labor, and a representative of the Pennsylvania State Department of Health had inspected the equipment during the week of January 31, 1972, and reportedly found no violation in connection with the construction or use of the equipment.

Training of Employees on Equipment

20. The company engineer who had arranged for the procurement of the equipment was instructed in its operation by a technical representative of the manufacturer. The engineer was also given an instruction manual. On the basis of the instruction he had received, and the information in the instruction manual, the engineer instructed other employees in the use of the equipment.

21. The foreman on the second shift trained his men by assigning an experienced fellow-employee to work with them. He found the men were more receptive to instruction from a fellow-employeee rather than from a supervisor. The supervisor stated that he had assigned an experienced employee to instruct the injured man in the use of the equipment. He stated that he himself had been instructed to use a rubber mallet to dislodge the material and was unaware that dowel sticks could be used to dislodge the material.

Safety Training Program

22. Employees testified that safety instruction had been sporadic, that emergency and evacuation drills were held occasionally but that there was no instruction in emergency procedures.

23. With regard to the training in safety of the employees, initial training was given by the Health and Safety Services Division with emphasis on radiation protection. The Safety Engineer gave training to new employees in general safety, fire and emergency situations, the use of safety equipment, reporting injuries, compensation, horse play and housekeeping. Additionally, Red Cross basic and advanced training was given and the purposes of air sampling, whole body counting and industrial safety were explained.

24. Records verified that basic Red Cross training was given to fire brigade members June 6 - 21, 1971, advanced Red Cross training was given to the fire brigade members, guards and senior personnel in July and August, 1971. A general safety lecture was given to all NFD personnel on May 26, 1970. This stressed health physics and criticality topics.

A safety meeting on air sampling was conducted June 12, 1971 for all shift personnel, for shift foremen November 9 and 10, 1971, and on December 17, 1971, for all NFD operators. In April, 1971, 13 NFD personnel were scheduled for whole body counting. Instruction in the purpose, results and meaning of this procedure were given to these people.

25. Industrial Safety meetings were held monthly, attended by safety observers, employees who volunteer for this assignment.

Emergency Procedures

26. Discrepancies in the licensee's emergency procedures were as follows: Only initial contacts had been made with Citizen's General Hospital, New Kensington, Pennsylvania. No further formal arrangements for training were made. No prior arrangements were made to designate hallways and rooms within the hospital for handling lower level contamination cases and no portable battery operated detection instruments were immediately available at the hospital for area and wound monitoring.

27. The emergency plans outlined funeral home and private ambulance services to transport injured persons when in fact the licensee possesses its own equipped ambulance with trained personnel.

28. An updated list of persons to be notified of an emergency, was not maintained.

29. The licensee's procedures specified that evacuation drills are to be conducted twice annually with all personnel evacuating their respective areas. On these occasions, the foreman reviews emergency practices with personnel. The last full scale evacuation drill with outside involvement was conducted in September, 1970, according to the records. The licensee stated that a critique was held after each evacuation drill with the foremen taking the opportunity to instruct and review with the employees various aspects of the drill.

30. Operators in the plant stated they had no training in accident procedures. An emergency telephone number was posted prominently in various places around the shop and the employees had been instructed to call this number in an emergency for assistance.

Health Physics Coverage

31. Members of the employee's union had discussed the accident with management. The only concern of the union appeared to be the lack of a health physicist for the second shift.

32. Health physics supervision does not believe there is a health hazard in the plant because air samples are always below maximum permissible concentrations and there is a monitoring program. There is health physics coverage on the first and third shifts because the data obtained from the air sampling can be processed to the computers during these shifts. The computer is not available for use during the second shift.

Health Physics Aspects

33. The fuel being processed at the facility was uranium of low U-235 enrichment.

34. The injured man was exposed to a total of 2.7 MPCa/hr for the seven day period prior to the accident. Urine samples collected prior to the incident indicated 22 d/ml on a day's sample collected December 15, 1970, and 0 d/ml on a day's sample collected on June 16, 1971. Urine sample results collected during the period 10:00 p.m., on January 29, 1972 through 10:00 a.m., January 31, 1972 indicated a total of 4.50 d/ml. Samples of the injured man's clothing and the hospital sheet used for him were sampled, obtaining approximately 100 centimeter square sections of his socks, pants, undershirt, underwear, and sheet. The results indicated 10 d/m, 27 d/m, 9 d/m and 12 d/m, respectively. A survey of the injured man's face, neck, hair, arms and injured forearm, all indicated no contamination when using an Eberline Wound Monitor (NaI Crystal).

35. A hospital survey of all areas and equipment used in association with the incident was made using an Eberline PAC-4G Survey Meter. No contamination was found according to the records. The amputated portion of the man's arm and the severed portion were disposed of through the hospital morgue facilities. Less than 1,000 d/m of activity was noted on these portions.

Site Health Physics Surveillance

36. Health physics coverage of the activities conducted at the fuel processing site was on a service basis. Site safety personnel provided the services to the NFD and any other division located at the site. Routine daily surveys, equipment release surveys, and special surveys were performed on the day shift. A third shift HP technician was assigned to collect routine air samples and to perform other assigned tasks. No routine second shift HP technician was assigned as there was no routine service required during that period. On several occasions when special evaluations were being performed, a health physics technician was assigned and given specific activities to pursue but not for general process control of the fuel process.

Management Summation

37. A management summation was held on February 24, 1972. Training of personnel was discussed. It was pointed out that no formal training program was established to instruct people in radiation hazards, equipment use and qualifications for operation of equipment. No safety review was made of the equipment in question subsequent to its modification. Emergency hospital arrangements were not completed and the guard emergency call list requires updating. The licensee's staff, present at the discussion, stated that safety reviews of modified equipment would be re-instituted and a follow-up made on the hospital arrangement.

Westinghouse Electric Corporation Power Systems

Electro Mechanical Division
Box 217
Cheswick Pennsylvania 15024
Cable WECHESWICK
(412) 274 6300
(412) 363 8700

April 13, 1973

United States Atomic Energy Commission
Director of Regulatory Operations
970 Broad Street
Newark, New Jersey 07102

Attention: Mr. James P. O'Reilly

Gentlemen:

We have reviewed Summary Investigation Report No. 72-01. We find the report does not contain any proprietary information. We were asked to review only for proprietary information, however we feel we must voice our objection to the accuracy of some of the statements in the summary. Further, it presents only one side of the investigation since differences of opinion presented by Westinghouse Management personnel has not been given due consideration.

Sincerely,

C. E. Anthony
EMD General Manager

rs

ITEM # 157

C/157

APR 5 1973

Westinghouse Electric Company
Attention: Mr. C. E. Anthony
General Manager
Cheswick, Pennsylvania 15024

Gentlemen:

In accordance with the telephone discussion on April 4, 1973 between Mr. W. R. Lorenz of this office and your Mr. Keith Bodden, we have enclosed, for your review for proprietary information, a summary report of our investigation of the accident which occurred on January 29, 1972.

As discussed, it is requested that you inform this office promptly, in writing, of the results of your review for proprietary information.

Your prompt attention in this matter will be appreciated.

Sincerely,

James P. O'Reilly
Director

Enclosure:
Summary Investigation Report No. 72-01

ITEM # 158

CH58

OFFICE ▶	CRESS:I					
SURNAME ▶	Ryan/eb	O'Reilly				
DATE ▶	4/4/73					

Form AEC-318 (Rev. 9-53) AECM 0240

MAR 2 2 1973

Mr. David W. Rees
920 State Avenue
Coraopolis, Pennsylvania 15108

Dear Mr. Rees:

This is in response to your letter of February 22, 1973 regarding our investigation of an accident which occurred at Westinghouse Electric Corporation, Cheswick, Pennsylvania on January 29, 1972.

We are reviewing our files in an attempt to locate any documents related to your request, and should be in a position to respond to your letter within the next two weeks.

Sincerely,

ORIGINAL SIGNED BY:
D. J. Donoghue

Daniel J. Donoghue, Director
Office of Administration -
Regulation

DISTRIBUTION:
L. M. Muntzing
E. J. Bloch
L. V. Gossick
D. J. Donoghue
R. C. Paulus
H. K. Shapar
M. A. Rowden
T. F. Engelhardt
G. W. Roy
G. H. Bidinger
Central Files Subj.
REG RDR
Felton RDR
Rules & Proceedings Br. RDR
GEttus (DR-5352)

ITEM # 159 C/159

OFFICE ▸	DRA	RO	DRA			
SURNAME ▸	JMFelton:cjh	RCPaulus	DJDonoghue			
DATE ▸	3/21/73	3/2/73	3/ /73			

Form AEC-318 (Rev. 9-53) AECM 0240

APR 25 1973

F. A. Dreher, Senior Construction Engineer, Field Support &
Enforcement Branch
Directorate of Regulatory Operations, HQ

WESTINGHOUSE ELECTRIC CORPORATION
SUMMARY INVESTIGATION REPORT 72-01

On April 20, 1973, we received the enclosed original signed letter dated April 13, 1973 from the licensee. An unsigned copy of the letter previously received at this office was forwarded to you by Facsimile on April 13, 1973.

Alvin F. Ryan
Investigation Specialist

Enclosure:
As stated

ITEM # 160

C/160

OFFICE ▶	CRESS: I					
SURNAME ▶	Ryan					
DATE ▶	4/26/73					

Form AEC-318 (Rev. 9-53) AECM 0240

Westinghouse Electric Corporation Power Systems

Electro Mechanical Division

Box 217
Cheswick Pennsylvania 15024
Cable WECHESWICK
(412) 274 6300
(412) 363 8700

April 11, 1973

United States Atomic Energy Commission
Directorate of Regulatory Operations
970 Broad Street
Newark, New Jersey 07102

Attention: Mr. Robert T. Carlson

Gentlemen:

We have reviewed RO Inspection Report No. 70-337/73-01 regarding inspection of operations authorized under License No. SNM-338. Dates of inspection were January 10 - 12, 1973. In our judgment the report does not contain any proprietary information. As a result we will not apply for withholding any information in this report.

Very truly yours,

C. E. Anthony
EMD General Manager

rs

ITEM # 161

4/11/73

April 3, 1973

Donald F. Knuth, Deputy Director for Field Operations

RO SUMMARY INVESTIGATION REPORT NO. 72-01
WESTINGHOUSE ELECTRIC COMPANY
CHESWICK, PENNSYLVANIA

In accordance with verbal instructions from your staff, the subject summary investigation report is forwarded for your review prior to our transmittal to the licensee for review for proprietary information.

The summary was initiated by your letter of March 22 and followed the instructions provided by RO:HQ. Namely, all names of individuals, all information known by RO:I to be proprietary, and all opinions, conclusions, etc., were deleted.

Please inform this office when your review is completed so we can expedite processing of the report.

Sincerely,

James P. O'Reilly
Director

Enclosure:
Summary Investigation Report No. 72-01

cc: F. Dreher
G. W. Roy

ITEM # 162

OFFICE ▶	CRESS: I					
SURNAME ▶	Ryan/ds	Nelson	O'Reilly			
DATE ▶	4/3/73	4/3/73	4/3/73			

Form AEC-318 (Rev. 9-53) AECM 0240

9

Summary of Investigation

Directorate of Regulatory Operations, Region I

Accident on January 29, 1972 Resulting in the Loss of the

Lower Left Arm of a Westinghouse Employee

Reasons for Investigation

1. Investigation was initiated February 10, 1972, by Regulatory Operations Region I, Newark, into the circumstances of an industrial accident on January 29, 1972 at the Westinghouse Electric Corporation Facility, Chesswick, Pennsylvania. RO:I was given notification by telephone on February 4, 1972, confirmed by a letter from the licensee dated February 4, 1972.

Summary of Facts

2. An employee was receiving initial instruction in operating equipment from another operator. During the initial operation, the employee was momentarily left alone. The material being processed in the equipment packed. He used a dowel stick to loosen the material in the feed hopper. He inadvertently dropped the stick when it was struck by the mixing bar and instinctively reached for the stick. His left hand became impaled on the mixing bar resulting in the loss of his left arm below the elbow. The employee was removed from the equipment, taken to a local hospital where surgery was performed. The radiological aspects of the accident were insignificant.

3. The licensee's training program, safety practices and emergency procedures were reviewed during the investigation. Two violations of AEC requirements and two safety items were observed as set out below:

   (1) Paragraph 20.206(a) - Failure to instruct an employee in precautions to be taken during operation of the equipment to prevent injuries involving radioactive material. The employee was not informed of the hazard associated with the use of a stick in and around moving parts.

   (2) License Condition 18 - Contrary to Emergency Procedures incorporated in License Condition 18, only initial contacts were made with the local hospital. Specifically, prior arrangements were not made with the hospital for handling low contaminated cases. Portable battery-operated detection instruments for area and wound monitoring were not available.

(3) The licensee's system of having one employee train another provides no means by which the supervisor knows what instructions and precautions have been given to the trainee, no training follow-up by the supervisor is done to assure safety procedures are being followed and no periodic retraining is conducted to assure that employees remain knowledgeable.

(4) Modifications were made to the equipment at the Cheswick Facility and no safety review was made prior to placing it into service. This was also in violation of Westinghouse procedures entitled, "Safety Review for New, Modified, or Relocated Equipment."

Interview with Injured Employee

4. The injured employee was assigned to Nuclear Fuel Division on January 10, 1972. He did not work on the equipment until January 29, 1972, when his foreman assigned another employee to instruct him in the operation of the equipment. His instructor showed him how to work the control buttons which were on a cage behind him as he faced the equipment. The control buttons could not be reached from in front of the equipment without moving away from the equipment. His instructor showed him how to put material into the equipment and how to use a dowel stick to remove the material from the sides of the hopper.

5. His instructor put a batch of material into the hopper. When the material built up on the sides of the hopper, the instructor hit the equipment with a rubber hammer located by the side of the equipment to loosen the material from the sides of the hopper. The hopper was dented from having been hit with the rubber hammer previously. The material did not go down fast enough after the hopper had been hit with the rubber hammer. The instructor took a dowel stick which was lying nearby and inserted it into the hopper to shake the material down.

6. The injured employee then put a batch of material into the hopper. He told his instructor he could manage all right and that the instructor should get more material. The instructor left to do so. The injured employee noticed the material was sticking to the sides of the hopper and not being removed by the mixing bars. He took one of several sticks which were lying nearby and inserted it in the hopper to move the material down. The equipment was running at this time. The mixing bar struck the stick, knocking it from the injured man's hand. Instinctively, he reached in to recover the stick. His left hand got caught by one of the tines on the mixing bar. He was unable to pull his hand away and his lower arm was pulled into the hopper.

7. He was taken to the hospital in the ambulance. Further surgery was done on his left arm. He remained in the hospital from January 29, 1972 to February 8, 1972. He was receiving therapy to train him to use his right hand (he had been left handed). He will also be fitted with a prosthetic device to replace his left arm.

Interview with Instructor

8. The employee who had been instructing the injured man in the use of the equipment had received his instruction from another employee. This instruction had been limited to the use of the control buttons and observation of the pressure gauge. He had observed other men using the equipment and had seen them use both the rubber mallet and the dowel sticks to move the material. This man stated that he had used the equipment three times before the date of the accident. He stated that he had instructed the injured man in the use of the equipment on his own initiative. He instructed the injured employee in the use of the controls and how to put material into the equipment. He stated that he had also shown the man how to use the mallet. He did not show him nor did he tell him how to use a dowel stick to dislodge the material although some dowel sticks were near the equipment.

9. After inserting the first quantity of material and observing that it was moving satisfactorily, the injured employee suggested that he could run the equipment and requested his instructor to go get more material, which he did.

10. Immediately after leaving the equipment, the instructor heard yelling, looked and saw the injured employee had his arm caught in the equipment. The instructor followed the instructions for emergencies and telephoned to request that an ambulance be sent.

11. The instructor stated that the injured employee had informed him that he had dropped a stick into the equipment. The instructor stated that he had seen the injured man using the mallet.

Procurement and Modification of the Equipment

12. In May, 1971, equipment was installed for processing material used in the Nuclear Fuel Division. It was used for research and development. In January, 1972, it had been used for approximately three weeks on material that was difficult to process because it compacted.

13. The equipment was used primarily by employees on the first and second shift and occasionally by employees on the third shift.

14. Because the equipment was experimental, no job evaluation sheet had been made up. No written procedures for use of the equipment had been prepared.

15. In the summer of 1971, the men complained that they had to climb 12 feet up to the hopper to put material into the equipment. The safety representatives also complained of this hazard. As a result, the base of the equipment was removed, lowering it by about four feet.

16. In December, 1971, airborne contamination resulting from dumping material into the high hopper was recorded. Surveys taken during this time showed there had been an increase in the airborne counts. As a result, the high hopper was removed. The high hopper, not an original part of the equipment, had been fabricated at the Westinghouse plant and added to the original hopper in July, 1971. In addition, the high hopper was equipped with a vibrator. After removal of the high hopper, the vibrator was not re-installed because the heavier metal of the original hopper made the vibrator ineffective. In January, 1972, a suggestion was made by an employee that a vibrator be installed on the original hopper. The Engineering Department agreed to this, because it would feed the material more efficiently. Up to that time, if the material compacted, employees operating the equipment would stop it and use a dowel stick to dislodge the material from the sides of the hopper. The Engineering Department had not recommended the use of the dowel stick. Engineering personnel reported that the equipment was stopped when sticks were used to dislodge the material. In addition to the dowel sticks, some employees used a rubber mallet to hit the side of the equipment to dislodge the compacted material. The Engineering Department did not object to the use of the dowel stick when it became aware of this procedure because the equipment was stopped before the stick was inserted.

17. The equipment was not used after the accident on January 29, 1972. Modifications related to safety were made and an automatic feed was installed. These changes, made subsequent to the accident, also included: removal of the Westinghouse-built hopper, the installation of a screen and modification of the tines of the mixing bar by tying them together to sweep the sides of the hopper.

Safety Review of Equipment

18. It was ascertained that there had been no Safety Committee review of the equipment involved in the accident after it had been installed. A safety review had beem made by the Safety Engineer. This review included the control panels and switches. There was no write up of the safety review. Ordinarily, the initial review of a new piece of equipment is done by a maintenance foreman and the Safety Engineer. A caution tag, "Do not operate" is attached to the equipment until the review is completed. After the review, the tag is removed and equipment then put into use.

19. No protective devices had been installed on the equipment because it had not been contemplated that a man would do other than dump material from the container into the equipment. Representatives of the Bureau of Occupational Safety, Pennsylvania State Department of Labor, and a representative of the Pennsylvania State Department of Health had inspected the equipment during the week of January 31, 1972, and reportedly found no violation in connection with the construction or use of the equipment.

Training of Employees on Equipment

20. The company engineer who had arranged for the procurement of the equipment was instructed in its operation by a technical representative of the manufacturer. The engineer was also given an instruction manual. On the basis of the instruction he had received, and the information in the instruction manual, the engineer instructed other employees in the use of the equipment.

21. The foreman on the second shift trained his men by assigning an experienced fellow-employee to work with them. He found the men were more receptive to instruction from a fellow-employeee rather than from a supervisor. The supervisor stated that he had assigned an experienced employee to instruct the injured man in the use of the equipment. He stated that he himself had been instructed to use a rubber mallet to dislodge the material and was unaware that dowel sticks could be used to dislodge the material.

Safety Training Program

22. Employees testified that safety instruction had been sporadic, that emergency and evacuation drills were held occasionally but that there was no instruction in emergency procedures.

23. With regard to the training in safety of the employees, initial training was given by the Health and Safety Services Division with emphasis on radiation protection. The Safety Engineer gave training to new employees in general safety, fire and emergency situations, the use of safety equipment, reporting injuries, compensation, horse play and housekeeping. Additionally, Red Cross basic and advanced training was given and the purposes of air sampling, whole body counting and industrial safety were explained.

24. Records verified that basic Red Cross training was given to fire brigade members June 6 - 21, 1971, advanced Red Cross training was given to the fire brigade members, guards and senior personnel in July and August, 1971. A general safety lecture was given to all NFD personnel on May 26, 1970. This stressed health physics and criticality topics.

A safety meeting on air sampling was conducted June 12, 1971 for all shift personnel, for shift foremen November 9 and 10, 1971, and on December 17, 1971, for all NFD operators. In April, 1971, 13 NFD personnel were scheduled for whole body counting. Instruction in the purpose, results and meaning of this procedure were given to these people.

25. Industrial Safety meetings were held monthly, attended by safety observers, employees who volunteer for this assignment.

Emergency Procedures

26. Discrepancies in the licensee's emergency procedures were as follows: Only initial contacts had been made with Citizen's General Hospital, New Kensington, Pennsylvania. No further formal arrangements for training were made. No prior arrangements were made to designate hallways and rooms within the hospital for handling lower level contamination cases and no portable battery operated detection instruments were immediately available at the hospital for area and wound monitoring.

27. The emergency plans outlined funeral home and private ambulance services to transport injured persons when in fact the licensee possesses its own equipped ambulance with trained personnel.

28. An updated list of persons to be notified of an emergency, was not maintained.

29. The licensee's procedures specified that evacuation drills are to be conducted twice annually with all personnel evacuating their respective areas. On these occasions, the foreman reviews emergency practices with personnel. The last full scale evacuation drill with outside involvement was conducted in September, 1970, according to the records. The licensee stated that a critique was held after each evacuation drill with the foremen taking the opportunity to instruct and review with the employees various aspects of the drill.

30. Operators in the plant stated they had no training in accident procedures. An emergency telephone number was posted prominently in various places around the shop and the employees had been instructed to call this number in an emergency for assistance.

Health Physics Coverage

31. Members of the employee's union had discussed the accident with management. The only concern of the union appeared to be the lack of a health physicist for the second shift.

32. Health physics supervision does not believe there is a health hazard in the plant because air samples are always below maximum permissible concentrations and there is a monitoring program. There is health physics coverage on the first and third shifts because the data obtained from the air sampling can be processed to the computers during these shifts. The computer is not available for use during the second shift.

Health Physics Aspects

33. The fuel being processed at the facility was uranium of low U-235 enrichment.

34. The injured man was exposed to a total of 2.7 MPCa/hr for the seven day period prior to the accident. Urine samples collected prior to the incident indicated 22 d/ml on a day's sample collected December 15, 1970, and 0 d/ml on a day's sample collected on June 16, 1971. Urine sample results collected during the period 10:00 p.m., on January 29, 1972 through 10:00 a.m., January 31, 1972 indicated a total of 4.50 d/ml. Samples of the injured man's clothing and the hospital sheet used for him were sampled, obtaining approximately 100 centimeter square sections of his socks, pants, undershirt, underwear, and sheet. The results indicated 10 d/m, 27 d/m, 9 d/m and 12 d/m, respectively. A survey of the injured man's face, neck, hair, arms and injured forearm, all indicated no contamination when using an Eberline Wound Monitor (NaI Crystal).

35. A hospital survey of all areas and equipment used in association with the incident was made using an Eberline PAC-4G Survey Meter. No contamination was found according to the records. The amputated portion of the man's arm and the severed portion were disposed of through the hospital morgue facilities. Less than 1,000 d/m of activity was noted on these portions.

Site Health Physics Surveillance

36. Health physics coverage of the activities conducted at the fuel processing site was on a service basis. Site safety personnel provided the services to the NFD and any other division located at the site. Routine daily surveys, equipment release surveys, and special surveys were performed on the day shift. A third shift HP technician was assigned to collect routine air samples and to perform other assigned tasks. No routine second shift HP technician was assigned as there was no routine service required during that period. On several occasions when special evaluations were being performed, a health physics technician was assigned and given specific activities to pursue but not for general process control of the fuel process.

Management Summation

37. A management summation was held on February 24, 1972. Training of personnel was discussed. It was pointed out that no formal training program was established to instruct people in radiation hazards, equipment use and qualifications for operation of equipment. No safety review was made of the equipment in question subsequent to its modification. Emergency hospital arrangements were not completed and the guard emergency call list requires updating. The licensee's staff, present at the discussion, stated that safety reviews of modified equipment would be re-instituted and a follow-up made on the hospital arrangement.

MAR 3 0 1973

Docket No. 70-337

Westinghouse Electric Corporation
Attention: Mr. C. E. Anthony
General Manager
Cheswick, Pennsylvania 15024

References: Your letter dated March 29, 1973
In response to our letter dated February 5, 1973

Gentlemen:

Thank you for your letter informing us of the action you have taken to correct the violation which we brought to your attention following our recent inspection of your licensed program. Your corrective action will be verified during our next inspection of your program.

In accordance with Section 2.790 of the AEC's "Rules of Practice," Part 2, Title 10, Code of Federal Regulations, a copy of this letter and the enclosed inspection report will be placed in the AEC's Public Document Room. If this report contains any information that you (or your contractors) believe to be proprietary, it is necessary that you make a written application within 12 days to this office to withhold such information from public disclosure. Any such application must include a full statement of the reasons on the basis of which it is claimed that the information is proprietary, and should be prepared so that proprietary information identified in the application is contained in a separate part of the document. If in your judgement, the report does not contain proprietary information, please provide written confirmation to our office within 12 days.

Sincerely,

Robert T. Carlson, Chief
Facility Operations Branch

Enclosure:
RO Inspection Report No. 70-337/73-01

ITEM # 163 C/163

bcc: RO Chief, M&FFB (2)
RO:HQ (4)
L:D/D for Fuels & Materials
DR Central Files
PDR
NSIC
State of Pennsylvania

OFFICE ▶			RO		
SURNAME ▶			Crocker:smg	Carlson	O'Reilly
DATE ▶			3/30/73		3/30/73

Form AEC-318 (Rev. 9-53) AECM 0240

stinghouse Electric Corporation Power Systems

Electro Mechanical Division

Box 217
Cheswick Pennsylvania 15024
Cable WECHESWICK
(412) 274 6300
(412) 363 8700

March 29, 1973

United States Atomic Energy Commission
Directorate of Regulatory Operations
970 Broad Street
Newark, New Jersey 07102

Attention: Mr. Robert T. Carlson

Gentlemen:

We have reviewed your letter of February 5, 1973, regarding inspection of activities authorized under AEC License No. SNM-338.

Specific reference is made to the non-compliance item which states that we did not possess an AEC license to authorize the export of 171 grams of enriched uranium.

As a result of terminating manufacturing operations under this license, equipment was placed on disposition within various Westinghouse Electric Corporation facilities. Examination of records show the equipment which was exported was designated "ship directly to contaminated area." Accountability papers which were processed were marked N/A (not applicable) indicating less than one gram of 235 U was present. Health and Safety surveys showed very low levels of external contamination and radiation. Since the material was being disposed to a contaminated area, the negligible external contamination lost its significance as shipment of special nuclear material. As a result requirements of 49CFR177.817 were overlooked. A more detailed explanation of our investigation is found in our letter of October 17, 1972, addressed to the attention of J. O'Reilly.

The basic problem was the failure to place significance to possible hold-ups of 235 U materials which would require permit for export. Future shipments of contaminated equipment from the Cheswick Site will be made only after verification that holdup of material has not occurred. This will require sufficient dismantling of equipment.

If you have any questions or comments on this matter, please write or telephone.

Very truly yours,

C. E. Anthony
EMD General Manager

rs

ITEM # 164

164

File SNM-338

UNITED STATES
ATOMIC ENERGY COMMISSION
DIRECTORATE OF REGULATORY OPERATIONS
REGION 1
970 BROAD STREET
NEWARK, NEW JERSEY 07102

March 27, 1973

TO: File GBM
FROM: Paul R. Nelson

MANAGEMENT MEETING - WESTINGHOUSE CORPORATION, CHESWICK, PA.
LICENSE NO. SNM-338

On October 4, 1972 a meeting was held at Region I with Westinghouse representatives to discuss the inadequacies of their reply to our documentation letter of June 9, 1972.

Attending the meeting were:

Mr. W. Piros - Manager, Health & Safety Services
Mr. H. Kunkle - Manager, Industrial Safety
Mr. E. Brunner - Chief, Facility Test & Startup Branch
Mr. P. Nelson - Chief, Radiological & Environmental Protection Branch
Mr. W. Lorenz - Radiation Specialist
Mr. A. Ryan - Investigation Specialist

Mr. Piros was informed that we were not satisfied with their reply of June 27, 1972 to Noncompliance Item No. 1 and Safety Item No. 1. The reasons for our position were presented and explained. It was emphasized that a supervisor should know what training is provided an employee, and should follow-up as necessary to ensure procedures are being followed. It was also emphasized that periodic retraining of employees is necessary.

Following this discussion, Mr. Piros stated that now that they better understood what was wanted another reply supplementing their first would be submitted.

Mr. Piros was informed that in the future, he could expect greater inspection emphasis on audits both at first line supervision and management levels.

C/165

ITEM # 165

FEB 5 1973

Westinghouse Electric Corporation
Attention: Mr. E. J. Cattabiani,
General Manager
Electro-Mechanical Division
Cheswick, Pennsylvania 15024

Docket No. 70-337

Gentlemen:

This refers to the inspection conducted by Mr. Crocker of this office on January 10-12, 1973 of activities authorized by AEC License No. SNM-338 and to the discussions of our findings held by Mr. Crocker with Mr. Kunkle and other members of your staff at the conclusion of the inspection.

Areas examined during this inspection included: organization; scope of operations including the decontamination activities for the period from October, 1972 to January 10, 1973; records of in-plant airborne activity levels and employee exposures for the period from July through December, 1972; and special nuclear material inventory. Within these areas, the inspection consisted of selective examinations of procedures and representative records, interviews with personnel, and observations by the inspector.

In addition, our inspector verified the corrective actions described in your letters to the Directorate of Regulatory Operations dated June 27 and October 13, 1972. Our inspector also examined the matter reported by you to the Directorate of Regulatory Operations, Headquarters, in a telephone call on September 14, 1972, reporting an export of enriched uranium. We have no further questions concerning these matters.

During this inspection, it was found that one of your activities appeared to be in violation of an AEC requirement. The item and reference to the pertinent requirement are listed in the enclosure to this letter. This letter constitutes a notice sent to you pursuant to the provisions of Section 2.201 of the AEC's "Rules of Practice," Part 2,

ITEM # 16 CL16 (11)

OFFICE ▶	CRESS:I					
SURNAME ▶	Crocker/dg	Carlson				NELSON
DATE ▶	2/2/73					2/2/73

Form AEC-318 (Rev. 9-53) AECM 0240

Title 10, Code of Federal Regulations. Section 2.201 requires you to submit to this office within 20 days of your receipt of this notice, a written statement of explanation in reply, including: (1) corrective steps which have been or will be taken by you, and the results achieved; (2) corrective steps which will be taken to avoid further violations; and (3) the date when full compliance will be achieved.

Should you have any questions concerning this inspection, we will be pleased to discuss them with you.

Sincerely,

Robert T. Carlson, Chief
Facility Operations Branch

Enclosure:
Description of Violation

bcc: RO Chief, Materials & Fuel Facilities Branch (2)
RO:HQ (4)
L:D/D for Fuels & Materials
DR Central Files
PDR
NSIC
State of Pennsylvania

ENCLOSURE

DESCRIPTION OF VIOLATION

Westinghouse Electric Corporation
Cheswick, Pennsylvania 15024
Docket No. 70-337
License No. SNM-338

One activity under your license appears to be in noncompliance with AEC regulations, as indicated below:

10 CFR 70.3 "License requirements", states, "No person subject to the regulations in this part shall receive title to, own, acquire, deliver, receive, possess, use, transfer, import or export special nuclear material except as authorized in a license issued by the Commission pursuant to these regulations."

Contrary to the above requirement, you did not possess an AEC license to authorize the export of 171 grams of enriched uranium that was conducted on or about June 30, 1972.

U. S. ATOMIC ENERGY COMMISSION

DIRECTORATE OF REGULATORY OPERATIONS

REGION I

RO Inspection Report No.: 70-337/73-01 Docket No.: 70-337

Licensee: Westinghouse Electric Corporation License No.: SNM-338

Uranium Fabrication Facility Priority: I

Category: (A)-1

Location: Cheswick, Pennsylvania

Type of Licensee: Fuel Fabrication

Type of Inspection: Unannounced

Dates of Inspection: January 10-12, 1973

Dates of Previous Inspection:

Principal Inspector: H. W. Crocker 1/30/73

H. W. Crocker, Senior Fuel Facilities Inspector Date

Accompanying Inspectors: W. W. Kinney 1/30/73

W. W. Kinney, Fuel Facilities Inspector Date

Date

Other Accompanying Personnel:

Reviewed By: R. T. Carlson 2/2/73

R. T. Carlson, Chief, Facility Operations Branch Date

SUMMARY OF FINDINGS

Enforcement Action

Violation

Failure to possess authorized export license for June, 1972, export of 171 grams of U-235 to Canada. (Report Details, Paragraph 7)

License Action on Previously Identified Enforcement Items

Corrective actions taken by the licensee were noted to be as described in licensee's letters dated June 27 and October 13, 1972. (Report Details, Paragraph 6)

Design Changes

None

Unusual Occurrences

The licensee's Telecon of September 14, 1972, to Directorate of Regulatory Operations, Headquarters, reported the accidental export to Canada of 171 grams of U-235 contained in a shipment of contaminated machinery. (Report Details, Paragraph 7)

Other Significant Findings

A. Current Findings

The licensee is in the final stages of their decontamination and decommissioning activities for the uranium fabrication facility. (Report Details, Paragraph 4)

B. Status of Previously Reported Unresolved Items

Not applicable.

Management Interview

The following licensee personnel attended a management interview held on January 12, 1973:

H. Kunkle, Manager, Industrial Relation, Electro-Mechanical Division
W. Piros, Manager, Industrial Health and Safety Services, EMD

The following subjects were discussed:

A. The licensee was informed of the scope of the inspection and of the following violation.

    1. Failure to possess an AEC export license for the accidental export of 171 grams of U-235 which occurred about June 30, 1972.

DETAILS

1. Persons Contacted

H. Kunkle, Manager, Industrial Relations Electro-Mechanical Division (EMD)
B. Carroll, Manager, Production and Planning, Nuclear Fuel Department (NFD)
E. Flowers, Lead Foreman, NFD
K. Bodden, Supervisor, Industrial Hygiene and Health Physics, EMD
W. Piros, Manager, Industrial Health and Safety Services, EMD

2. Organization

a. Due to the phasing out of uranium fuel fabrication operations under this license, most of the personnel have been transferred to other assignments within the company.

b. Mr. P. Koppel, Manager, NFD Operations, is in charge of the final decommissioning activities for the fabrication plant. He is assisted by Mr. Carroll, Mr. Flowers and two technicians.

3. Scope of Operations

It was observed that the current plant operations are devoted entirely to the final decontamination and close out of the fabrication and support areas. All plant processing equipment has been decontaminated and transferred to other corporate sites or sold to other licensees.

4. Facility Decontamination

a. The status of the licensee's decontamination activities in the uranium fabrication facility was examined. It was observed that in the high bay fuel assembly section all equipment has been removed and the area has been surveyed and found to be free of contamination. The assembly area operations were limited to the handling of encapsulated fuel materials.

b. The processing equipment has been removed from the fuel powder storage, fuel pellet fabrication, fuel pellet loading, waste tank system, and chemistry laboratory areas, and the areas have also been decontaminated. The floors in the fuel processing

areas were stripped down to the original primer paint. The floors were also given a final solvent scrub and water rinse according to the licensee. Examination of the survey records indicates that all process floors have been decontaminated to <50 D/M/100 cm^2 removable alpha contamination and fixed alpha contamination is generally less than 500 D/M 100 cm^2. Some spots of fixed alpha contamination approaching 3,000 D/M/100 cm^2 were found and one spot of 25,000 D/M/100 cm^2 was detected. Survey records show that walls, fixtures, pipes and ledges averaged <10 D/M/100 cm^2 of removable alpha contamination (maximum of 60 D/M 100 cm^2) and fixed alpha contamination averaged <50 D/M/100 cm^2 (maximum of 750 D/M/100 cm^2). Seventy check point areas were used for surveys conducted in the plant locations where activities involving exposed special nuclear material were conducted. The licensee, at the time of the inspection, was initiating cleanout of the final four inch drain line which connects the fuel process area to the waste tank area. The inspector discussed the importance of criticality safety controls for the cleanout operation. Licensee representatives stated that the cleanout activity will be closely controlled with respect to criticality and radiological safety.

c. Licensee representatives stated that the decontamination activities will be completed by January 31, 1973, and that a report defining the final radioactivity levels in the plant will be sent to the Commission. The licensee described his plans to convert the uranium fabrication areas to metal fabrication operations which do not utilize radioactive materials. Painting of floors and walls has been completed in the non-process areas of the fabrication plant. Painting in the process areas will soon commence.

5. Personnel Exposure and Airborne Concentrations

a. Licensee representatives stated that routine process area air sampling was stopped in mid-November, 1972, after equipment removal and major decontamination was accomplished. Periodic breathing zone and area sampling has continued for specific decontamination activities. They also stated that urine sampling of employees is continuing during the final cleanup activities.

b. The licensee's records on airborne uranium activity levels and exposure of personnel to airborne uranium for the period July through December, 1972, were examined. No overexposures to

personnel were disclosed. The records confirm that the licensee investigated sources of airborne activity when air concentrations exceeded the licensee's administrative action level.

6. Previously Identified Enforcement Items

a. In letters dated June 27 and October 13, 1972, the licensee indicated their proposed corrective actions regarding two items of noncompliance and two safety items noted in our investigation of an accident that occurred on January 29, 1972, in which an employee was injured while operating a powder preparation machine.

b. In their October 13, 1972 letter the licensee stated that Job Safety Analyses are written for their operations and that these will be used by supervision to instruct new employees of hazards associated with the equipment operations. In addition, employees will be reinstructed on these matters on a six months frequency. This practice is to include both the uranium and plutonium operations at Cheswick. At the time of this inspection, the uranium plant processing operations had terminated. The inspector examined the Job Safety Analyses prepared for the plutonium operations. The licensee has initiated work on a filing system to provide records on the training received by each employee. In addition, they confirmed that supervisors will provide followup to assure that employees are knowledgeable in the safety precautions within the six month period as stated in their letter and these audits will be documented. This activity is just being initiated and no documentation was available at the time of the inspection.

c. Two training sessions devoted to the use of radiation instruments, surveying techniques, preventive maintenance, respirator training and Occupational Safety and Health Administration (OSHA) regulations were given in December, 1972. Tests were given after the sessions to verify the degree of information retention achieved. The records of the training and tests were examined.

d. The licensee has a system to provide reviews of all modified or relocated equipment. No such modifications had been made since the licensee's letter indicating corrective actions on this subject.

e. The licensee's physician has met with officials of the local hospital concerning the handling of potentially contaminated

patients. According to licensee representatives, the arrangement continues to be that the licensee will provide radiological instrumentation and contamination control at the hospital, including supply of instruments as needed. The licensee reports that a training session is being set up for all hospital personnel before February 15, 1973. The delay for this program, according to the licensee, is to arrange a time which will allow the maximum number of hospital employees to attend. In addition, the licensee stated they have a contract with a Pittsburgh hospital to provide for treatment of potentially contaminated patients. They report that this hospital will supply beds and provide radiological contamination control, availability of whole body counting if required as well as use of their physicians experienced in nuclear applications.

7. Export of Uranium Dioxide

a. On September 14, 1972, the licensee notified the Commission that on September 13, 1972, they were informed that a shipment of contaminated surplus mechanical equipment from their Cheswick Plant, to Westinghouse Canada Limited, on June 30, 1972, contained 171 grams of U-235 in uranium dioxide, 3 percent enriched in U-235. The presence of the uranium oxide in the one item was discovered during dismantling of the equipment items at the receivers plant. On October 17, 1972, the licensee submitted the report of their investigation into this matter to RO:I. Circumstances concerning this occurrence were examined during this inspection. The records concerning the packaging and shipment of the surplus machinery were examined. Two presses, one classifier, one granulator, and six pellet trays made up the June 30, 1972 shipment. Survey records dated June 27, 1972, indicated fixed alpha contamination > 25,000 D/M/100 cm^2, removable alpha contamination < 3,000 D/M/100 cm^2, and < 1. mR/hr Beta-Gamma radiation at 1 centimeter from the surfaces of the equipment. The licensee's Radioactive Material Shipping Record, dated June 30, 1972, indicates that the equipment items were wrapped and packaged for contamination control and shipped exclusive use of vehicle with instructions to open in a contaminated area only. External Beta-Gamma radiation levels were < 0.1 mR/hr at the package surface and alpha contamination was recorded to be < 220 D/M/100 cm^2. Licensee representatives stated that the equipment items were dismantled and cleaned according to written instructions prior to shipment, but one item had evidently been missed. Licensee's interviews with plant personnel after notification of the occurrence, which was about 75 days after the shipment

did not result in any added information. As a result of this occurrence, similar equipment items sent to the licensee's South Carolina plant were dismantled at that plant and found to be free of uranium buildup. Licensee representatives said that no other shipments of similar equipment, which could contain hidden amounts of materials, have been conducted.

b. At the time of the referenced shipment, the licensee did not possess a specific AEC export authorization for the enriched uranium transfer.

8. Inventory

At the time of the inspection the licensee stated that no U-235 was possessed. The only material in the plant is in contamination quantities.

UNITED STATES
ATOMIC ENERGY COMMISSION
BROOKHAVEN AREA OFFICE
RADIOLOGICAL ASSISTANCE PROGRAM—REGION I
UPTON, NEW YORK 11973

516-345-2200

DAVID SCHWELLER, COORDINATOR

October 4, 1972

Mr. W. E. Piros, Manager
Health, Safety, and Services
Westinghouse Electric Corporation
Electro Mechanical Division
Box 217
Cheswick, Pennsylvania 15024

Dear Mr. Piros:

SUBJECT: WESTINGHOUSE ELECTRIC CORPORATION

Since your nuclear facility is located in Region I, the Brookhaven Area Office is charged with the responsibility for providing radiological assistance in the event of an emergency. Such assistance can be requested, at all times, by calling 516-345-2200 and asking for radiological assistance indicating the nature of the incident, the location, and how to contact responsible authorities to coordinate our response.

The AEC will respond to requests for radiological emergency assistance from licensees and from other organizations or individuals involved in or cognizant of an incident involving radioactive materials as defined by the Atomic Energy Act of 1954, as amended, or ionizing radiation sources used in AEC-supported work.

However, AEC radiological emergency assistance is limited to such advice and assistance as is necessary to protect people from unnecessary radiation exposure, to minimize injury and to reduce the accidental contamination of the environment from radioactive material. As soon as the immediate hazards are brought under control and there is reasonable assurance that the public health and safety is being protected, AEC radiological assistance is terminated.

The availability of AEC radiological assistance does not relieve any licensee from its responsibility for emergency planning to cope with the on-site and off-site consequences of an accident involving its operations including the actions to be taken immediately after an accident occurs. This responsibility of a licensee would include plans for notification of the licensee's emergency personnel, commercial emergency response services under contract to the licensee, local government agencies,

ITEM # 167

C/16 2

fire and police departments, rescue squads, ambulance services, hospitals, and other organizations that have agreed to respond to the licensee's emergency assistance needs, and notification of the AEC as required by AEC regulations. After the immediate emergency period the licensee would be responsible for follow-up emergency operations such as assuring medical treatment for accident victims, radioactive decontamination of land and facilities, cleanup of debris, and recovery of radioactive material.

If you have any further questions or desire further information, feel free to contact me.

Very truly yours,

David Schweller, Chief
Operational Safety Branch

cc: D. Knuth, Asst. Dir. for Reactor Safety Directorate of Licensing
J. O'Reilly, Directorate of Regulatory Operations, Region I
F. R. Zintz, Chief, Emergency Planning Br., HQ

ITEM # 168

FORM AEC 766 (7-72) PI 120018

U.S. ATOMIC ENERGY COMMISSION

REGULATORY OPERATIONS - STATISTICAL DATA

A-F

A. DOCKET NUMBER (1-8): 0 7 0 0 0 3 3 7

B. REPORT NUMBER (10-13): 7 2 0 1

C. PRIORITY/CATEGORY (14): 1 (15)

INQ/INSPECTION/INVESTIGATION DATES — D FROM (16-21): 0 2 1 0 7 2 — E TO (22-27): 0 2 2 5 7 2

F. REGION CONDUCTING ACTIVITY: (28) 1

LICENSEE/VENDOR: Westinghouse Electric Corp. — FACILITY: Shenwick, Pa — LICENSE NUMBER: SNM 338

G (29) ACTIVITY CONDUCTED:
1 ☐ INSPECTION 2 ☐ INQUIRY 3 ☒ INVESTIGATION 4 ☐ VENDER INSPECTION 5 ☐ MANAGEMENT VISIT 6 ☐ INQUIRY—NON LICENSEE

H (30) INSPECTION/INVESTIGATION RESULTS:
1 ☐ 591 2 ☒ REGIONAL OFFICE LETTER 3 ☐ REFERRED TO HQS FOR ACTION 4 ☐ REGIONAL OFFICE LETTER & REFERRED TO HQS FOR ACTION

J (31) INSPECTION/INVESTIGATION FINDINGS:
1 ☐ CLEAR 2 ☐ SAFETY ITEM 3 ☒ NONCOMPLIANCE 4 ☐ NONCONFORMANCE

K (32) FIELD ACTION AS A RESULT OF INQUIRY
1 ☐ CONDUCT INVESTIGATION 2 ☐ REVIEW NEXT INSPECTION 3 ☐ REFER TO OTHER REGION 4 ☐ REFER TO NON-REG. AUTH. 5 ☐ REFER TO OTHER REG. OFFICE 6 ☐ HQS FOR ACTION 7 ☐ NO FURTHER ACTION

L-N

L — REASON INSP. FINDINGS REFERRED TO HEADQUARTERS FOR ACTION: (33-34)

01 ☐ IMMEDIATE THREAT TO HEALTH AND SAFETY

COMPLEX ITEM INVOLVING:
02 ☐ NONCOMPLIANCE/NONCONFORMANCE
03 ☐ LICENSING PROBLEM
04 ☐ POLICY MATTER
05 ☐ INTERPRETATION

06 ☐ SAFETY ITEM
07 ☐ MANAGEMENT DEFICIENCY
08 ☐ INADEQ. REPLY TO LETTER
09 ☐ NO REPLY TO LETTER
10 ☐ NO CORRECTIVE ACTION PLANNED
11 ☐ INADEQUATE CORRECTIVE ACTION PLANNED
12 ☐ HQS LETTER REQUIRED
13 ☐ HQS REVIEW REQUIRED
14 ☐ UNREVIEWED SAFETY MATTER
15 ☐ DESIGN CHANGE
16 ☐ OTHER
17 ☐
18 ☐
19 ☐

REGIONAL OFFICE ACTION DATES

REPORT SENT TO HEADQUARTERS — O (39-44): 0 6 1 6 7 2

591/LETTER ISSUED — P (45-50): 0 6 0 9 7 2

Q (51) ☐ REPLY NOT REQUIRED

LICENSEE REPLY RECEIVED — R: 0 6 2 7 7 2

(58) 1 ☐ REPLY INADEQUATE

WR Lorenz over

M — SUBJECT OF INQUIRY OR INVESTIGATION (35-36)

01 ☐ TYPE A INT. OVEREXPOSURE
02 ☐ TYPE A EXT. OVEREXPOSURE
03 ☐ TYPE A RELEASE
04 ☐ TYPE A LOSS OF FACILITY
05 ☐ TYPE A PROPERTY DAMAGE
06 ☐ TYPE B INT. OVEREXPOSURE
07 ☐ TYPE B EXT. OVEREXPOSURE
08 ☐ TYPE B RELEASE
09 ☐ TYPE B LOSS OF FACILITY
10 ☐ TYPE B PROPERTY DAMAGE

10 CFR 20.405
11 ☐ INTERNAL OVEREXPOSURE
12 ☐ EXTERNAL OVEREXPOSURE
13 ☐ EXCESSIVE RADIATION LEVELS
14 ☐ EXCESSIVE CONCENTRATION LEVELS
15 ☐ CRITICALITY
16 ☐ LOSS OR THEFT
17 ☐ CONTAMINATION
18 ☐ UNSAFE OPERATION
19 ☐ FIRE, EXPLOSION
20 ☐ HUMAN (OPERATOR) ERROR
21 ☐ COMPLAINT
22 ☐ PUBLIC INTEREST
23 ☐ LEAKING SOURCE
24 ☐ TRANSPORTATION
25 ☐ EXPIRED LICENSE
26 ☐ EXPOSURE REPORTED AND FOUND INVALID.
27 ☐ CONSTRUCTION/EQUIP. DEFICIENCY
28 ☐ EQUIPMENT FAILURE
29 ☐ EXCEED LIC/TECH SPEC REQ'S
30 ☐ DEPARTURE FROM FSAR/TS'S
31 ☐ OTHER

N — HEADQUARTERS ACTION ON INSPECTION AND INVESTIGATION (37-38)

01 ☐ NO ACTION REQUIRED
02 ☐ LETTER-CLEAR
03 ☐ LETTER-NONCOMPLIANCE
04 ☐ LETTER-SAFETY ITEM
05 ☐ PART 2 NOTICE
06 ☐ PART 2 NOTICE AS RESULT OF FOLLOWUP TO REGIONAL OFFICE LETTER
07 ☐ ORDER
08 ☐ REFER TO RL FOR RESOLUTION
09 ☐ REFER TO RL FOR INFORMATION
10 ☐ REFER TO ML FOR RESOLUTION
11 ☐ REFER TO ML FOR INFORMATION
12 ☐ REFER TO REGION TO CLOSE OUT
13 ☐ OTHER

DATE LETTER, NOTICE, ORDER ISSUED — T (59-64)

DATE LICENSEE REPLY RECEIVED — U (65-70)

V (71) 1 ☐ REPLY NOT REQUIRED

(80) 1 ☐ CARD CODE

CH68

NOV 8 1972

Westinghouse Electric Corporation
Attention: Mr. E. J. Cattabiani
General Manager
Electro-Mechanical Division
Cheswick, Pennsylvania 15024

Docket No. 70-337

References: Your letters dated June 27 and October 13, 1972
In response to our letter dated June 9, 1972

Gentlemen:

Thank you for your letters informing us of the action you will take to correct the items of noncompliance and the activities which were not in accord with appropriate safety practices which we brought to your attention following our investigation of your licensed program. Your corrective action will be verified during our next inspection of your program.

Your cooperation with us is appreciated.

Sincerely,

James P. O'Reilly
Director

bcc: H. D. Thornburg, RO
R. H. Engelken, RO
Gen Roy, RO (3)
RO Files
PDR
NSIC
State of Pennsylvania

ITEM # 169

C1169

OFFICE ▶	CRESS:I					
SURNAME ▶	11/8/72 Lorenz:aa	Crocker	Smith	Nelson	O'Reilly	
DATE ▶	11/7/72		11/8/72	11/8/72		

Form AEC-318 (Rev. 9-53) AECM 0240

Westinghouse Electric Corporation **Power Systems**

Electro Mechanical Division

Box 217
Cheswick Pennsylvania 15024
Cable WECHESWICK
(412) 274 6300
(412) 363 8700

October 13, 1972

United States Atomic Energy Commission
Directorate of Regulatory Operations
970 Broad Street
Newark, New Jersey 07102

Attention: Mr. James P. O'Reilly

Gentlemen:

This letter supplements our letter of June 27, 1972, in which we responded to your comments resulting from an investigation of an accident which occurred at our Site. Corrective action is to be extended on two of the non-compliance items as agreed in our meeting of October 4, 1972.

Non-Compliance Item (Enclosure 1)

1. Originally we had indicated that we would caution employes against using unauthorized tools. To assure ourselves that this will be done with all employes assigned to potentially hazardous operations, the supervisors will use a Job Safety Analysis procedure. The Job Safety Analysis is a step-by-step safety analysis of the safety hazards involved in doing an operation. Job Safety Analyses are written by the supervisors for all operations and are then approved by the Fire and Safety Administrator. The Job Safety Analysis will be used by the supervisor to instruct all new employes. A review of the Job Safety Analysis will then be made with the operator every six months thereafter. The same Job Safety Analysis for the operation is used each time.

Safety Items (Enclosure 2)

1. We had indicated we intend to continue using operators to train other employes. To assure that the employe remains knowledgeable, we will use the Job Safety Analysis as outlined before on a six-month basis. This will provide supervisory follow-up to assure that the employe has been given the proper safety instructions initially and on a periodic basis.

In addition, we will use other safety training and workplace meetings as necessary. The supervisor will also periodically audit the operations to assure that the Job Safety Analyses are being followed.

We are sure this will provide the necessary control and follow-up to the comments and corrective actions previously submitted.

Sincerely yours,

E. J. Cattabiani
General Manager

Westinghouse Electric Corporation Power Systems

Electro Mechanical Division

Box 217
Cheswick Pennsylvania 15024
Cable WECHESWICK
(412) 274 6300
(412) 363 8700

June 27, 1972

United States Atomic Energy Commission
Division of Compliance, Region I
970 Broad Street
Newark, New Jersey 07102

Attention: Mr. James P. O'Reilly

Gentlemen:

We have reviewed your comments regarding the investigation conducted by Mr. W. R. Lorenz and Mr. A. F. Ryan with respect to an accident at our Site on January 29, 1972. Following are our comments and corrective actions:

Non-Compliance Items (Enclosure 1)

1. 10CFR20.206 (a)

In the past it has been common practice, where possible, to use tools to minimize extremity exposures. In fact, our employes have so been instructed. In this regard we feel we have complied with the referenced Code of Federal Regulations section in trying to minimize exposures. In the referenced accident the employe decided to use a stick and only due to an unusual circumstance which resulted in the accident, it would have been difficult to criticize the intent. Further, the use of the stick with the rotating parts under normal operations would not have caused an exposure.

The employe was familiar with means of limiting his exposure. We intend to continue using tools to minimize exposure to the extent possible. However, the employes will be cautioned against using tools which have not been approved for use on specific operations. This becomes a problem strictly of mechanical safety.

2. License Condition 18

In the past where we have suspected potential contamination of wounds, we have sent our own personnel to maintain control. In all cases proper instrumentation has been available to our own personnel. This has been a practice the hospital has expected of us. The hospital was aware of potential contamination in the referenced accident and chose to hold the man in the emergency room. Further contact has been made with the hospital and additional training is to be given. We do not intend to leave instruments at the hospital, however instruments will be available in the event of injury.

Safety Items (Enclosure 2)

1. (a) The practice of one employe training another is common in industry and is not peculiar to our Site. It is a procedure we do not intend to change since it also has many merits.

   (b) In reference to follow-up by the supervisor there is no guarantee the employes will work according to correct procedures when left on their own. It is management's responsibility, when they are observed deviating from procedure, to take corrective action. We are now using follow-up tests in some cases to assure that certain details have been covered to our satisfaction.

   (c) We have in the past provided periodic retraining to assure that employes remain knowledgeable and we intend to continue doing so in the future.

2. Steps have been taken to perform reviews of all modified or relocated equipment in accordance with a procedure written by us.

Very truly yours,

E. J. Cattabiani
General Manager

rs

ITEM # 172

FORM AEC 766 (7-72) PI 120018

U.S. ATOMIC ENERGY COMMISSION

REGULATORY OPERATIONS - STATISTICAL DATA

A-F

A. DOCKET NUMBER (9) (1-8): 0 7 0 0 0 3 2 7

B. REPORT NUMBER (10-13): 7 2 0 2

C. PRIORITY/CATEGORY (14): 1 (15)

D. INQ./INSPECTION/INVESTIGATION DATES — FROM (16-21): 0 9 1 5 7 2

E. TO (22-27): 0 9 2 8 7 2

F. REGION CONDUCTING ACTIVITY: (28) 1

LICENSEE/VENDOR: Westinghouse Electric Corp.

FACILITY: Westinghouse Cheswick, Pa

LICENSE NUMBER: SNM-778

G (29) ACTIVITY CONDUCTED:
1 ☐ INSPECTION 2 ☒ INQUIRY 3 ☐ INVESTIGATION 4 ☐ VENDER INSPECTION 5 ☐ MANAGEMENT VISIT 6 ☐ INQUIRY—NON LICENSEE

H (30) INSPECTION/INVESTIGATION RESULTS:
1 ☐ 591 2 ☐ REGIONAL OFFICE LETTER 3 ☐ REFERRED TO HQS FOR ACTION 4 ☐ REGIONAL OFFICE LETTER & REFERRED TO HQS FOR ACTION

J (31) INSPECTION/INVESTIGATION FINDINGS:
1 ☐ CLEAR 2 ☐ SAFETY ITEM 3 ☐ NONCOMPLIANCE 4 ☐ NONCONFORMANCE

K (32) FIELD ACTION AS A RESULT OF INQUIRY
1 ☐ CONDUCT INVESTIGATION 2 ☒ REVIEW NEXT INSPECTION 3 ☐ REFER TO OTHER REGION 4 ☐ REFER TO NON-REG. AUTH. 5 ☐ REFER TO OTHER REG. OFFICE 6 ☐ HQS FOR ACTION 7 ☐ NO FURTHER ACTION

L–N

L — REASON INSP. FINDINGS REFERRED TO HEADQUARTERS FOR ACTION: (33-34)

01 ☐ IMMEDIATE THREAT TO HEALTH AND SAFETY

COMPLEX ITEM INVOLVING:
02 ☐ NONCOMPLIANCE/NONCONFORMANCE
03 ☐ LICENSING PROBLEM
04 ☐ POLICY MATTER
05 ☐ INTERPRETATION
06 ☐ SAFETY ITEM
07 ☐ MANAGEMENT DEFICIENCY
08 ☐ INADEQ. REPLY TO LETTER
09 ☐ NO REPLY TO LETTER
10 ☐ NO CORRECTIVE ACTION PLANNED
11 ☐ INADEQUATE CORRECTIVE ACTION PLANNED
12 ☐ HQS LETTER REQUIRED
13 ☐ HQS REVIEW REQUIRED
14 ☐ UNREVIEWED SAFETY MATTER
15 ☐ DESIGN CHANGE
16 ☐ OTHER
17 ☐
18 ☐
19 ☐

M — SUBJECT OF INQUIRY OR INVESTIGATION (35-36)

01 ☐ TYPE A INT. OVEREXPOSURE
02 ☐ TYPE A EXT. OVEREXPOSURE
03 ☐ TYPE A RELEASE
04 ☐ TYPE A LOSS OF FACILITY
05 ☐ TYPE A PROPERTY DAMAGE
06 ☐ TYPE B INT. OVEREXPOSURE
07 ☐ TYPE B EXT. OVEREXPOSURE
08 ☐ TYPE B RELEASE
09 ☐ TYPE B LOSS OF FACILITY
10 ☐ TYPE B PROPERTY DAMAGE

10 CFR 20.405
11 ☐ INTERNAL OVEREXPOSURE
12 ☐ EXTERNAL OVEREXPOSURE
13 ☐ EXCESSIVE RADIATION LEVELS
14 ☐ EXCESSIVE CONCENTRATION LEVELS
15 ☐ CRITICALITY
16 ☐ LOSS OR THEFT
17 ☐ CONTAMINATION
18 ☐ UNSAFE OPERATION
19 ☐ FIRE, EXPLOSION
20 ☐ HUMAN (OPERATOR) ERROR
21 ☐ COMPLAINT
22 ☐ PUBLIC INTEREST
23 ☐ LEAKING SOURCE
24 ☒ TRANSPORTATION
25 ☐ EXPIRED LICENSE
26 ☐ EXPOSURE REPORTED AND FOUND INVALID.
27 ☐ CONSTRUCTION/EQUIP. DEFICIENCY
28 ☐ EQUIPMENT FAILURE
29 ☐ EXCEED LIC/TECH SPEC REQ'S
30 ☐ DEPARTURE FROM FSAR/TS'S
31 ☐ OTHER

N — HEADQUARTERS ACTION ON INSPECTION AND INVESTIGATION (37-38)

01 ☐ NO ACTION REQUIRED
02 ☐ LETTER-CLEAR
03 ☐ LETTER-NONCOMPLIANCE
04 ☐ LETTER-SAFETY ITEM
05 ☐ PART 2 NOTICE
06 ☐ PART 2 NOTICE AS RESULT OF FOLLOWUP TO REGIONAL OFFICE LETTER
07 ☐ ORDER
08 ☐ REFER TO RL FOR RESOLUTION
09 ☐ REFER TO RL FOR INFORMATION
10 ☐ REFER TO ML FOR RESOLUTION
11 ☐ REFER TO ML FOR INFORMATION
12 ☐ REFER TO REGION TO CLOSE OUT
13 ☐ OTHER

REGIONAL OFFICE ACTION DATES

O (39-44) REPORT SENT TO HEADQUARTERS: 10/10/72

P (45-50) 591/LETTER ISSUED:

Q (51) ☐ REPLY NOT REQUIRED

R (52) LICENSEE REPLY RECEIVED:

(58) 1 ☐ REPLY INADEQUATE

T (59-64) DATE LETTER, NOTICE, ORDER ISSUED:

U (65-70) DATE LICENSEE REPLY RECEIVED:

V (71) 1 ☐ REPLY NOT REQUIRED

(80) 1 ☐ CARD CODE

172

OCT 10 1972

G. W. Roy, Chief, Materials & Fuel Facilities Branch
Directorate of Regulatory Operations, HQ

RO INQUIRY REPORT NO. 70-337/72-02
WESTINGHOUSE ELECTRIC CORPORATION
URANIUM FABRICATION PLANT
CHESWICK, PENNSYLVANIA
TRANSPORATION - EQUIPMENT SHIPMENT CONTAINING UNAUTHORIZED AMOUNT OF UO_2

The subject Inquiry Report is forwarded for your information.

Based on the information received, it does not appear that any of the other contaminated equipment shipments contained amounts of uranium in excess of residual contamination.

The incident will be reviewed during the next inspection.

Hilbert W. Crocker, Senior,
Fuel Facilities Inspector

Enclosure:
Subject Inquiry Report (Original & 2 cys)

cc: RO Files

ITEM # 173

OFFICE ▶	CRESS I					
SURNAME ▶	Crockerds 10/3/72					
DATE ▶						

Form AEC-318 (Rev. 9-53) AECM 0240

173

(2)

RO INQUIRY REPORT NO. 72-02

Subject: Westinghouse Electric Corporation

Cheswick, Pennsylvania

License No.: SNM-338

Docket No.: 70-337

Facility: Uranium Fabrication Plant

Title: Transportation - Equipment Shipment Containing Unauthorized Amount of UO_2

Prepared by: H. W. Crocker, Senior, Fuel Facilities Inspector Date

A. Date and Manner AEC was Informed:

On September 14, 1972, Mr. K. Schendel, Licensing Officer, telephoned Regulatory Operations, Headquarters, to report this incident. Additional details were obtained by RO:I by telephone on September 15 and 18, 1972. RO:HQ notified Department of Transportation of this occurrence.

B. Description of Particular Event or Circumstance:

On June 30, 1972, the licensee shipped five equipment items to Westinghouse Canada Ltd., Atomic Power Division, Port Hope, Ontario. Prior to shipment, the equipment was cleaned and packaged. The material was shipped direct via exclusive use vehicle (Herriott Trucking Co., Carrier No. 1246731, Trailer No. 40-971). The items shipped included one Stokes Slugging Press, one Stokes Granulator, one Courtoy Press, one Sweco Press and six pellet trays. The equipment had residual external contamination and was shipped as a contaminated shipment with instructions for unpackaging only in a contamination area. The Stokes Slugging Press was unpacked in mid August 1972, around September 10, 1972, they discovered that 6.5 kg of UO_2 powered (5.5 kg uranium - 171 grams U-235) at 3 w/o enrichment was in the press and immediately notified Cheswick Plant. The other packages remain unopened.

FEB 5 1973

G. W. Roy, Chief, Materials & Fuel Facilities Branch
Directorate of Regulatory Operations, HQ

RO INSPECTION REPORT NO. 70-337/73-01
WESTINGHOUSE ELECTRIC CORPORATION
CHESWICK, PENNSYLVANIA
URANIUM FABRICATION FACILITY

The subject inspection is forwarded for your information.

The licensee appears to be conducting a well controlled, thorough decontamination effort in the uranium fuel fabrication areas, prior to turning this section over to another corporate division for mechanical operations which do not utilize radioactive materials.

Our office plans to perform a closeout survey of this facility subsequent to the licensee's completion of decontamination and submittal of final radiological survey of the plant areas.

H. W. Crocker
Senior Fuel Facilities Inspector

Enclosure:
Subject Inspection Report No. 70-337/73-01

cc: RO Chief, Materials & Fuel Facilities Branch (2)
RO:HQ (4)
L:D/D for Fuels & Materials
DR Central Files
PDR
NSIC
State of Pennsylvania

ITEM # 174

CH174

OFFICE ▶	CRESS:I					
SURNAME ▶	Crocker/hc					
DATE ▶	2/2/73					

Form AEC-318 (Rev. 9-53) AECM 0240

C. Action by Licensee:

The Westinghouse representatives at Cheswick, Pennsylvania, are applying for export-import licenses for authorized return of the entire shipment. The licensee has determined that other shipments of contaminated equipment were made, but only to their Wilmington, South Carolina plant. They indicated that no problems were encountered on these materials.

The licensee is continuing their investigation of this occurrence and will submit a report of their investigation.

UNITED STATES
ATOMIC ENERGY COMMISSION
WASHINGTON, D.C. 20545

June 26, 1972

Files

REGULATORY OPERATIONS INVESTIGATION REPORT FOR
WESTINGHOUSE ELECTRIC CORPORATION
CHESWICK, PENNSYLVANIA
LICENSE NO. SNM-338, DOCKET NO. 70-337

INVESTIGATION CONDUCTED FEBRUARY 10, 11, 24, 25, 1972

RE: ACCIDENT ON JANUARY 29, 1972, WHICH RESULTED IN THE SEVERANCE OF AN EMPLOYEE'S LEFT ARM

The subject investigation report has been reviewed. As a result of the investigation, two items of noncompliance were noted, in that (1) contrary to 10 CFR 20.206(a), "Instruction of personnel; posting of notices to employees," the company failed to properly instruct an employee in the precautions to be taken in the operation of a powder preparation machine to prevent injuries involving radioactive material; and (2) contrary to License Condition 18 which incorporates the company's emergency procedures; prior arrangements were not made with the local hospital for handling low contaminated cases. Two items of a safety nature were also noted during the investigation. Region I sent an enforcement letter to the Company dated June 9, 1972. Region I also sent a letter dated June 9, 1972, to the International Brotherhood of Electrical Workers, Washington, D. C., which discussed the investigation findings. This organization had expressed some concern about this incident and made allegations regarding the incident in a letter to the AEC dated February 2, 1972.

In Region I's transmittal memorandum to Headquarters dated June 16, 1972, a recommendation was made that a condition be added to the Company's license at the time of renewal requiring the company to institute procedures to be followed in an emergency condition such as encountered in the subject incident. This matter was discussed on June 21, 1972, with Roger Woolsey, Fuel Fabrication and Reprocessing Branch, DL. Mr. Woolsey stated that he was presently in the process of taking some licensing action on the Westinghouse licenses and that he would incorporate "Annex B - Minimum Requirements For Licensee's Plans For Coping With Radiation Emergencies" as a license condition to Special Nuclear Material License No. SNM-338.

We consider the case closed.

T. W. Brockett
Materials and Fuel Facilities Branch
Regulatory Operations

cc: RO:I & R. Woolsey,
DL:FFRB

ITEM # 176

UNITED STATES
ATOMIC ENERGY COMMISSION
WASHINGTON, D.C. 20545

JUN 21 1972

L:T:RC
70-337

Westinghouse Electric Corporation
ATTN: Mr. Karl P. Schendel
Box 355
Pittsburgh, Pennsylvania 15230

Gentlemen:

This refers to your application dated June 6, 1972, to change the minimum length of the Model BB-250-2 packaging from 74 inches to 72 inches.

In connection with our review, we need a detailed drawing of the packaging which shows the dimensions, materials, details, and general arrangement of the packaging. Your application should also demonstrate that the conditions of the initial approval are met by packaging of the minimum requested length.

Sincerely,

Original Signed by
Charles E. MacDonald

Charles E. MacDonald, Chief
Transportation Branch
Directorate of Licensing

Distribution:
Document Room
Regulatory Operations, HQ (2)
Docket File
L:T R/R
L:F&M R/F
RChappell, L:T
FRinaldi, L:T

ITEM # 176

176

1

From : Health, Safety and Servic
WIN : 222-5619
Date : February 4, 1972
Subject: NFD-Manufacturing Accider
Health Physics Summary

ELECTRO-MECHANICAL DIVISION

Mr. W. E. Piros, Manager
Health, Safety, and Services

On Saturday, January 29, 1972, a NFD-Manufacturing employe suffered an industrial, non-related radiation, accident which resulted in the loss of approximately 12 inches of his left forearm.[1]

Equipment Description:

The machine involved in the accident was a Chilsinator located in the NFD-Manufacturing Line 3 area (Attachment 1). The machine was used for research and development purposes until recently when it was converted to a temporary production machine. The Chilsinator is used to compact dry uranium, less than 3% enriched, powder before pelletizing.

Accident Description:

The employe was using a stick, approximately 10 inches long, to clear the uranium powder from around the sides of the feeder. The stick slipped out of the employe's left hand and automatically, on impulse, he reached for the fallen stick. His left hand then became impaled on the slow rotating "mixer bar." This resulted in the amputation of the left forearm of the employe.

Chronological Events:

(approximate times)

1610 hours. - Employe's left hand is impaled on the mixer bar. Another employe (employe A), in close vicinity, hears shouts of help from the injured employe and rushes to his aid.[2] Employe A grabs the "injured employe" around the waist while turning off the controls for the equipment. The "injured employe" is then, by slight force, released from the machine by employe A. The amputated left forearm of the "injured employe" remains lodged in the mixer bar of the Chilsinator.

Upon hearing the shouts of the "injured employe," the rod loading foreman telephones for the Site ambulance.[3]

ITEM # 179 C/77 (3)

1625 hours. - The "injured employe" arrives at the New Kensington Citizen's General Hospital emergency room. Clean-up and preparation of the "injured employe" for surgery begins. Site employes involved in assisting and transporting the "injured employe" to the hospital are listed under reference four.

1710 hours. - First health physics technician arrives at the hospital after being contacted at his home by the Site guard.[5]

1715 hours. - Second health physics technician arrives at the hospital after being called at home by the Site guard.[6] Both health physics technicians immediately start the health physics evaluation of the situation. (Attachment 2 and 3)

1720 hours. - Security guard arrives at the hospital with health physics survey equipment.[7] Routine health physics survey starts on "injured employe" and hospital areas involved. Health physics survey concludes negative results for loose and fixed uranium contamination.

1745 hours. - After consultation by the surgeons and nursing staff, operation to correct injured condition begins.[8]

The health physics supervisor, attending a non-Westinghouse meeting in Pittsburgh, is contacted by the Pittsburgh police department and told to immediately call the Westinghouse Cheswick plant.[9] He immediately returned the call to the Site guard and is made aware of the accident.

1830 hours. - Health physics supervisor arrives at hospital and immediately evaluates health physics situation based upon data provided by the health physics technicians. The Westinghouse plant physician also arrives at the hospital and evaluates the medical condition of the "injured employe."[10] The wife of the "injured employe" is updated on his condition by the Westinghouse physician. She is also assured by the health physics supervisor that radiation is not related to the injury. Note: The NFD-Manufacturing manager had previously consoled the injured employe's wife approximately an hour earlier.

1900 hours - Successful corrective surgery ends. The "injured employe's" physical condition is stable. The second, indepth, health physics survey on the "injured employe" and the hospital areas involved again concludes with negative results for loose and fixed uranium contamination.

1930 hours. - The health physics supervisor leaves the hospital, after assuring the "injured employe's" wife that everything is progressing satisfactorily and returns to the Cheswick Site and starts making plans for the removal of the limb from the Chilsinator. Note: Health, safety, and services (HSS) safety administrator was on Site for approximately one hour and a half and made arrangements for the necessary photographs, etc.

2045 hours. - Limb removed from the machine and checked for contamination and cleared for normal disposal.

2115 hours. - Health physics supervisor returns limb to the morgue of the Citizen's General Hospital for normal disposal.

2200 hours. - Health physics supervisor speaks to the "injured employe" and his wife and again stresses that the accident is non-radiation related. "Injured employe" is in good spirits considering the seriousness of the accident. Note: Two bio-assay samples were collected twenty-four hours after the accident for routine health physics evaluation.

Follow-up:

Recommendations:

K. A. Bodden, Supervisor
Industrial Hygiene

rs

Attachments

stinghouse Electric Corporation Power Systems

Electro Mechanical Division
Box 217
Cheswick Pennsylvania 15024
Cable WECHESWICK
(412) 274 6300
(412) 363 8700

February 4, 1972

Mr. Walter Lorenz
United States Atomic Energy Commission
Region I
Division of Compliance
970 Broad Street
Newark, New Jersey 07102

Dear Walt:

As per telephone conversation on Friday, February 4, 1972, on the Cheswick Site accident of January 29, 1972, attached is the health physics summary of the accident. Please note that the health physics summary only includes the main summary and there are no attachments.

If more information is desired, please do not hesitate to contact me.

Very truly yours,

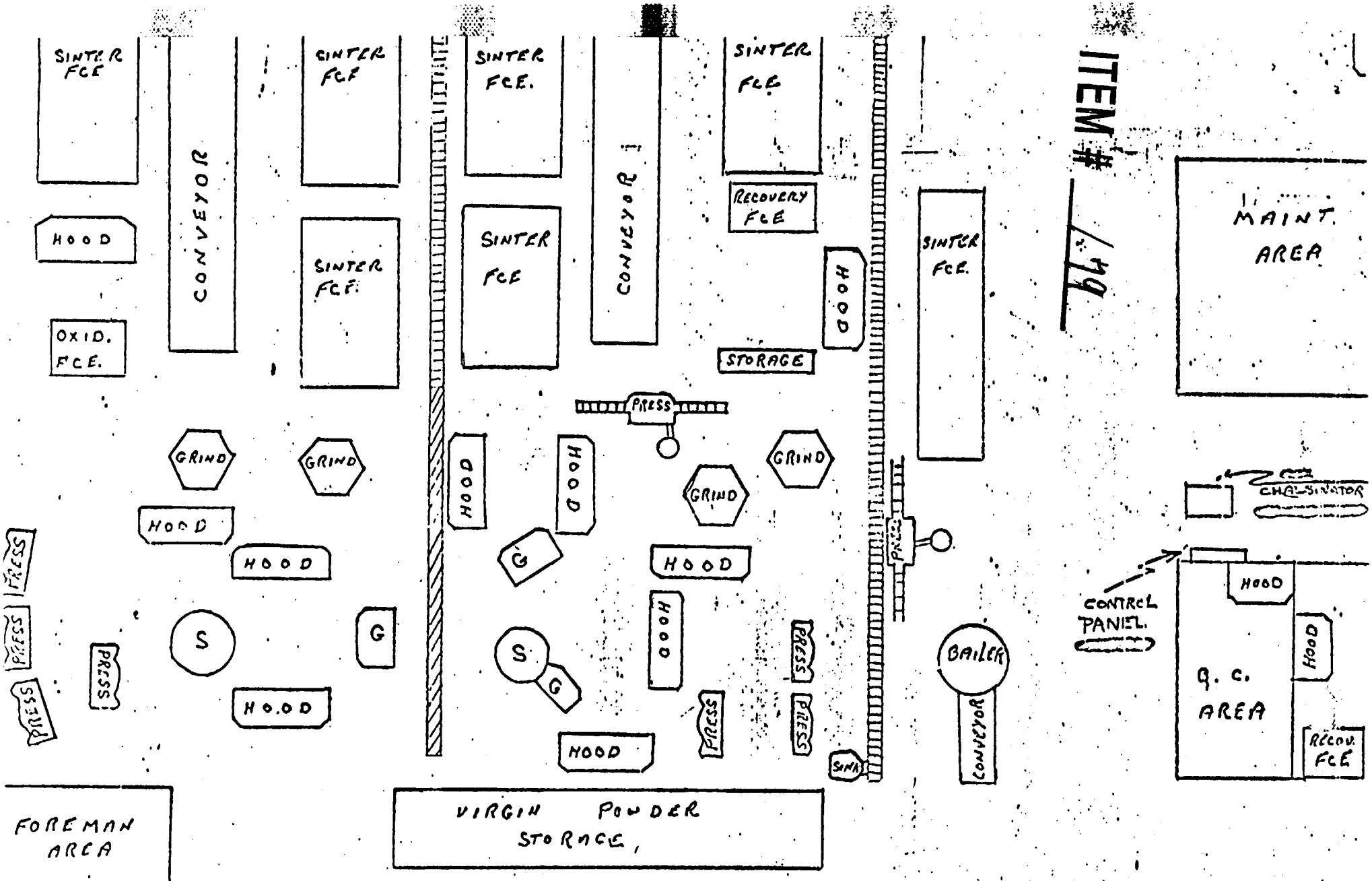
K. A. Bodden, Supervisor
Industrial Hygiene

rs

Attachment

ITEM # 178

C/178


ITEM # 1/79
SINTER FCE
CONVEYOR
HOOD
OXID. FCE.
GRIND
PRESS
S
G
RECOVERY FCE
STORAGE
MAINT. AREA
CHAR-SINATOR
CONTROL PANEL
Q. C. AREA
RECOV. FCE
BAILER
SINK
FOREMAN AREA
VIRGIN POWDER STORAGE
DATE
TIME
SURVEYOR
No. D/M
RECESSED TRUCK DOCK
C/179

From Health, Safety and Services
WIN 222-5351
Date January 28, 1971
Subject 1971 Safety Program

CHESWICK OPERATIONS

To All Foremen

Attached is a copy of the 1971 Safety Program listing the monthly subjects which we shall be emphasizing this year.

We are planning to issue information each month according to the subject listed. In most cases this information will be in the form of a letter which will contain material for your Safety Work-Place Meeting.

Of course, we realize that not all facilities on the site experience the same type of problems for the subject listed; but we shall try to provide sufficient information so that each foreman will be able to use the material to his particular situation.

If you feel you need additional help or information to present your work-place meetings, please call me at Extension 351.

C. W. Bates

C. W. Bates, Administrator
Fire and Accident Prevention

Attachment

Exhibit D

ITEM # 180 C/180

(2)

SAFETY PROGRAM

MONTHLY TOPICS FOR 1971

January	Material Handling - Mechanized
February	Job Safety Analysis
March	Personal Protective Equipment
April	Machine Guarding
May	Housekeeping
June	Summer Hazards
July	Hand and Portable Power Tools
August	Electrical Hazards
September	Job Safety Analysis
October	Fire Prevention
November	Winter Hazards
December	Industrial Hygiene

"ZERO IN ON SAFETY"

Exhibit D

SAFETY REVIEW FOR NEW, MODIFIED, OR RELOCATED EQUIPMENT

PURPOSE

To help prevent possible accidents due to improper installation, guarding, ventilation, workplace arrangement, or other unsafe conditions, it is necessary that all new, modified or relocated equipment be given a safety review. This review will help assure that the requirements of applicable codes, standards, and pertinent safety engineering criteria are being met.

PROCEDURES

Where possible, plans should be reviewed by the site Safety Engineer prior to the purchase of equipment. This pre-purchase review will help assure that necessary safety features and applicable safety standards are being met. The Manufacturing Engineer or equivalent for each Cheswick site activity will be responsible for arranging for this pre-purchase review.

When new, modified, or relocated equipment has been installed, it must be given a safety review. This review will be conducted by the Area Foreman, Manufacturing Engineer, or equivalent, and the Safety Engineer. The purposes of this review are as follows: to assure that guarding is adequate and in accordance with regulations, assure that controls and other safety features of the equipment are in good operating condition. Further, this second review will assure that no items have been overlooked on the initial review.

In order to alert all personnel that equipment has not been approved for operation until the review is completed, Westinghouse Caution Tag, Form No. 22093B designed for this purpose will be used. This Caution Tag will be furnished by the Safety Engineer upon request.

C1181

ITEM # 181.

(3)

The area maintenance foreman will attach the Caution Tag to the equipment when beginning to make the installation. In the event equipment is being installed by outside contractors, the Caution Tag will still be attached by the area maintenance foreman. The Tag is to be attached to the master control switch so that it will be readily visible to employes attempting to start up equipment. The area maintenance foreman will be responsible for reviewing equipment and signing the Tag upon completion of installation indicating his approval of the equipment and the installation.

The area foreman will be responsible for contacting the Safety Engineer and the Manufacturing Engineer or equivalent so the final review can be conducted. If all safety features and other requirements have been fulfilled, the three mentioned will sign and remove the tag.

If the Safety Engineer is not available, unnecessary delays in start up of equipment may be avoided by having the Area Foreman review the equipment with the Manufacturing Engineer or equivalent for necessary safety features to prevent injuries to employes or damage to equipment. If the area foreman and the Manufacturing Engineer are satisfied with the equipment, they may sign and remove the Tag. However, the area foreman is fully responsible for the equipment and the safety of his employes. He is also responsible for notifying the Safety Engineer of his action. He will then arrange for a safety review at the earliest possible date, but not later than two weeks from the date the tag is removed.

The Safety Engineer may, after completing his inspection of the equipment, order it shut-down if he feels that requirements have not been fulfilled and the possibility of a serious accident exists.

The Caution Tag should not be removed or the equipment operated until all necessary safety features and applicable safety standards are satisfied.

All Caution Tags will be retained on file in the Safety Engineer's office.

EXHIBIT G

NUCLEAR FUEL DIVISION
SAFETY OBSERVERS
1965 THROUGH 1972

Charles Anderson
James Cowell
Fred Heldock
Richard Worrell
Joseph Bosco
Andy Durand
Jim Munshower
Hank Pobiak
Robert Reifschneider
Ed Rutkowski
Wm. Bozik
Neal Fisher
Charles Johnson
Ira Keys
Mike Turnaway
Larry Davis
R. Gallagher
Robert Jourdain
Frank Kudlac
Wm. Settlemyer
L. Stock
Lou Teklinski
Joe Bartocki
Leonard Fronczak
Ray Morgan
Patsy Pirone
Robert Scruggs
Wm. Graf
John Hafera
Jim Hempseed
Gary Radcliff
James Seria
John Dananay
Tom Janosky
Jesse W. Mack
Al Stephenson
Joe Yound

ITEM # 182 C/182

(3)

FIRST SHIFT (10 a.m. Meeting)

H. Corey
L. F. Teklinski
C. Henry
C. L. Marcacci
Rudy DeMeo
P. R. Nelson
G. Radcliff
W. J. Bozik
Wm. Henry
G. J. Guido
G. Kranker
C. C. Gross
J. J. Cowell
R. S. Sharer
P. Stewart
L. Fronczak
D. Anuskiewicz
J. Kopelic
T. A. Davis
R. S. Jourdain
A. E. Stephenson
A. H. Gordon
E. F. Litz
V. Evans
A. Shick
R. J. Grum
R. J. Morgan
B. Castello
M. Chaklos
D. Dutch
F. Sanesi
W. R. Swartz
T. Haubrich
R. L. Ecelbarger
R. J. Collodi
H. Pritchard
W. Stanley
J. Saxinger
T. Janosky
A. DePetro
J. Meyers
F. Kudlac
G. Pollino
M. McKeown

FIRST SHIFT (2:30 p.m. Meeting)

R. Artuso
A. Nemet
E. Kraus
S. Casper
J. Scibilia
J. Martire
J. T. Bertocki, Jr.
J. Young
J. Takitch
R. Anuskiewicz
G. Marluk
T. Quinio
P. Harnagy
T. David
H. Pobiak
L. Wiedl
R. Jaskey
R. Keller
C. J. Johnston
H. E. Meanor
D. Carter
D. Arbuckle
R. Sneith
W. J. Gorse
E. E. McMond
J. Beadling
J. R. Boller
T. C. Bilohlavek
J. Dananay
R. Debor
E. Rutkowski
D. Guida
B. Wieszcynski
T. Frost
M. Kenko
T. Matisko
Wm. Whitehead

EXHIBIT H

SECOND SHIFT (4:30 p.m. Meeting)

A. Klein
K. Watson
C. A. Banks
J. Seria
J. Sherlock
A. S. Blandford
C. Freynik
R. McGill
M. Springer, Jr.
I. Keys
P. Capone
C. E. Anderson
J. D. Nowikowski
P. J. Pirone
N. K. Sahr
S. B. Pratt
J. W. Powell
J. Hempstead
W. Britz
F. S. Chladny
J. Hafera

THIRD SHIFT (6:30 a.m. Meeting)

J. Sterling
J. Hessom
T. Megella
E. Dinger
M. A. Collins
J. S. Sirene
J. Munshower
H. Beatty
S. Connolly
D. Kidd
J. Shurgot
R. Budisky
R. Capellman
E. Szczepanski
W. Graf
T. Bridge

EXHIBIT H

Page 2 of 2

EXHIBIT I

ITEM # 183

EVACUATION DRILL

CHESWICK SITE

November 16 and 17, 1971

	NFD SHIFTS			WNCO ASTRO SHIFTS			ARD SHIFTS
Final Person	1st	2nd	3rd	1st	2nd	3rd	1st
(Time) to evacuate building	1.8	2.5	1	2	1	no data	0.3
End of Drill (total Drill Time)	3	5	5	4	3	no data	3

Comments:

Nuclear Fuel Division (NFD)

1. Chem. Lab. took additional time (1 min.) to evacuate. Question if siren is audible in Chem. Lab.
2. All nearest available doors are not being used by personnel.
3. Second shift line personnel did not make an effort to move fast.
4. Third shift line personnel anticipated drill and were lined up to evacuate.
5. It was thought a siren mounted outside second floor office area would be beneficial.

Astronuclear Core Operations (WNCO)

1. First shift personnel were not certain of assembly points.
2. Third shift personnel did not move away from building. Area siren cannot be heard in Building 5 office area.

Advanced Reactors Division (ARD)

1. Personnel were very fast and orderly - only facility to have a formal head count.

(EMD Purchasing Department in Building 7 had a very poor response and attitude toward the drill.)

General

1. Vehicle traffic on day shifts caused some confusion during drill.
2. Health Physics Technicians are not evacuating with emergency equipment available.

C/183 (2)

3. Smoke generators are to be placed in the Emergency Kits to test wind direction.

K. A. Bodden, Supervisor
Industrial Hygiene

rs

INDUSTRIAL HYGIENE RULES
FOR
NUCLEAR FUEL DIVISION

The following rules will apply to personnel working in Nuclear Fuel Division Core Manufacturing Pellet Areas:

1. No smoking is permitted in contaminated areas. Smoke only in authorized areas, such as the clean locker room.

2. No eating or drinking of beverages is permitted in the contaminated areas.

3. Report all cuts, abrasions, and minor injuries to the Supervisor at once.

4. Do not touch exposed areas of body unnecessarily since this can inadvertantly cause contamination of these areas.

5. All clothing designated as contaminated (white and white lab. coats) must not be worn in non-contaminated areas. No whites are permitted in the Lunch Room or clean locker room.

6. No personal effects are permitted in contaminated areas.

7. Handle respirators with care. Always keep them clean and stored in a plastic cover (bag). Respirators are not to be left in shop, they are always to be stored in appointed place.

8. Lab coats must be buttoned at all times and worn properly.

9. Do not handle powder or pellets with bare hands--use rubber or cotton gloves.

10. Hands are to be washed and monitored before eating, drinking, smoking, or using toilet facilities.

11. Do not handle street clothes unless the hands have been washed first. It is recommended that all persons shower prior to going home.

12. Use monitors before leaving building, check hands, clothes, shoes and body. If contamination cannot be readily washed away, notify the Health Physics Department.

13. Observe all safety rules and criticality limits.

14. Floors are to be vacuumed rather than swept. Sweeping should be permitted only if a wetting agent is used.

15. No contaminated material or equipment is permitted to leave the contaminated area without proper survey and clearance by the Health Physics Department.

Approved by:

B E Mills
Brian E. Mills, Manager
Cheswick Operations, NFD

Wesley E. Piros
Wesley E. Piros, Manager
Health, Safety and Services

October 24, 1968

ITEM # 184

C1184

ıouse Electric Corporation Power Systems

Electro Mechanical Division

Box 217
Cheswick Pennsylvania 15024
Cable WECHESWICK
(412) 274 6300
(412) 363 8700

May 6, 1971

Mr. Thomas Paden, Administrator
Citizen's General Hospital
651 Fourth Avenue
New Kensington, Pennsylvania 15068

Dear Mr. Paden:

This letter is to review our tentative conclusions regarding reception of casualties who may be sent to the Citizen's General Hospital from the Cheswick Site. The letter is intended as a first draft of procedures reviewed at our meeting on Wednesday, May 5, 1971.

1. The Cheswick Site does not plan to send any radiation casualties to Citizen's General Hospital. If such casualties arise, they will be sent to the Presbyterian Hospital. However, we should prepare for the possibility that such patients may be sent to Citizen's General Hospital either inadvertently or because other medical problems necessitate rapid hospitalization.

2. If any radiation casualty is sent to the Citizen's General Hospital, your emergency room nursing supervisor will be notified prior to the time the patient leaves the plant site. This will hold no matter how slight or what type of radiation exposure is involved.

3. Upon such notification, the emergency room nursing supervisor will notify the emergency room physician who will meet the ambulance at the emergency room entrance to the hospital.

4. Plant casualties having any type of radiation exposure will be accompanied by health physics personnel having:

   (a) Information relating to the radiation exposure and hazard.

   (b) Appropriate instrumentation and monitoring equipment.

ITEM # 185 C185

(2)

5. Plant casualties having any type of radiation exposure will be:-

   (a) Transported to the hospital emergency room entrance.

   (b) Held in the ambulance until a member of your emergency room (physician) permits hospital entry.

6. If a contamination problem exists, that is if handling of the patient may result in dispersion of radioactive nuclides, the patient will be taken through the emergency room entrance to the morgue or isolation treatment room adjacent to the (R&E Room) emergency room. This room or the morgue will then be considered a radiation control area.

7. Once the patient is decontaminated to acceptable levels, he will be transferred to ordinary patient status and transferred to a hospital bed.

8. Again, it is understood that appropriate personnel equipment and supplies to deal with the radiation problem will be supplied by Westinghouse.

It is our opinion that reliance should be placed primarily upon knowledgeable personnel rather than overly detailed procedures. I shall await your review and notification of the above.

Very truly yours,

W. E. Piros

W. E. Piros, Manager
Health, Safety, and Services

rs

CITIZENS GENERAL HOSPITAL
NEW KENSINGTON, PENNSYLVANIA

June 15, 1971

Westinghouse Electric Corporation
Box 217
Cheswick, Pa. 15024

Attention: Mr. W. E. Piros, Manager
Health, Safety, and Services

Dear Mr. Piros:

This letter is intended to confirm that Citizens General Hospital has reviewed the plan to receive radiation casualties from the Cheswick Site, as it is outlined in your letter of May 6, 1971, and based on our meeting with you and Dr. Spritzer.

It is fully understood that this plan is not your company's primary plan for this type of injury, but is an interim plan in event of special medical problems or contingencies which might arise.

I will await final confirmation from you finalizing the tentative plan outlined in your May 6th letter. After receiving this notice, I will circularize our various departments which would be involved.

Later this summer, or early Fall, I will contact you and/or Dr. Spritzer regarding the training sessions he mentioned.

If you desire further information or action from me in this matter, please advise.

Sincerely,

Thomas J. Paden
Administrator

TJP:hw

EXHIBIT M
Page 1 of 1

ITEM # 184 C/86

[illegible]

1/21/72

Investigation report dated 6/14/72

72-01

mult PRN

ITEM # 187 e/187

(3)

UNITED STATES
ATOMIC ENERGY COMMISSION
DIVISION OF COMPLIANCE
REGION I
970 BROAD STREET
NEWARK, NEW JERSEY 07102

201 645-

April 21, 1972

Paul R. Nelson, Senior Radiation Specialist
Region I, Division of Compliance

INSPECTOR'S EVALUATION
INVESTIGATION REPORT NO. 72-01
WESTINGHOUSE ELECTRIC CORPORATION
CHESWICK, PENNSYLVANIA
LICENSE NO. SNM-338

This industrial accident after investigation confirmed that there was no radiological implications. Although health physics coverage was not provided the second shift operations, it is my opinion that none was needed due to the nature of the operations. Health physics coverage in accident situations was factored into this program and followed as prescribed.

Although some deficiencies were noted as a result of this investigation, on the whole, the health physics program at the site is good, in the inspector's opinion.

Subsequent to the investigation, it was learned that the power reactor fuel processing facility (NFD) would be closed down by July 1, 1972 due to lack of business. This action bore no relation to the incident.

Walter R. Lorenz
Radiation Specialist

ITEM # _____

INSPECTION OUTSTANDING ITEMS
(Region I Work Form)

Licensee: Westinghouse Electric Corp. License No.: SNM-338

Facility: Cheswick Pa. Docket No. : 70-327

	IDENTIFIED RPT # OR OTHER REFERENCE	S	NC	UN	IN	IEB	O	ITEM	CLOSED RPT #
	7102							No items of Noncompliance	
	~~7201~~	✓	~~✓~~					~~Safe review of modified equip.~~	
			✓					~~Train all (4) employees in equip. Ops.~~	
			✓					~~Train in radiation aspects~~	
	7201		✓					Instructions (use of Steel around moving machine part.)	
			✓					Emergency instructions at Hosp.	
		✓						Employee training	
		✓						Safety review of modified equip.	

ITEM # _____

S-Safety Item; NC-Noncompliance or nonconformance; UN-Unresolved item; IN-Inquiry item; IEB-Reactor Inspection and Enforcement Branch request; O-Other source requested item.

UNITED STATES
ATOMIC ENERGY COMMISSION
WASHINGTON, D.C. 20545

15 FEB 1972

J. P. O'Reilly, Director
CO Region I

REQUEST FOR INVESTIGATION
WESTINGHOUSE ELECTRIC CORPORATION
CHESWICK, PENNSYLVANIA
LICENSE NO. SNM-338

This refers to the TWX from CO:I concerning the January 29 incident in which an employee of the subject licensee lost part of his arm. The TWX states that CO:I plans to examine the matter during an inspection scheduled for February 22, unless there is evidence of an internal deposition of uranium, in which case an immediate inspection will be conducted.

Enclosed is a copy of a letter dated February 2, 1972, from the International Brotherhood of Electrical Workers (IBEW) to Dr. Beck concerning the accident (received by CO:HQ on 2/8/72). You will note that the IBEW letter alleges that:

1. There was no HP personnel assigned to the shift in which the accident occurred, although HP's are assigned to the other two shifts.

2. There was no HP accompanying the injured man to the hospital.

3. There were no "cognizant" personnel at the hospital upon the injured's arrival for monitoring and contamination control. (Reportedly, licensee HP personnel arrived at the hospital "some time" later.)

4. The equipment being operated by the injured is described as "experimental with modifications having been made," and it is stated that similar equipment is being used at the licensee's "other facility."

I understand that CO:I also received a letter from IBEW which appears to be similar, if not identical to the letter to Dr. Beck.

ITEM # 188

c/188

Westinghouse Electric Corp.

Although the initial information obtained from the licensee relative to this occurrence indicates that the resulting contamination was low-level (and therefore a low probability of a significant internal deposition) I believe a full investigation should be conducted as soon as possible in view of the interest of, and allegations by, IBEW. I will leave it up to you whether you want to conduct the reinspection concurrently. Either way, the investigation should be written up as a separate investigation report of the usual format.

The investigation should include, as well as the particular facts related to this incident, a thorough examination of the licensee's emergency procedures and arrangements with the hospital. Also, if there is any evidence of an internal deposition, a medical consultant should be used. From what we know of IBEW, this case may be getting a lot of continuing attention, so we had better assure that we get as much information as possible while the case is still fresh.

R. H. Engelken, Assistant Director
for Inspection and Enforcement
Division of Compliance

Enclosure:
Ltr dtd 2/2/72 frm
IBEW to Dr. Beck

TRANSMITTED VIA FACSIMILE 2/9/72

JUN 9 1972

Westinghouse Electric Corporation
Attention: Mr. E. J. Cattabiani
General Manager
Electro-Mechanical Division
Cheswick, Pennsylvania 15024

Docket No. 70-337

Gentlemen:

This refers to the investigation conducted by Mr. W. R. Lorenz and Mr. A. F. Ryan of this office on February 10, 11, 24, and 25, 1972, of operations authorized by AEC License No. SNM-338, with respect to the accident on January 29, 1972 in which an employee was injured while operating a powder preparation machine as reported to this office by telephone on February 4, 1972. Our findings were discussed by Mr. Lorenz and Mr. Ryan with Mr. Thomas and other members of your staff at the conclusion of the investigation.

Areas examined during the investigation included the circumstances surrounding the accident and the possible internal deposition of uranium in the injured employee; training; and emergency procedures. Within these areas the investigation consisted of examinations of pertinent records and procedures; interviews with plant personnel, and observations by our representatives. Based on the information obtained during the investigation, we concur in your conclusion that the injured employee sustained no internal deposition of uranium as a result of the accident.

During this investigation, it was found that certain of your activities appeared to be in noncompliance with AEC requirements and not in accordance with appropriate safety practices. The items and references to the pertinent requirements are listed in Enclosures No. 1 and No. 2 to this letter. Please provide us within 20 days, in writing, with your comments concerning these items, any steps which have been or will be taken to correct them, any steps that have been or will be taken to prevent recurrence, and the date all corrective actions or preventive measures were or will be completed.

Very truly yours,

ITEM # 189 C/189

James P. O'Reilly
Director

Enclosures:
1. Description of Noncompliance Item
2. Description of Safety Item

OFFICE ▶					bcc: G. W. Roy, RO (3)
SURNAME ▶					P. A. Morris, RO
DATE ▶	Lorenz/dg	Ryan	Nelson	O'Reilly	H. D. Thornburg, RO
					R. H. Engelken, RO
					PDR
					NSIC RO Files

Form AEC-318 (Rev. 9-53) AECM 0240

U.S. GOVERNMENT PRINTING OFFICE : 1968 O—296-617

(3)

ENCLOSURE NO. 1

DESCRIPTION OF NONCOMPLIANCE ITEMS

Westinghouse Electric Corporation
Cheswick, Pennsylvania 15024
License No. SNM-338
Docket No. 70-337

Certain activities under your license appear to be in noncompliance with AEC regulations and license requirements, as indicated below:

1. 10 CFR 20.206(a), "Instructions of personnel; posting of notices to employees", requires, in part, that all individuals working in or frequenting any portion of a restricted area be instructed in the safety problems associated with radioactive materials and in precautions or procedures to minimize exposure.

   Contrary to this requirement, you failed to instruct an employee in the precautions to be taken during the operation of your powder preparation machine to prevent injuries involving radioactive material. Specifically, the employee was not informed of the hazard associated with the use of a stick in and around moving machine parts.

2. License Condition 18 incorporates your emergency procedures submitted in your application dated August 11, 1969. Section 5 of these procedures requires that arrangements for the handling of low level contaminated cases be made with a local hospital. These arrangements include the requirement that various hallways, and rooms within the hospital be pre-designated for the handling of low level contaminated cases, and that portable battery-operated detection instruments be provided for area and wound monitoring.

   Contrary to this requirement, only initial contacts were made with the local hospital as indicated in your letter dated May 6, 1971, and the hospital's letter in response dated June 15, 1971. Specifically, prior arrangements were not made including pre-designating various hallways and rooms within the hospital for handling low contaminated cases, and having available portable battery-operated detection instruments for area and wound monitoring.

ENCLOSURE NO. 2

DESCRIPTION OF SAFETY ITEMS

Westinghouse Electric Corporation
Cheswick, Pennsylvania 15024
License No. SNM-338
Docket No. 70-337

Two items appear to raise questions concerning the safety of operations, as identified below:

1. Good management practice requires a system for assuring that (a) supervisors know that the training each employee receives meets the requirement of 10 CFR 20.206(a), "Instructions of personnel; posting of notices to employees", (b) supervisory training follow-up is provided to assure that safe practices are understood and being followed, and (c) employees remain knowledgable in the procedures and precautions to be followed by periodic retraining.

   Contrary to the above, your present system of one employee training another provides (a) no means by which the supervisor knows what instructions and precautions have been given the employee, (b) no training follow-up by supervisor to assure safe procedures are being followed, and (c) no periodic retraining to assure that employees remain knowledgable.

2. Prudent safety practice dictates that safety evaluations be made of all modified equipment prior to use.

   Contrary to the above, equipment modifications were made to the powder preparation equipment at your Cheswick facility, and no safety review was made of the equipment prior to placing the equipment into service. In addition, this was not in accordance with your procedures entitled, "Safety Review for New, Modified, or Relocated Equipment".

DRAFT GWRoy:akb
June 8, 1972

Note to Paul Nelson, RO:I

ENFORCEMENT LETTER TO WESTINGHOUSE, CHESWICK, PENNSYLVANIA

Per our telecon, the following is suggested as the first two paragraphs of the enforcement letter to Westinghouse:

This refers to the investigation conducted by Mr. W. R. Lorenz and Mr. A. F. Ryan of this office on February 10, 11, 24 and 25, 1972, of operations authorized by AEC License No. SNM-338, with respect to the accident on January 29, 1972 (date) in which an employee was injured while operating a powder preparation machine as reported to this office by telephone on February 4, 1972 (date). Our findings were discussed by Messrs. Lorenz and Ryan with Mr. Thomas and other members of your staff at the conclusion of the investigation.

Areas examined during the investigation included the circumstances surrounding the accident and the possible internal deposition of uranium in the injured employee; training; and emergency procedures. Within these areas the investigation consisted of examinations of pertinent records and procedures, interviews with plant personnel, and observations by our representatives. Based on the information obtained during the investigation, we concur in your conclusion that the injured employee sustained no ~~detectable~~ internal deposition of uranium as a result of the accident.

G. W. ROY, RO:HQ

Transmitted via facsimile on 6/8/72.

C/190

ITEM # 190

ITEM # 191

C/191

DOCKET NO. 70-337

Beth

008

R.O.

TWX INCOMING

CUSAEC-HQS-GTWN

1972 JUN 6 PM 5 55

U.S. ATOMIC ENERGY COMM. TWX UNIT

FROM

WESTINGHOUSE NUCLEAR ENERGY SYSTEMS

MONROEVILLE, PENNA.

TWX NO 710 797 3558

RECEIVED

1972 JUN 7 AM 10 36

U.S. ATOMIC ENERGY COMM. REGULATORY MAIL & RECORDS SECTION

6-6-72

TO

U.S. ATOMIC ENERGY COMMISSION

DIRECTORATE OF LICENSING

TRANSPORTATION BRANCH

WASH D C

ATTENTION: C E MAC DONALD, CHIEF

OUR APPLICATIONS IN DOCKET 70-337, DATED MARCH 1, 1968, WITH SUPPLEMENTS DATED APRIL 8, MAY 21, 1968; MAY 21, JULY 23, AND SEPTEMBER 3, 1971, REQUESTED AUTHORIZATION TO LOAD AND DELIVER THE B3 250-2 PACKAGE TO A CARRIER FOR TRANSPORT. THE DOCUMENTS LISTED ABOVE DESCRIBED THE PACKAGING AS HAVING AN OVERALL HEIGHT OF "APPROXIMATELY 74 INCHES".

WESTINGHOUSE REQUESTS THAT A LICENSE AMENDMENT BE ISSUED BY THE AEC TO INDICATE THAT "APPROXIMATELY 74 INCHES" MAY BE DEFINED AS "A MINIMUM OF 72 INCHES" FOR THIS PACKAGE.

PLEASE SEND THE AMENDMENT TO ME AT WESTINGHOUSE ELECTRIC CORPORATION, BOX 355, PITTSBURGH, PA. 15230.

ANY QUESTIONS, PLEASE CALL ME COLLECT (412) 373-4652.

KARL R SCHENDEL - LICENSE ADMIN.

WNES NUCLEAR CENTER

3105

END

I

R.O. (HOORS)

DOCKET NO. 70-337 -1086, -1143

Westinghouse Electric Corporation Power Systems

Box 355
Pittsburgh Pennsylvania 15230

May 26, 1972

RECEIVED JUN 2 1972

U. S. Atomic Energy Commission
Directorate of Licensing
Washington, D. C. 20545

Attention: R. B. Chitwood, Chief
Fuel Fabrication & Reprocessing Branch

Gentlemen:

Subject: Application for Amendment of License SNM-1120, Docket 70-1143, License SNM-338, Docket 70-337, and Fermination of SNM-1170, Docket 70-1086

The Westinghouse Electric Corporation hereby requests that the subject licenses be revised in accordance with our applications, dated December 10, 1971, April 13, 1972, and the attachment to this letter.

You have requested further discussion of the license condition as proposed in our transmittal dated April 13, 1972. Our interpretation of the original license condition proposed by the AEC in your letter of March 1, 1972, was that to establish the maximum exclusion areas for P_1 and P_2, (See Figure 1) one would determine the magnitude of the quantities $X_2 - X_1$ and $Y_2 - Y_1$.

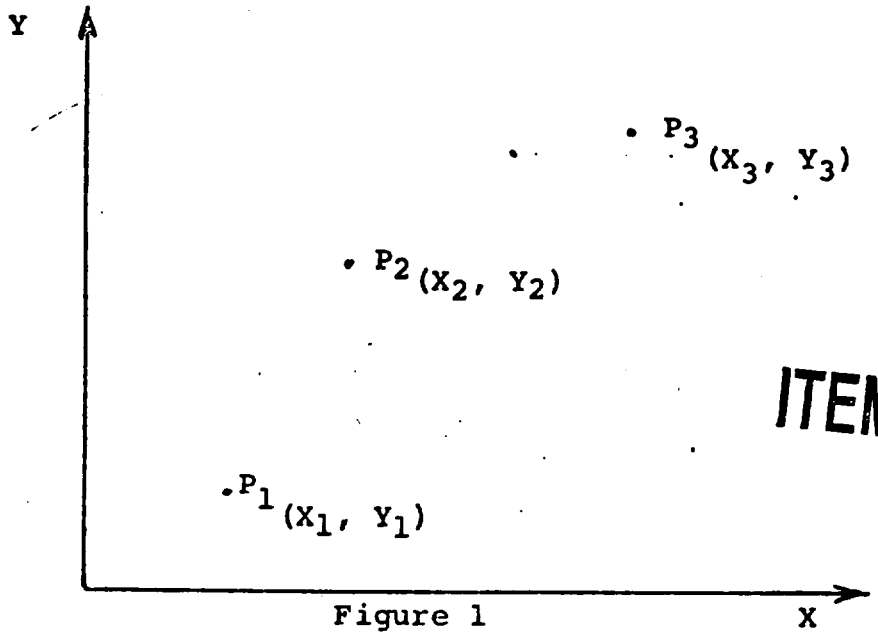


Figure 1

ITEM # 192 C/192

The smaller of these two numbers would then represent the maximum that the sum of the half-dimensions of the square exclusion areas could total. Similarly, for P_2 and P_3, the smaller of $X_3 - X_2$ or $Y_3 - Y_2$ would govern.

Our concern arose from the situation diagramed in Figure 2.

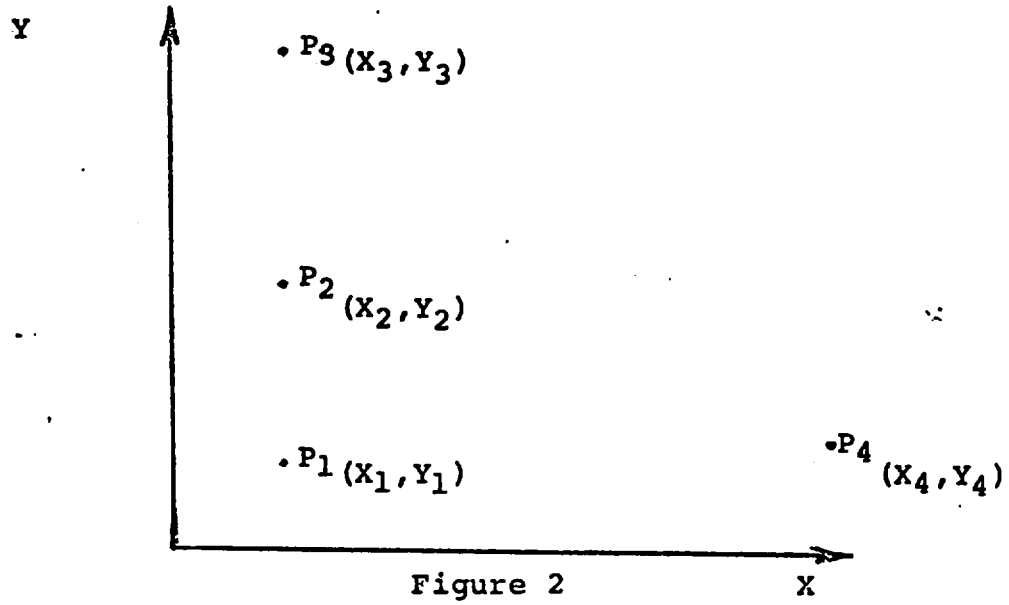


Figure 2

Examination of this figure demonstrates that since P_1, P_2 and P_3 are in a line, $X_1 = X_2 = X_3$ and the quantities $X_2 - X_1$ and $X_3 - X_2$ are equal to zero. Therefore, no exclusion area would be permitted. A statement that permits such a condition is obviously erroneous. Similarly, $Y_4 - Y_1$, is very small, so that although the points are widely separated, they would drasticly limit the exclusion area available around each point. This also is unrealistic.

Westinghouse has modified the proposed license condition to provide for these conditions, which are particularly prevalent in the PFDL where operations are carried out in glove box lines.

Assuming an arrangement similar to that in Figure 2, Westinghouse would provide exclusion as shown in Figure 3.

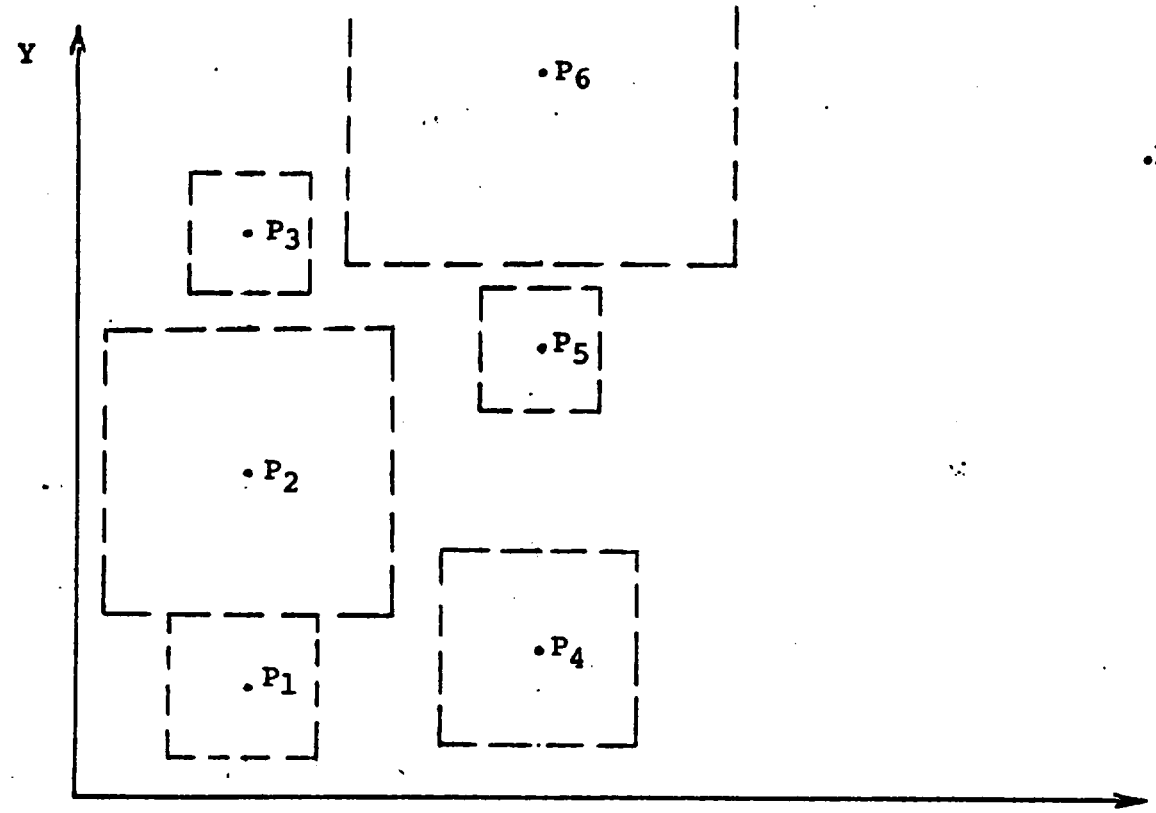


Figure 3

Thus Line 1, containing P_1, P_2 and P_3 in a linear array and Line 2, containing P_4, P_5 and P_6 in a separate linear array would be spaced based on center-to-center distances within the individual lines. The only requirement would be assurance that none of the areas "assigned" to one line overlaps an area reserved for the other. P_7 would be considered separately, and would not be evaluated relative to either P_3 or P_6.

A practical application of this approach is demonstrated in the attached Figure 9.2.2 taken from the application. Obviously, the spacing considerations for Boxes #2, #4, #6, #8 and #10 should not be restricted because Boxes #3, #5, #7 and #9 are spaced directly in the gaps between them, when the odd-numbered boxes lie on the other side of the transfer tunnel.

We trust that this exposition will clarify our proposed license condition and its application to nuclear criticality safety matters to provide the conservatism desired by the Commission.

We are also supplying revised pages 3 and 11 to the Bldg. 7 application, as requested. They should be filed in the January 14, 1971 application binder and the old pages should be removed.

Please send the amended license, to me at the above address.

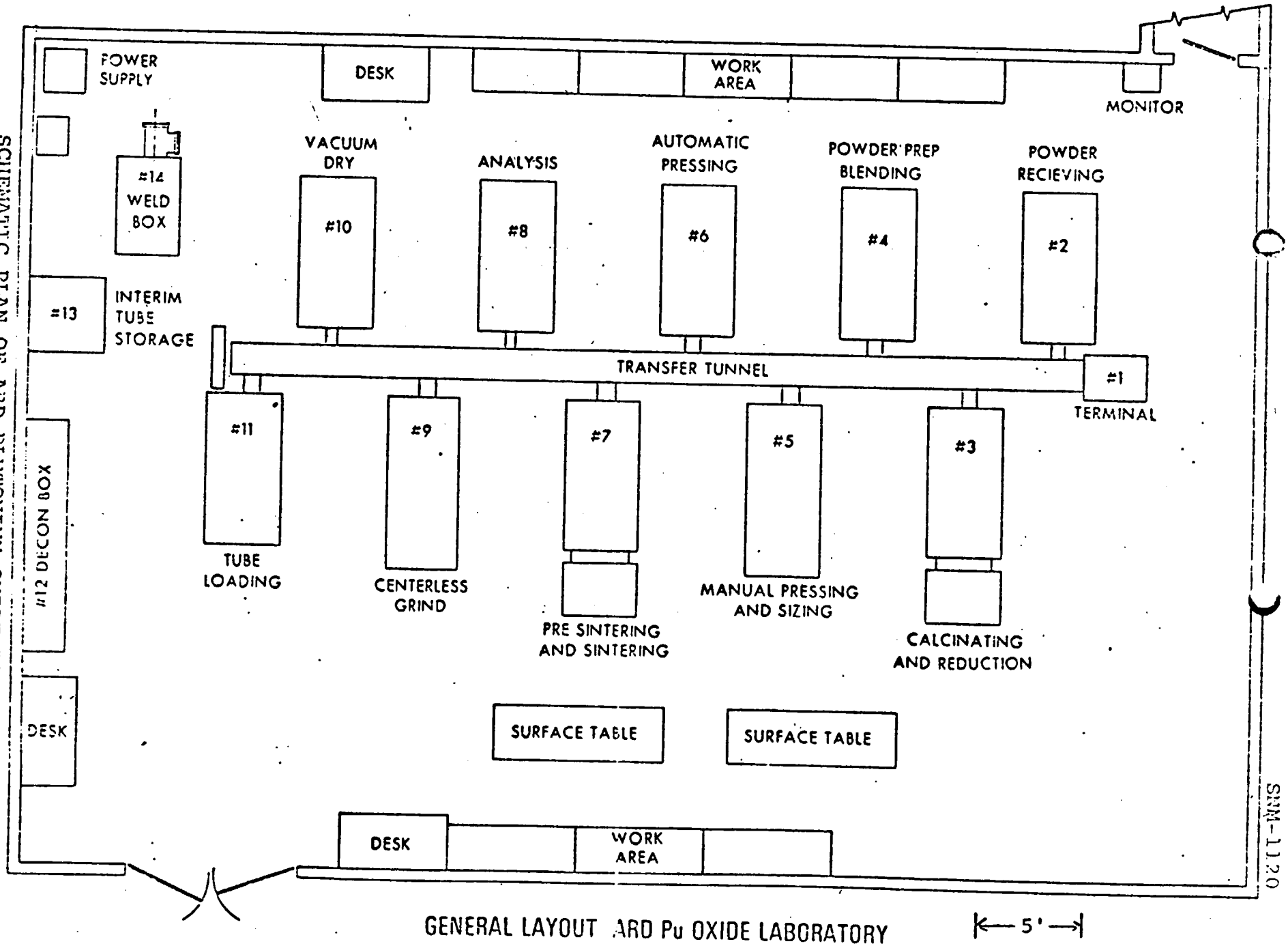
Very truly yours,

Karl R. Schendel

Karl R. Schendel
License Administrator

KRS:jh

Attachment



SCHEMATIC PLAN OF ARD PLUTONIUM OXIDE LABORATORY
CHESWICK SITE
FIGURE 9.2.2
Revision No.
Date:

Docket 70-1143 Date: 6/13/69

SNM-1120

REVISION RECORD

Revision No.	Date of Revision	Pages Revised	Revision Reason
1	12/9/71	All	Revised in its entirety to limit SNM to storage only, and to provide for source material uses
2	4/13/72	11	Changed "special nuclear materia to read "licensed material".
2	4/13/72	12	"Minimum" ^{240}Pu was "Maximum"
2	4/13/72	32	Added weighing restriction on Scale Bench Area.
2	4/13/72	35-37	Revised Table 8.2.1.1 to delete listing of MPV's not appearing elsewhere in application and to revise Notes: to suit.
3	5/26/72	11	Clarified storage only aspect of SNM possession. Updated corporate information reference.

1. General

1.1 Corporate Information

The Westinghouse Electric Corporation hereby requests authorization to receive, possess, store, and transfer, but not to use, special nuclear material in Building No. 7 (Bldg. 7) at the Cheswick site, and to receive, possess, store, use and transfer source material at that location.

Applicant:	Westinghouse Electric Corporation Westinghouse Building Gateway Center Pittsburgh, Pennsylvania 15222
Geographical location where these materials will be used:	Westinghouse Electric Corporation Plutonium Fuels Development Laboratory, NFD Box 217 Cheswick, Pennsylvania 15024

Complete corporate information, fulfilling the requirements of Subparagraph 70.22 (a)(1), has been supplied in separate transmittal, dated April 18, 1972, addressed to Mr. S. H. Smiley, Director, Division of Materials Licensing, and Dr. P. A. Morris, Director, Division of Reactor Licensing.

1.2 Correspondence

The license amendment and any associated correspondence should be sent to Karl R. Schendel, Westinghouse Electric Corporation, Nuclear Energy Systems, P. O. Box 355 Pittsburgh, Pennsylvania 15230.

RO

May 23, 1972

U. S. Atomic Energy Commission
Directorate of Licensing
Washington, D. C. 20545

Attention: Mr. S. H. Smith, Chief, Fuels and Materials Branch

Gentlemen:

Subject: AEC Letter, Dated [illegible], Proposed Dockets [illegible]

The Westinghouse [illegible] of your letter [illegible] draft "Liquid [illegible] Effluents [illegible]" [illegible] discontinuance [illegible] Cheswick site [illegible] Docket [illegible], [illegible] to the proposed [illegible] accordance with [illegible] 1971 and [illegible] to Docket [illegible]

Other than making the statement that the "[illegible] important" and "essential [illegible] justification [illegible] safety [illegible] Westinghouse objects [illegible] different standard [illegible] only valid comparison [illegible] values contained in [illegible] low as practicable" is not [illegible] fore, pending some explicit [illegible] part of the Commission, Westinghouse [illegible] the imposition of these added requirements as being arbitrary and capricious, with no demonstrated foundation in law

[illegible]
be diffi[illegible]

4. Condi[illegible] I, A, 2 [illegible]
implies [illegible]
insertion should be [illegible]
continuous monitoring [illegible]
considered [illegible]
control purposes.

5. Condition I, A, 3 [illegible]
should only be [illegible]
of isotopic infor[illegible]
adequate [illegible]
are made [illegible] the [illegible]
these findings [illegible]

6. Condition I, A, 4. Please review and revise the release rate sensitivities specified. In view of the fact that the total release [illegible] at a number of locations and [illegible] percentage of the total flow passes through the sampling, the proposed [illegible] could result in a [illegible] to detect [illegible] as low as one or two [illegible]. Such levels would require extremely long counting [illegible].

7. Condition [illegible] 5 [illegible] this be revised to refl[illegible]
[illegible]

effluents are sam[illegible]

10. Condition I, B, 6. Pla[illegible] However, [illegible] pos[illegible] or other [illegible] liquids [illegible] time.

11. Condition I, B, [illegible] We recommend that the words "as required" be inserted [illegible] indicate clearly that [illegible] competition data [illegible] Such data should [illegible] any analytical sensitivity specified.

Also, the requirement [illegible] analyses appear [illegible] It is also questionable [illegible] from some individual [illegible]

12. Condition I, B, 8. The [illegible] should be applied [illegible] considered when evaluating [illegible] some limitation on the [illegible] of concern should be [illegible] intent is to accumulate [illegible] an appropriate [illegible] radioactivity in some designated boundary.

13. Condition I, B, 9. [illegible] line, the words "as applicable in Section B above" be substituted for the [illegible] The redundant listing is unnecessary [illegible] if the preceding conditions are retained [illegible] realistic flexibility.

14. Conditions I, A, 5. I, A, 6. and I, B, 9. Minimum record retention periods [illegible] are [illegible]

staff [illegible]

In closing, [illegible] comments, simply to assure [illegible] appeal of the [illegible]

The first is that in view of the [illegible] obtaining a full, semi-annual reporting [illegible] available for reporting on [illegible] If a report covering the six month [illegible] is required, some provision for [illegible] particularly for the earlier months, will have to be made. It is entirely possible that the [illegible] will preclude a full length reporting period.

The second comment is to [illegible] inherent in attempting to integrate reliable data [illegible] complexities of the types of [illegible], the effects of the [illegible] the selectivity of the various [illegible] separating out [illegible] present so many judgmental [illegible] is not possible. In view of this situation, comparing [illegible] received from different [illegible] generalize to overall effects on the total population [illegible] be of very dubious value. Washington urges that such efforts be avoided.

We would welcome an opportunity to discuss this matter with you.

Any further [illegible] above address or telephone [illegible]

Very truly yours,

[illegible]

UNITED STATES
ATOMIC ENERGY COMMISSION
WASHINGTON, D.C. 20545

J. P. O'Reilly, Director
CO Region I

REQUEST FOR INVESTIGATION
WESTINGHOUSE ELECTRIC CORPORATION
CHESWICK, PENNSYLVANIA
LICENSE NO. SNM-338

This refers to the TWX from CO:I concerning the January 29 incident in which an employee of the subject licensee lost part of his arm. The TWX states that CO:I plans to examine the matter during an inspection scheduled for February 22, unless there is evidence of an internal deposition of uranium, in which case an immediate inspection will be conducted.

Enclosed is a copy of a letter dated February 2, 1972, from the International Brotherhood of Electrical Workers (IBEW) to Dr. Beck concerning the accident (received by CO:HQ on 2/8/72). You will note that the IBEW letter alleges that:

1. There was no HP personnel assigned to the shift in which the accident occurred, although HP's are assigned to the other two shifts.

2. There was no HP accompanying the injured man to the hospital.

3. There were no "cognizant" personnel at the hospital upon the injured's arrival for monitoring and contamination control. (Reportedly, licensee HP personnel arrived at the hospital "some time" later.)

4. The equipment being operated by the injured is described as "experimental with modifications having been made," and it is stated that similar equipment is being used at the licensee's "other facility."

I understand that CO:I also received a letter from IBEW which appears to be similar, if not identical to the letter to Dr. Beck.

ITEM # 193 c/193

(2)

Westinghouse Electric Corp.

Although the initial information obtained from the licensee relative to this occurrence indicates that the resulting contamination was low-level (and therefore a low probability of a significant internal deposition) I believe a full investigation should be conducted as soon as possible in view of the interest of, and allegations by, IBEW. I will leave it up to you whether you want to conduct the reinspection concurrently. Either way, the investigation should be written up as a separate investigation report of the usual format.

The investigation should include, as well as the particular facts related to this incident, a thorough examination of the licensee's emergency procedures and arrangements with the hospital. Also, if there is any evidence of an internal deposition, a medical consultant should be used. From what we know of IBEW, this case may be getting a lot of continuing attention, so we had better assure that we get as much information as possible while the case is still fresh.

R. H. Engelken, Assistant Director
for Inspection and Enforcement
Division of Compliance

Enclosure:
Ltr dtd 2/2/72 frm
IBEW to Dr. Beck

TRANSMITTED VIA FACSIMILE 2/9/72

estinghouse Electric Corporation Power Systems

Electro Mechanical Division

Box 217
Cheswick Pennsylvania 15024
Cable WECHESWICK
(412) 274 6300
(412) 363 8700

February 4, 1972 SNM-338

Mr. Walter Lorenz
United States Atomic Energy Commission
Region I
Division of Compliance
970 Broad Street
Newark, New Jersey 07102

Dear Walt:

As per telephone conversation on Friday, February 4, 1972, on the Cheswick Site accident of January 29, 1972, attached is the health physics summary of the accident. Please note that the health physics summary only includes the main summary and there are no attachments.

If more information is desired, please do not hesitate to contact me.

Very truly yours,

K. A. Bodden, Supervisor
Industrial Hygiene

rs

Attachment

C/194

ITEM # 194

From : Health, Safety and Services
WIN : 222-5619
Date : February 4, 1972
Subject: NFD-Manufacturing Accident, Health Physics Summary

ELECTRO-MECHANICAL DIVISION

Mr. W. E. Piros, Manager
Health, Safety, and Services

On Saturday, January 29, 1972, a NFD-Manufacturing employe suffered an industrial, non-related radiation, accident which resulted in the loss of approximately 12 inches of his left forearm.[1]

Equipment Description:

The machine involved in the accident was a Chilsinator located in the NFD-Manufacturing Line 3 area (Attachment 1). The machine was used for research and development purposes until recently when it was converted to a temporary production machine. The Chilsinator is used to compact dry uranium, less than 3% enriched, powder before pelletizing.

Accident Description:

The employe was using a stick, approximately 10 inches long, to clear the uranium powder from around the sides of the feeder. The stick slipped out of the employe's left hand and automatically, on impulse, he reached for the fallen stick. His left hand then became impaled on the slow rotating "mixer bar." This resulted in the amputation of the left forearm of the employe.

Chronological Events:

(approximate times)

1610 hours. - Employe's left hand is impaled on the mixer bar. Another employe (employe A), in close vicinity, hears shouts of help from the injured employe and rushes to his aid.[2] Employe A grabs the "injured employe" around the waist while turning off the controls for the equipment. The "injured employe" is then, by slight force, released from the machine by employe A. The amputated left forearm of the "injured employe" remains lodged in the mixer bar of the Chilsinator.

Upon hearing the shouts of the "injured employe," the rod loading foreman telephones for the Site ambulance.[3]

c/195

ITEM # 195

(1)

CRM 3554 C

1625 hours. - The "injured employe" arrives at the New Kensington Citizen's General Hospital emergency room. Clean-up and preparation of the "injured employe" for surgery begins. Site employes involved in assisting and transporting the "injured employe" to the hospital are listed under reference four.

1710 hours. - First health physics technician arrives at the hospital after being contacted at his home by the Site guard.[5]

1715 hours. - Second health physics technician arrives at the hospital after being called at home by the Site guard.[6] Both health physics technicians immediately start the health physics evaluation of the situation. (Attachment 2 and 3)

1720 hours. - Security guard arrives at the hospital with health physics survey equipment.[7] Routine health physics survey starts on "injured employe" and hospital areas involved. Health physics survey concludes negative results for loose and fixed uranium contamination.

1745 hours. - After consultation by the surgeons and nursing staff, operation to correct injured condition begins.[8]

The health physics supervisor, attending a non-Westinghouse meeting in Pittsburgh, is contacted by the Pittsburgh police department and told to immediately call the Westinghouse Cheswick plant.[9] He immediately returned the call to the Site guard and is made aware of the accident.

1830 hours. - Health physics supervisor arrives at hospital and immediately evaluates health physics situation based upon data provided by the health physics technicians. The Westinghouse plant physician also arrives at the hospital and evaluates the medical condition of the "injured employe."[10] The wife of the "injured employe" is updated on his condition by the Westinghouse physician. She is also assured by the health physics supervisor that radiation is not related to the injury. Note: The NFD-Manufacturing manager had previously consoled the injured employe's wife approximately an hour earlier.

1900 hours - Successful corrective surgery ends. The "injured employe's" physical condition is stable. The second, indepth, health physics survey on the "injured employe" and the hospital areas involved again concludes with negative results for loose and fixed uranium contamination.

1930 hours. - The health physics supervisor leaves the hospital, after assuring the "injured employe's" wife that everything is progressing satisfactorily and returns to the Cheswick Site and starts making plans for the removal of the limb from the Chilsinator. Note: Health, safety, and services (HSS) safety administrator was on Site for approximately one hour and a half and made arrangements for the necessary photographs, etc.

2045 hours. - Limb removed from the machine and checked for contamination and cleared for normal disposal.

2115 hours. - Health physics supervisor returns limb to the morgue of the Citizen's General Hospital for normal disposal.

2200 hours. - Health physics supervisor speaks to the "injured employe" and his wife and again stresses that the accident is non-radiation related. "Injured employe" is in good spirits considering the seriousness of the accident. Note: Two bio-assay samples were collected twenty-four hours after the accident for routine health physics evaluation.

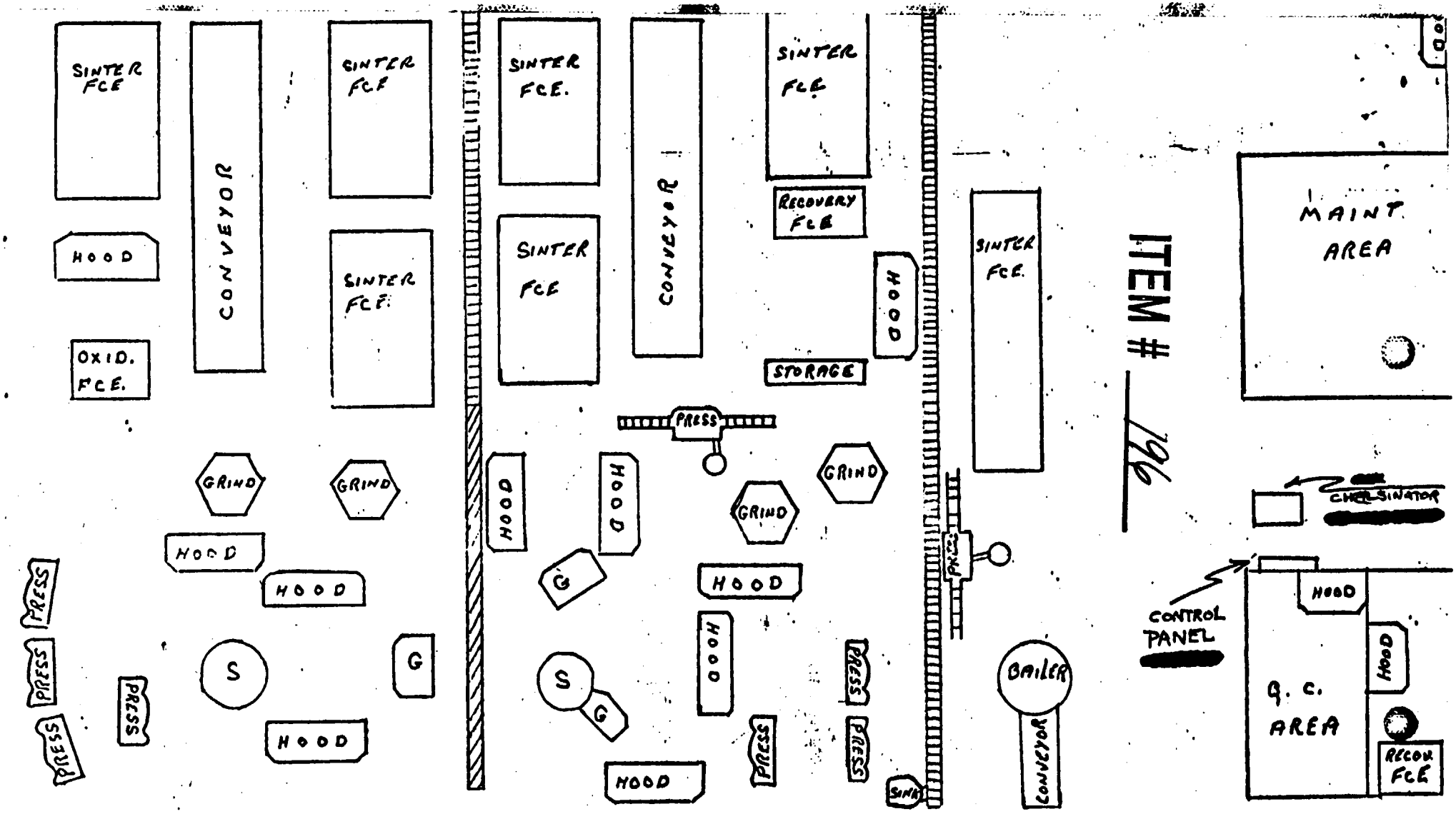
Follow-up:

Recommendations:

K. A. Bodden, Supervisor
Industrial Hygiene

rs

Attachments



No.	D/M	No.	D/M	No.	D/M	No.	D/M	No.	D/M	No.	D/M	No.	D/M
1		5		9		13		17		21		25	
2		6		10		14		18		22		26	
3		7		11		15		19		23		27	
4		8		12		16		20		24		28	

CURRENT LIST OF LICENSES

Users and Site	License Numbers
Nuclear Energy Systems	
Cheswick	SNM-338, 1120, 1170; 37-05809-01, 37-05809-02 SMB-355
Columbia, S.C.	SNM-1107
Forest Hills	37-00497-09
Waltz Mill	SNM-576, 770; 37-09442-04; TR-2
Zion, Ill.	R-119, SNM-738
Astronuclear Laboratories	
Cheswick	37-05809-03
Large	SNM-951; 37-09442-02; SMB-915
Waltz Mill	37-09442-01
Research Laboratories	
Churchill	SNM-47; 37-00497-06; SMB-550
Headquarters Industrial Hygiene Laboratory	
East Pittsburgh	37-00497-13
Semiconductor Division	
Youngwood	37-07934-01

ITEM # 197

C197

Westinghouse Electric Corporation Power Systems

Box 355
Pittsburgh Pennsylvania 15230

April 27, 1972

U. S. Atomic Energy Commission
Licensing Directorate
Washington, D. C. 20545

Attention: S. H. Smiley, Deputy Director for Fuels and Materials

Gentlemen:

For Div. of Compliance

Subject: License Conditions Proposed for Dockets 70-337, 70-1086, 70-1143 and 70-1151

The Westinghouse Electric Corporation does not agree to the license conditions proposed in your letter, dated April 1, 1972. The basic concept of assuring the fulfillment of performance criteria by legislating hardware is contrary to the idea of a broad license that is fundamental to our licensing philosophy.

We offer the following specific comments on the proposed license conditions:

A. The wording of this condition would tend to "freeze" existing equipment, regardless of its quality and effectiveness. It would discourage the development and implementation of improved treatment systems not only by (presumably) necessitating prior USAEC review and approval of any modification before it could be installed, but also by making it difficult to remove or modify developmental systems that didn't perform after installation as effectively as they did on paper.

   The wording makes no provision for those systems that happen to be in the process of being changed on the proposed effective date.

ITEM # 198

C/198

I 2350

The Corporation holds the contract to provide the project management, design, and test services for the Fast Flux Test Facility, which will be used in the testing and evaluation of fuels and materials for the USAEC's Liquid Metal Fast Breeder Reactor program.

Westinghouse has been a leader in the development of nuclear propulsion and auxiliary power equipment for space applications. The Westinghouse Astronuclear Laboratory developed and fabricated nuclear reactors for the NERVA program. The Laboratory still is participating in the development of the SNAP-23A package and compact thermoelectric converters for the AEC.

Various divisions of the Corporation have demonstrated other major accomplishments in the nuclear energy field. Westinghouse developed canned motor and controlled leakage pumps, currently being manufactured for a variety of nuclear facilities, and it also manufactures many other non-nuclear components for reactor plants such as large heat exchangers, control rod drive mechanisms, valves, instrumentation and control equipment.

Westinghouse maintains a number of design and development groups in the Pittsburgh area (over 3,000 engineers and scientists) that contribute to these accomplishments in the nuclear field. There is an accident prevention administrator and a medical services administrator located at the Gateway Center Headquarters in Pittsburgh. At another Westinghouse location near Pittsburgh, there is a headquarters industrial hygiene administrator whose engineering and laboratory facilities are available to all locations. The headquarters staff for the Nuclear Energy Systems (NES) includes a Director of Safety and Industrial Hygiene, who conducts special projects, drafts general policies, and provides coordination among the Industrial Hygiene supervisors at the various NES sites, a License Administrator for coordination of licensing activities, and a Manager of Nuclear Materials Management and Safeguards to provide guidance and advice on safeguarding special nuclear materials. Each site performing nuclear activities has at least one technically qualified, full time supervisor, with additional engineers and technicians as needed, in support of radiation protection, industrial hygiene, and safety services. Full time scientists and engineers with extensive experience in nuclear design lend support to the various facilities for nuclear criticality analysis where special nuclear materials are used. Computer service is available for determining safety parameters in nuclear criticality analyses.

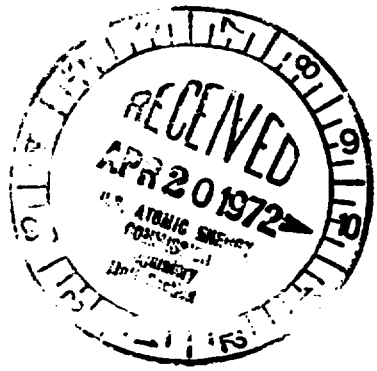
ITEM # _____

tinghouse Electric Corporation Power Systems

PWR Systems Division
Box 355
Pittsburgh Pennsylvania 15230

1055

April 18, 1972



U. S. Atomic Energy Commission
Washington, D. C. 20545

Attention: Mr. S. H. Smiley, Director
Division of Materials Licensing

Dr. P. A. Morris, Director
Division of Reactor Licensing

Gentlemen:

Subject: Corporate Information for Licenses

The Westinghouse Electric Corporation hereby submits current information applicable to the USAEC Licenses listed at the end of this letter which have been issued to the Corporation. Corporate information was originally sent to you in a letter addressed to Mr. R. W. Lowenstein, Assistant Director of Regulations, dated April 3, 1964, and thereafter has been updated at least annually. The last previous letter, dated April 28, 1971, was transmitted jointly to Mr. L. E. Johnson (then Acting Director of DML) and Dr. Morris.

The Westinghouse Electric Corporation is incorporated in the Commonwealth of Pennsylvania, with principal offices located in the Westinghouse Building, Gateway Center, Pittsburgh, Pennsylvania 15222. All of the Directors and Officers are citizens of the United States of America.

Westinghouse is a publicly held corporation whose stock is traded on principal securities exchanges. It is not owned, nor is there (to the best of our knowledge) an appreciable ownership of Westinghouse stock, by an alien, foreign corporation or foreign government. No individual is known, from the records of the Corporation, to own one percent or more of its capital stock.

ITEM # 199

2135
C/199

UNITED STATES
ATOMIC ENERGY COMMISSION
DIVISION OF COMPLIANCE
REGION I
970 BROAD STREET
NEWARK, NEW JERSEY 07102

201 645.

MAR 7 1972

Memo To File:

OSHA INFORMATION CALL
RE: WESTINGHOUSE ELECTRIC CORPORATION
CHESWICK, PENNSYLVANIA
LICENSE NO. SNM-338

On 3/1/72 I received a telephone call from a Mr. J. H. Oliver, Occupational Safety and Health Administration (OSHA) Pittsburgh, Pennsylvania office. Mr. Oliver said that he had received a letter on 2/23/72 from the International Brotherhood of Electrical Workers Union (IBEW) Local 1914, Cheswick, Pennsylvania, requesting a safety reveiw of the recently modified chilsonator used at the Westinghouse Electric Corporation facility at Cheswick, Pennsylvania, License No. SNM-338. The chilsonator is a powder preparation machine used in one of the fuel processing steps in making reactor fuel. The equipment, before modification, was involved in a recent accident in which a man's arm was severed.

Mr. Oliver wanted to know if the equipment was AEC owned, involved any AEC proprietary information, and, if not, would we have any objection if they conducted an industrial safety review of the modified equipment as requested by IBEW. Mr. Oliver was told by me that the equipment was not AEC owned, did not involve any AEC proprietary information and we would have no objection to their review of the industrial safety aspects of this modified equipment.

W. R. Lorenz
Radiation Specialist

cc: J. P. O'Reilly
Paul R. Nelson
H. W. Crocker

ITEM # 200

C/SS

MEMO ROUTE SLIP
Form AEC-93 (Rev. May 14, 1947) A[illegible] 0240

☐ See me about this. ☐ For concurrence. ☐ For action.
☐ Note and return. ☐ For signature. ☐ For information.

TO (Name and unit)	INITIALS	REMARKS
Gen W. Roy, Chief Materials and Fuel Facilities Branch	DATE	WESTINGHOUSE ELECTRIC CORPORATION CHESWICK, PENNSYLVANIA LICENSE NO.: SNM-338
TO (Name and unit)	INITIALS	REMARKS
	DATE	Enclosed is a TWX concerning the subject licensee which was sent to you by Facsimile on February 4, 1972.
TO (Name and unit)	INITIALS	REMARKS
	DATE	
FROM (Name and unit)		REMARKS
Paul R. Nelson Senior Radiation Specialist, CO:I		
PHONE NO.	DATE	

USE OTHER SIDE FOR ADDITIONAL REMARKS

GPO : 1966 O—294-619

ITEM # C/201
201

Sent by facsimile 2/4/72

Form AEC-321 (3-61)

INSERT CLASSIFICATION (If classified)

USE WHERE REQUIRED

THIS DOCUMENT CONSISTS OF _____ PAGES

NO. OF COPIES, SERIES

U.S. ATOMIC ENERGY COMMISSION

OUTGOING TELECOMMUNICATION MESSAGE

(See reverse side for instructions)

PRECEDENCE DESIGNATION (Check appropriate boxes. Average transmission time exclusive of messenger services is shown.)

ACTION: ☐ DEFERRED (2-4 Hrs.) ☐ ROUTINE (1-1½ Hrs.) ☐ PRIORITY (½-1 Hr.)

INFO. ☐ ☐ ☐

TYPE OF MESSAGE (Check one)

☐ SINGLE ADDRESS
☐ MULTIPLE ADDRESS
☐ BOOK MESSAGE

FOR COMMUNICATION CENTER USE

MESSAGE IDENTIFICATION

NR: DTG:

FROM: PAUL R. NELSON, SENIOR RADIATION SPECIALIST
REGION I, DIVISION OF COMPLIANCE

OFFICIAL BUSINESS

(Signature of certifying official)

DATE OF MESSAGE: 2/4/72

TO: GEN W. ROY, CHIEF, MATERIALS AND FUEL FACILITIES BRANCH, DIVISION OF COMPLIANCE, HQ

COMMUNICATION CENTER ROUTING

SUBJECT: JANUARY 29, 1972 WESTINGHOUSE INCIDENT REPORTED ON FEBRUARY 4, 1972 (PER PI 1040)

A. WESTINGHOUSE ELECTRIC CORPORATION, CHESWICK, PA.

B. SNM-338.

C. LOSS OF ARM (POSSIBLE URANIUM UPTAKE).

D. JANUARY 29, 1972 APPROXIMATELY 1610, CHESWICK, PA.

E. FEBRUARY 4, 1972 0930 TELEPHONE.

F. K. BODDEN, WESTINGHOUSE ELECTRIC CORPORATION, CHESWICK, PA.

G. EMPLOYEE'S ARM SEVERED IN A CHALSINATER WHERE URANIUM OXIDE 2 to 5 PERCENT ENRICHED IS PROCESSED. FACILITY OPERATION UNAFFECTED. EMPLOYEE HOSPITALIZED AND URINALYSES BEING CONDUCTED.

H. STUMP OF ARM LESS THAN 2000 D/M.

I. NONE.

J. LOCAL "VALLEY NEWS DISPATCH" CARRIED REPORT OF "NOW RADIATION RELATED ACCIDENT". NO OTHER PUBLICITY KNOWN.

K. STATE HEALTH DEPARTMENT OF PA., AND OFFICE OF OCCUPATIONAL HEALTH AND SAFETY BY LICENSEE.

L. T. RICHARDSON, AEC PUBLIC INFORMATION.

M. NONE REQUESTED

ITEM # 202

BE BRIEF—ELIMINATE UNNECESSARY WORDS

ORIGINATOR:	INSERT CLASSIFICATION (If Classified)	RESTRICTED DATA OR ESPIONAGE STAMP, IF REQUIRED
WRL/mk		

202

(2)

N. YES.

O. SEE P.

P. INCIDENT WILL BE REVIEWED DURING INSPECTION SCHEDULED FOR FEBRUARY 22. SHOULD BIOASSAYS AND MEDICAL OBSERVATIONS INDICATE OTHER THAN A NEGATIVE UPTAKE. AN IMMEDIATE INSPECTION WILL BE CONDUCTED.

Q. NONE.

R. SEE P.

S. RONAID REID.

stinghouse Electric Corporation Power Systems

PWR Systems Division
Box 355
Pittsburgh Pennsylvania 15230

DOCKET NO. 70-337 -1086 -1143

For Div. of Compliance

December 10, 1971

U. S. Atomic Energy Commission
Division of Materials Licensing
Washington, D. C. 20545

Attention: Mr. Donald A. Nussbaumer, Chief
Fuel Fabrication and Transportation Branch

Gentlemen:

Subject: Licensing Cheswick Laboratories

The attached four documents provide a comprehensive package to unify the licensing of various developmental activities carried out by Westinghouse at its Cheswick, Pa. site. The three separate license applications each pertain to a clearly delineated physical area. Each designates a specific line management that is responsible for supervising the activities in the specific area. Each provides for the specific license provisions that are appropriate to the activities to be conducted in the specific area. However, each provides for a single, common, health and safety activity that is equally cognizant in all of the specific areas. Each also provides for a "site manager" responsible for coordinating agreements not otherwise achieved among the various line managements. The fourth document is a formal request to revise the existing SNM-1120 license to incorporate all the various material quantities and locations of use to reflect the contents of the three individual transmittals. It also formally provides for the inclusion of certain health and safety provisions applicable to one or another of the existing licenses which are not directly expressed in the separate transmittals.

In Item 3 of the enclosure to your letter, dated May 26, 1971, you requested a discussion of our controls to provide for the pyrophoric property of plutonium. All plutonium will be restricted to non-pyrophoric compounds except in the ARD Laboratory and the 20 grams of NBS standards in the PFDL analytical laboratories. In ARD, all pyrophoric forms of the material are received in

ITEM # 203

5404

approved shipping packages which provide inner containers designed to retain an inert atmosphere. Normally, these containers are further enclosed in sealed plastic bags which also contain the inert atmosphere in which the containers were loaded. Metallic plutonium is received as solids too large to ignite. Thus there are several levels of protection. When the material is processed, the containers are bagged into an inert atmosphere glove box. Appropriate quantities are removed from a solid piece for processing. The residual piece is returned to the container which is again sealed, bagged and bagged out of the glove box to be returned to storage. Thus in storage the inert atmosphere and solid "chunk" form are retained.

In the PFDL, metallic NBS standards are received as small pieces individually sealed in glass ampoules which are bedded in shock absorbing material within an inner container in the shipping package. The material is stored in this inner container. Individual ampoules are carefully removed from the container as required. The plutonium metal in the ampoule is immediately dissolved and is stored as a standard solution. As the solution is used, the contents of another ampoule are removed and dissolved.

I trust that this letter adequately describes our positions in these matters. If you have any question, please write me at the above address or telephone me on (412) 373-4652.

Very truly yours,

Karl R. Schendel

Karl R. Schendel
License Administrator

KRS:jh

Enclosure

NMS:FJM
70-337

NOV 1 1971

Westinghouse Electric Corporation
Attn: Mr. Paul E. Rutenkel
Licensing Administrator
Power Systems
Box 355
Pittsburgh, Pennsylvania 15230

Gentlemen:

Thank you for your letter of September 22, 1971, outlining the specific actions you have taken in order to correct the deficiencies discussed in our letter of April 28, 1971.

The corrective action you have taken will be reviewed by the District I Safeguards Office during their safeguards inspection of your facility this month.

Sincerely,

Original signed by
C. D. W. Thornton

C. D. W. Thornton, Director
Division of Nuclear Materials
Safeguards

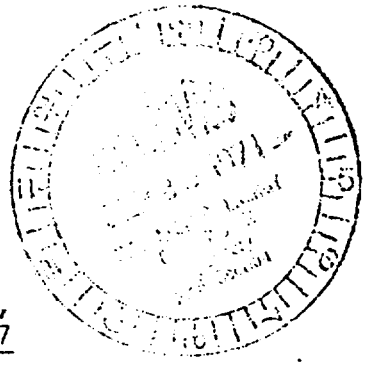
DISTRIBUTION
PDR, w/incoming
Docket 70-337, w/incoming
CKBeck, DR, w/o incoming
LDLow, CO, w/o incoming
CO:I, w/incoming
RECunningham, DML, w/incoming
DLCrowson, SG, w/incoming
GC, w/o incoming
HJMcAlduff, OR, w/incoming
SO-I, w/o incoming
NMS Reading, w/o incoming
NMS Case File, w/incoming
DR Reading, w/o incoming

ITEM # 204

OFFICE ▶	NMS	NMS	NMS			
SURNAME ▶	FJMirglia:kb	VJDiAmico	CDWThornton			
DATE ▶	10/21/71	10/ /71	10/21/71			

estinghouse Electric Corporation Power System

September 22, 1971



U. S. Atomic Energy Commission
Division of Nuclear Materials Safeguards
Washington, D. C. 20545

Attention: Dr. C. D. W. Thornton, Director

Gentlemen:

Subject: USAEC Notification, Dated April 28, 1971, Concerning License SNM-338, Docket 70-337

The Westinghouse Electric Corporation offers the following responses to the items cited in the subject letter:

1. The procedures manual applicable to MBA-4 has been revised, including such recommended changes as quoting the fundamental material controls essentially verbatim, and adding a cross-reference index.

2. & 3. A precise response to these items is not feasible, inasmuch as activities in MBA-5 involving SNM have nearly ceased. Westinghouse is preparing an application to include this MBA under License SNM-1120, requesting only the authority to possess and store, but not to use, the remaining SNM. The appropriate manual revisions will be implemented before undertaking any action affecting the static inventory.

We trust that these actions will contribute to the effective auditing of our procedures and will serve to assure that our future activities, in these respects, will be conducted in full compliance with the requirements of the regulations and our license.

If you have any further comments, please call me collect on (412) 373-4652.

Very truly yours,

Karl R. Schendel

Karl R. Schendel
License Administrator

KRS:jh

Copy

ITEM # 205

TWX INCOMING

BETH

1971 OCT 14 PM 5 07

U.S. ATOMIC ENERGY COMM.
TWX UNIT

DOCKET NO. 70-337 -1086, -1143, -1151

RECEIVED OCT 15 1971 U.S. ATOMIC ENERGY COMMISSION Document Control Section

For Div. of Compliance

FROM
WESTINGHOUSE NUCLEAR ENERGY SYSTEMS
MONROEVILLE, PENNA.
TWX NO 710 797 3658

10-14-71

TO
U.S. ATOMIC ENERGY COMMISSION
DIVISION OF MATERIALS LICENSING
WASHINGTON D C

ATTN\ MR DONALD A NUSSBAUMER, CHIEF
FUEL FABRICATION & TRANSPORTATION BRANCH

THE WESTINGHOUSE ELECTRIC CORPORATION REQUESTS THAT THE ATTACHMENTS TO OUR LETTER, DATED OCTOBER 13, 1971, ON THE SUBJECT OF WASTE MANAGEMENT PROGRAMS BE WITHHELD FROM PUBLIC INSPECTION IN ACCORDANCE WITH THE PROVISIONS OF 10CFR2.790.

SINCE IT IS OUR UNDERSTANDING THAT OUR INFORMATION IS JUST A PORTION OF AN INDUSTRY-WIDE SURVEY THAT WILL BE USED AS PART OF THE DATA EVALUATED BY THE COMMISSION IN FORMULATING A POLICY POSITION, THERE IS NO NECESSITY FOR THE DETAILS TO BE PROVIDED TO THE GENERAL PUBLIC. WESTINGHOUSE, OF COURSE, HAS NO OBJECTION TO THE RELEASE OF THE OVERALL RESULTS OF THE SURVEY WHERE OUR SPECIFIC DATA IS INCLUDED IN A GENERALIZED TABULATION AND NO SPECIFIC ASSOCIATION OF DATA AND NAMED LICENSEE IS PRESENTED.

4472

ITEM # 206

Rpp → SNM-338

To. H.O Crocker.

Westinghouse Electric Corp.
Nuclear Fuels Division
Cheswick Pa.
License No. SNM-338
Docket No. 70-337
Inspection Dates 9/29-10/1/71 (Lorenz.)
9/30-10/1/71 (Browne)

Inspectors Evaluation

The routine inspection of the subject facility revealed no items of noncompliance. The IBM programmed computer print out of the air concentrations related with personnel time in the various areas is a ~~excellent~~ ~~excellent~~ good system for determining personnel exposures to air concentration. Some refinements are required to better evaluate the exposure results. The licensee is presuming that areas. no overexposures have occurred.

Bioassay data shows chronic low level personnel exposure to uranium. It is the inspectors opinion that no exposures have exceeded an MPLB. The hazard to the people at the facility is minimized to acceptable standards.

W Lorenz. 10/20/71

ITEM # 207

The criticality monitors for SNM possessed and used under license No. SNM 338 are a redundant system so failure of one instrument does not cause a loss of coverage by the other instrument. The failure to provide proper follow-up when one of the monitors at location No. 6 was found to be faulty, does not indicate the proper interest in prompt repairs for these instruments. Mr. Piros agreed to take immediate action to get the instrument repaired and will issue instructions for getting high priority attention for the instruments.

The audits and inspections are made in a competent manner and corrective action is taken immediately for small items but at a slower rate for the big items. It was suggested to Mr. Piros that although he has records of the problems found, a more detailed report should be prepared for defining the cause of the problem and the specific corrective action recommended or taken. He said he would prepare more detailed reports in the future and these reports should be reviewed during the next inspection.

WDSB

NOV 2 1971

G. W. Roy, Chief, Materials and Fuel Facilities Branch
Division of Compliance, HQ

CO INSPECTION REPORT NO. 71-02
WESTINGHOUSE ELECTRIC CORPORATION
CHESWICK, PENNSYLVANIA
NUCLEAR FUELS DIVISION, URANIUM FACILITY

The subject inspection report is forwarded for your information.

The IBM programmed computer print out of the air concentrations collated with personnel time in the various areas is a good system for determining personnel exposures to air concentration. Some refinements are required to better evaluate the exposure results. The licensee is pursuing these areas. No overexposures have occurred.

Bioassay data shows chronic low level personnel exposures to uranium. It is the inspectors opinion that no exposures have exceeded an MPLB. The hazard to the people at the facility is minimized to acceptable standards.

H. W. Crocker
Senior Fuel Facilities Inspector

Enclosure:
Subject Inspection Report

cc: A. Giambusso, CO
R. H. Engelken, CO
L. Kornblith, CO
G. W. Roy (Orig & 3 cys)

ITEM # 208

OFFICE ▶	CO	CO				
SURNAME ▶	Lorenz/ebr	Crocker				
DATE ▶	11/1/71					

Form AEC-318 (Rev. 9-53) U.S. GOVERNMENT PRINTING OFFICE : 1969 — O-364-596

ITEM # 209

FORM AEC 766
(7-71)
PI 120018

U.S. ATOMIC ENERGY COMMISSION
COMPLIANCE STATISTISTICAL DATA

A. DOCKET NUMBER: 70-337	B. REPORT NUMBER: 71-02	C. PRIORITY/CATEGORY: I-(A)	INQ/INSPECTION/INVESTIGATION DATES FROM: D. 9/28/71	TO: E. 10/1/71	F. REGION CONDUCTING ACTIVITY: I

LICENSEE/VENDOR: Westinghouse

FACILITY: NFD Uranium facility, Cheswick, Pa

LICENSE NUMBER: SNM-338

G. ACTIVITY CONDUCTED:
1 [X] INSPECTION 2 [ ] INQUIRY 3 [ ] INVESTIGATION 4 [ ] VENDOR INSPECTION 5 [ ] MANAGEMENT VISIT 6 [ ] INQUIRY--NON LICENSEE

H. INSPECTION/INVESTIGATION RESULTS:
1 [ ] 591 2 [X] REGIONAL OFFICE LETTER 3 [ ] REFERRED TO HQS FOR ACTION

J. INSPECTION/INVESTIGATION FINDINGS:
1 [X] CLEAR 2 [ ] SAFETY ITEM 3 [ ] NONCOMPLIANCE 4 [ ] NONCONFORMANCE

K. FIELD ACTION AS A RESULT OF INQUIRY
1 [ ] CONDUCT INVESTIGATION 2 [ ] REVIEW NEXT INSPECTION 3 [ ] REFER TO OTHER REGION 4 [ ] REFER TO NON-REG. AUTH. 5 [ ] REFER TO OTHER REG. OFFICE 6 [ ] HQS FOR ACTION 7 [ ] NO FURTHER ACTION

L. REASON INSP. FINDINGS REFERRED TO HEADQUARTERS FOR ACTION:
01 [ ] IMMEDIATE THREAT TO HEALTH AND SAFETY

COMPLEX ITEM INVOLVING:
02 [ ] NONCOMPLIANCE/NONCONFORMANCE
03 [ ] LICENSING PROBLEM
04 [ ] POLICY MATTER
05 [ ] INTERPRETATION
06 [ ] SAFETY ITEM
07 [ ] MANAGEMENT DEFICIENCY
08 [ ] INADEQ. REPLY TO LETTER
09 [ ] NO REPLY TO LETTER
10 [ ] NO CORRECTIVE ACTION PLANNED
11 [ ] INADEQUATE CORRECTIVE ACTION PLANNED
12 [ ] HQS LETTER REQUIRED
13 [ ] HQS REVIEW REQUIRED
14 [ ] UNREVIEWED SAFETY MATTER
15 [ ] DESIGN CHANGE
16 [ ] OTHER
17 [ ]
18 [ ]
19 [ ]

M. SUBJECT OF INQUIRY OR INVESTIGATION:
01 [ ] TYPE A INT. OVEREXPOSURE
02 [ ] TYPE A EXT. OVEREXPOSURE
03 [ ] TYPE A RELEASE
04 [ ] TYPE A LOSS OF FACILITY
05 [ ] TYPE A PROPERTY DAMAGE
06 [ ] TYPE B INT. OVEREXPOSURE
07 [ ] TYPE B EXT. OVEREXPOSURE
08 [ ] TYPE B RELEASE
09 [ ] TYPE B LOSS OF FACILITY
10 [ ] TYPE B PROPERTY DAMAGE

10 CFR 20.405
11 [ ] INTERNAL OVEREXPOSURE
12 [ ] EXTERNAL OVEREXPOSURE
13 [ ] EXCESSIVE RADIATION LEVELS
14 [ ] EXCESSIVE CONCENTRATION LEVELS
15 [ ] CRITICALITY
16 [ ] LOSS OR THEFT
17 [ ] CONTAMINATION
18 [ ] UNSAFE OPERATION
19 [ ] FIRE, EXPLOSION
20 [ ] HUMAN (OPERATOR) ERROR
21 [ ] COMPLAINT
22 [ ] PUBLIC INTEREST
23 [ ] LEAKING SOURCE
24 [ ] TRANSPORTATION
25 [ ] EXPIRED LICENSE
26 [ ] EXPOSURE REPORTED AND FOUND INVALID.
27 [ ] CONSTRUCTION/EQUIP. DEFICIENCY
28 [ ] EQUIPMENT FAILURE
29 [ ] EXCEED LIC/TECH SPEC REG'S
30 [ ] DEPARTURE FROM FSAR/TS'S
31 [ ] OTHER

N. HEADQUARTERS ACTION ON INSPECTION AND INVESTIGATION
01 [ ] NO ACTION REQUIRED
02 [ ] LETTER-CLEAR
03 [ ] LETTER-NONCOMPLIANCE
04 [ ] LETTER-SAFETY ITEM
05 [ ] PART 2 NOTICE
06 [ ] PART 2 NOTICE AS RESULT OF FOLLOWUP TO REGIONAL OFFICE LETTER
07 [ ] ORDER
08 [ ] REFER TO DRL FOR RESOLUTION
09 [ ] REFER TO DRL FOR INFORMATION
10 [ ] REFER TO DML FOR RESOLUTION
11 [ ] REFER TO DML FOR INFORMATION
12 [ ] REFER TO REGION TO CLOSE OUT
13 [ ] OTHER

REGIONAL OFFICE ACTION DATES
O. REPORT SENT TO HEADQUARTERS: 11/2/71
P. 591/LETTER ISSUED: 10/27/71
Q. [X] REPLY NOT REQUIRED
R. LICENSEE REPLY RECEIVED:
S. [ ] REPLY INADEQUATE

T. DATE LETTER, NOTICE, ORDER ISSUED:
U. DATE LICENSEE REPLY RECEIVED:
V. [ ] REPLY NOT REQUIRED

C/209

OCT 27 1971

Westinghouse Electric Corporation
Attention: Mr. E. J. Cattabiani, General Manager
Electro-Mechanical Division
Cheswick, Pennsylvania, 15024

Gentlemen:

This refers to the inspection conducted by Mr. Browne and Mr. Lorenz of this office on September 29 through October 1, 1971, of the operations authorized by AEC License No. SNM-338 and to the discussion of our findings held by Mr. Browne and Mr. Lorenz with Messrs. Cattabiani, Koppel, Piros and Boden of your staff at the conclusion of the inspection.

Areas examined during this inspection included the storage, control and use of SNM; nuclear safety controls; criticality monitors; criticality evacuation drills; nuclear safety audits; in-plant air sampling for the period from March to October 1971; stack effluent samples for the period from March to October 1971; bioassay sampling; Lung counting data; and health physics practices. Within these areas, the inspection consisted of selective examinations of procedures and representative records, interviews with plant personnel and observations by our inspectors.

Within the scope of the inspection, no items of noncompliance were observed.

No reply to this letter is necessary; however, should you have any questions concerning this inspection, we would be pleased to discuss them with you.

Very truly yours,

James P. O'Reilly
Director

bcc: A. Giambusso, CO
L. Kornblith, CO
R. Engelken, CO
W. Martin, NMS
G. W. Roy, CO(6)

ITEM # 210

OFFICE ▶	CO	CO	CO			
SURNAME ▶	Browne/ebr	Crocker	O'Reilly			
DATE ▶	10/26/71	10/26/71	10/26/71			

Form AEC-318 (Rev. 9-53) U.S. GOVERNMENT PRINTING OFFICE : 1969 — O-364-598

U. S. ATOMIC ENERGY COMMISSION
DIVISION OF COMPLIANCE
REGION I

AOC 11/4/71

Field Notes for:

CO Inspection Report No. 71-07

Subject: Westinghouse Electric Corp

Location: Cheswick Pa.
NFD Facility

License No. SNM-338

Priority I

Category A11

Docket 70-337

Type of Licensee: Fuel Fabrication

Type of Inspection: Routine reinspection

Dates of Inspection: 9/29 - 10/1/71 (announced)

Dates of Previous Inspection: 3/23 - 25/71

Principal Inspector: Lorenz. ______ Date

Accompanying Inspectors: Browne ______ Date

______ Date

Other Accompanying Personnel: ______ Date

Reviewed By: [signature] 11/4/71 Date

Proprietary Information:

(7)

ITEM # 211

C/211

Liquid Effluents

Liquid wastes generated from following locations 1. wash water of trays, boats, misc. small parts washings, grinding water,
2. Floor washings
3. Sinks in change room and water cooler
4. Clean lab waste
5. Decon pad (out back) used ~2 x 1 yr. for large equip only.

Waste flows to two 2,200 gal tanks w/ overflows to two additional 2,200 gal tanks. (see attached drawing (A))

Tanks are sampled and diluted to MPC (3×10^{-5} uc/ml) prior to release thru a Del-Par filter and a pair of three cuno type filters of 200 μ, 60 μ, and 5 μ particle size filter. The activity at discharge after these filters is approximately 10% of MPC. The effluent then goes to the sanitary sewer system.

Inspectors note: S.S.S. release limit is 8×10^{-4} uc/ml (table I) in contrast to the licence limit of 3×10^{-3} uc/ml which is table II.) therefore the final release is actually ~ 10% (the efficiency of the subsequent filtration after sampling) of 8×10^{-4} uc/ml.

A summary of the weekly sample results from Jan '70 to present is included in attachment B. 3% Enriched U w/ Sp. ac. of 2.14 μci/gm. based on chem analysis of U-233, 34, 35, 36, 38 isotopes.

In Plant Air Sampling.

(A) has process and general air samples located about the facility as shown in drawing (C) Air sample rate is .6 CFM. on whatman paper. Daily samples are collected and the results counted and printed out on tape. The taped results are fed to a computer and the data is printed out on an IBM form indicating the results in D/m/m^3, μc/ml, and % of MPC (220 D/m/m^3). See typical print out dated 9/22/71 in attachment (D).

On a weekly basis the data is summarized on presented in a form as shown in attachment E (3 pages). The data is continuously reviewed. The Inspector reviews of the records from the last to this inspection indicate all process and general air samples to be less than MPC. process to general air sample results at a 2 to 1 ratio Process samples for the most part < 50% of MPC and generall at 20% of MPC. (this is their intend goal)

In addition to the above, the license requires each operator in the area to record his time spent

in the area and the location of the time in the area. This information is collected daily. The information collected on the daily basis is fed to the computer w/ the air sample data for that day and the print out yields data for each individual as to his exceeding ~~to~~ a nominal 40 MPC a-hr. ~~This~~ ~~fig~~ An Example of the print out is also shown in attachment D.

In the inspectors opinion the system is very good. Some minor corrections to the input data were suggested by the inspector ~~and~~ pending a special study by ~~the~~ (W) i.e. B-Z sampling of individuals, and the datas relationship to the process sampling ~~results~~ results will the system be greatly effective. Initial data show slightly higher results for B-Z than P.S. however not such that personnel exceeded 40 MPC-a-hours.

<u>Stack Effluents</u>

Locations shown on attachments F+G. results included in attachment E weekly ~~and daily~~ summary. Also on attachment D print out but is related to the wrong MPC. (Bodden will correct) Data review from last to present inspection show all less than MPC. for releases.

Bioassay Sampling.

(W) License only requires that any urine sample result over 25 D/m/sample requires that the person submit another sample for analysis.

(W) does much more.

Line area people	– sampled	4 mo.	frequency
pool load & Eng.	– "	6 mo.	"
High bay + offices	– "	2 yearly	"

Eberline radiometric U^{235} analysis obtained
Sensitivity 0.1 D/m/150 ml.

~~Time~~ Elapsed time from sub collection to results 3 wks. Immediate notification by TWX from Eberline if results are high.
1970 – 1971 results reviewed.

Routine samples usually run < 25 D/m/sample
10 resamples were made in '70 w/ second sample results < 25 D/m/sample w/ one except (see below)

Special Study done in 10/70 (see previous inspection report) and in April 1971. (see attachment (H))
Data indicates positive response to 9 selected persons w/ confirming fecal and urine results.

Interesting note: ~~xxx~~ urine samples generally below the 25 D/m/sample action limit by Lic. Cond.

Results show definate chronic exposure. Positive results are result of employed ~~to~~ lung counting techniques. Fecal numbers also positive and high. Particle size data obtained (see previous inspection health physics report) confirm Uranium end up in G.I tract and not urine then blood system. 40 mpc-hr of inhaled UO_2 in feces is ~ 60 % of 11,000 D/m. or roughly 8000 D/m/ fecal sample.

Review of fecal data (not Lic. Cond. required) showed most fecal result at 5000 D/m/sample. Bioassay data review from ~~past last inspection~~ to 10/70 inspection to present.

(W) will follow up on April data w/ a Lung Count, fecal sample, urine sample analysis of selective employees in the summer 72 ~~&~~ immediately after ~~a~~ plant shut down so as to better evaluate the long term effect of and evaluation of personnel.

Helgeson's MPLB is 352 μg for 3% enriched U current sensitivity reported at ~ 35 μg for 20 minute count

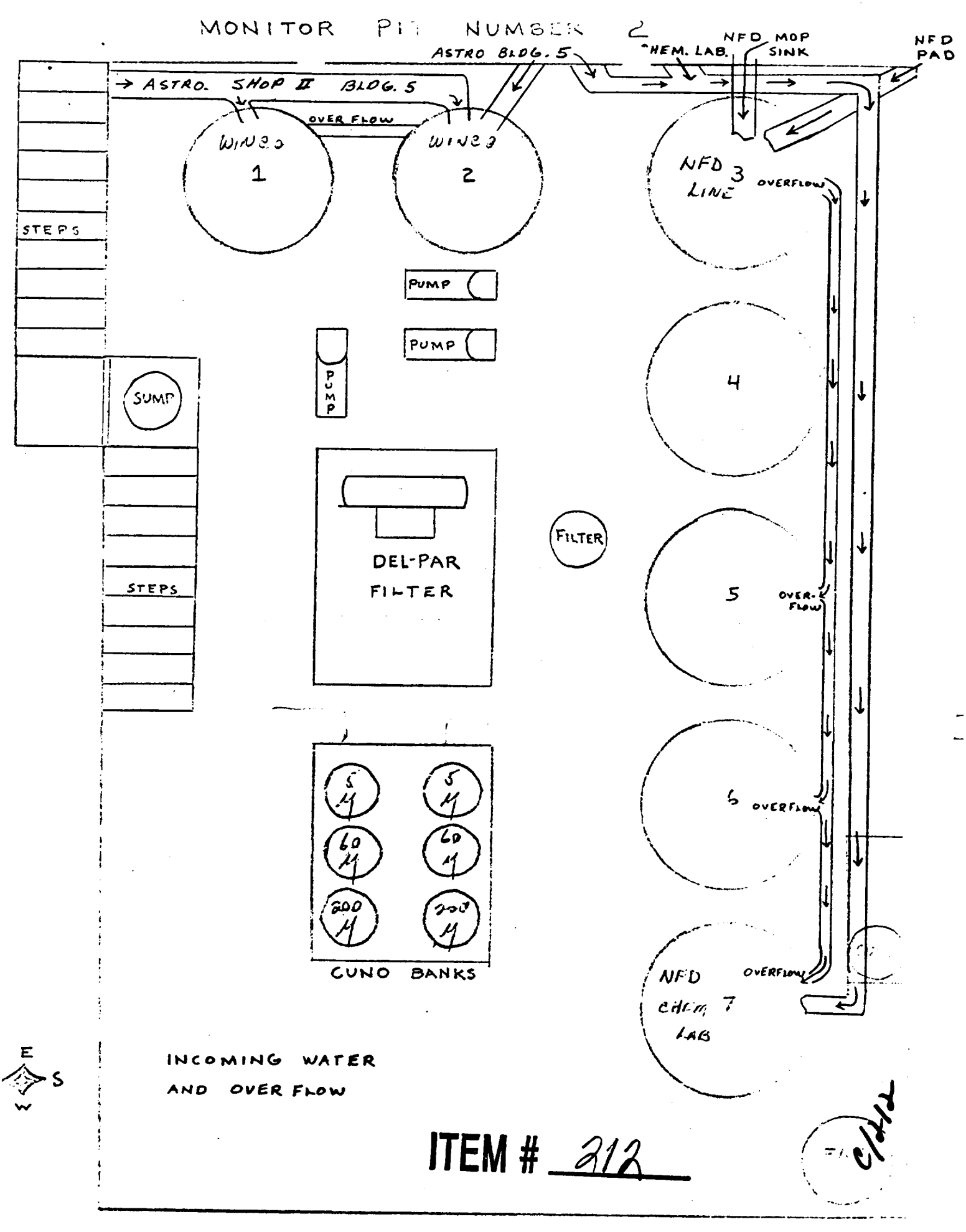
Work Routine work on E. C Wenger line operator.

12/8/70	–	38	D/m/sample
12/29/70	–	31	"
1/26/71	–	2.7	" Fecal 5060 D/m/4.7 gr.
6/10/71	–	16	D/m/Sample.

~~No~~ Investigation - no known reason for levels. Will be included in Semenar '72 ~~sample~~ special sample program.

(W) Conclusion on lung count data indicated in attachment (I) 2 pages. I also includes stat. summary of plant operation.

Personnel Exposures all < 25% of part 20
no badges or TLD's used.


MONITOR PIT NUMBER 2
ASTRO BLDG. 5
CHEM. LAB.
NFD MOP SINK
NFD PAD
→ ASTRO. SHOP II BLDG. 5
OVER FLOW
WING 1
1
WING 2
2
NFD LINE 3
OVERFLOW
STEPS
PUMP
PUMP
PUMP
4
SUMP
FILTER
DEL-PAR FILTER
5
OVER-FLOW
STEPS
5 M
5 M
60 M
60 M
200 M
200 M
CUNO BANKS
6
OVERFLOW
NFD CHEM 7 LAB
OVERFLOW
E
N
S
W
INCOMING WATER AND OVER FLOW

ITEM # 212

A

NFD CHESWICK AIR SAMPLING REPORT
****

DATE 9/22/71

(D)

SAMPLE	LOCATION	COUNTS / MINUTE	BACKGROUND	CORRECTED C/M	DIS / MINUTE	UC/CC	D/M/CM	PERCENT OF MPC	REMARKS **********
1	EAST WALL	211	9	202	606	.113E-10	24	11.27	
2	LINE 1 PRESS	215	9	206	618	.115E-10	25	11.49	
3	LINE 1 PRESS	175	9	166	498	.927E-11	20	9.26	
4	LINE 1 PRESS	225	9	216	648	.121E-10	26	12.05	
5	LINE 1 PRESS	172	9	163	489	.910E-11	19	9.09	
6	LINE 1 GRINDER	97	9	88	264	.491E-11	10	4.91	
7	LINE 1 GRINDER	93	9	84	252	.469E-11	10	4.68	
8	OXIDATION HOOD	170	9	161	483	.899E-11	19	8.98	
9	SOUTH WALL	66	9	57	171	.318E-11	6	3.18	
10	LINE 1 WEST WALL	155	9	146	438	.815E-11	17	8.14	
11	MISCELLANEOUS HOOD	94	9	85	255	.475E-11	10	4.74	
12	LINE 1 PREP. HOOD	118	9	109	327	.608E-11	13	6.08	
13	LINE 1 GRANULATOR	101	9	92	276	.514E-11	11	5.13	
14	LINE 1 SLUGGER	100	9	91	273	.508E-11	11	5.08	
15	LINE 1 PREP. HOOD	87	9	78	234	.435E-11	9	4.35	
16	LINE 2 GRINDER	1249	9	1240	3720	.692E-10	152	69.15	
17	LINE 2 PREP. HOOD	143	9	134	402	.748E-11	16	7.47	
18	LINE 2 SLUGGER	189	9	180	540	.100E-10	22	10.04	
19	LINE 2 GRINDER	634	9	625	1875	.349E-10	76	34.86	
20	LINE 2 PREP. HOOD	148	9	139	417	.776E-11	17	7.75	
21	LINE 2 GRANULATOR	193	9	184	552	.103E-10	22	10.26	
22	LINE 2 PREP. HOOD	103	9	94	282	.525E-11	11	5.24	
23	LINE 2 SLUGGER	332	9	323	969	.180E-10	39	18.01	
24	LINE 2 GRANULATOR	716	9	707	2121	.395E-10	86	39.43	
25	LINE 2 PREP. HOOD	159	9	150	450	.837E-11	18	8.37	
26	LINE 2 SOUTH WALL	175	9	166	498	.927E-11	20	9.26	
27	LINE 2 WEST WALL	358	9	349	1047	.195E-10	42	19.46	

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28	LINE 2 OXIDATION HOOD	593	9	584	1752	.326E-10	71	32.57
29	LINE 2 PRESS	264	9	255	765	.142E-10	31	14.22
30	LINE 2 PRESS	193	9	184	552	.103E-10	22	10.26
31	LINE 2 PRESS	175	9	166	498	.927E-11	20	9.26
32	LINE 2 PRESS	213	9	204	612	.114E-10	25	11.38
33	LINE 2 AREA	136	9	127	381	.709E-11	15	7.08
34	DEEP SINK	253	9	244	732	.136E-10	29	13.61
35	LINE 3 EAST WALL	378	9	369	1107	.206E-10	45	20.58
36	DOCK	168	9	159	477	.888E-11	19	8.87
37	LINE 3 GRANULATOR	317	9	308	924	.172E-10	37	17.18
38	LINE 3 PREP. HOOD	283	9	274	822	.153E-10	33	15.28
39	Q. C. HOOD	272	9	263	789	.147E-10	32	14.67
40	LINE 3 OXIDATION HOOD	225	9	216	648	.121E-10	26	12.05
41	LINE 3 PRESS	996	9	987	2961	.551E-10	121	55.04
42	LINE 3 GRINDER	787	9	778	2334	.434E-10	95	43.39
43	LINE 3 AREA	181	9	172	516	.960E-11	21	9.59
44	SALVAGE HOOD	82	9	73	219	.408E-11	8	4.07
45	EXHAUST 2 ROC LOADING	9	9	0	0	.000E+00	0	.00
46	EXHAUST 2 LINES	9	9	0	0	.000E+00	0	.00
47	EXHAUST 3 LINES	9	9	0	0	.000E+00	0	.00
48	CAM - LINE 2 LOADING	15	9	6	18	.335E-12	0	.33
49	LINE 3 EXIT INSIDE	170	9	161	483	.899E-11	19	8.98
50	LINE 3 EXIT OUTSIDE	65	9	56	168	.313E-11	6	3.12
51	ROC LOADING NORTH WAL	68	9	59	177	.329E-11	7	3.29
52	ROC LOADING SOUTH WAL	61	9	52	156	.290E-11	6	2.90
53	CEILING EAST WALL	16	9	7	21	.391E-12	0	.39
54	CEILING LINE 2	38	9	29	87	.162E-11	3	1.62
55	LINE 3 CHALSINATOR	274	9	265	795	.148E-10	32	14.78
56	LINE 2 COURTCY PRESS	9	9	0	0	.000E+00	0	.00
57	FOREMANS OFFICE	56	9	47	141	.262E-11	5	2.62
58	CONTAMINATED LOCKER R	143	9	134	402	.748E-11	16	7.47
59	CONTAMINATED LOCKER R	184	9	175	525	.977E-11	21	9.76

NFD CHESWICK
PERSONNEL DAILY AIRBORNE EXPOSURE RECORD

DATE 9/22/71

EMPLOYEE	SOC SEC NO	SAMPLE	LOCATION	(C) AIR CONC D/M/CM ARE	(T) TIME IN A-HRS	(C X T) DAILY EXPOSURE	ACCUM 7 DAY EXPOSURE	PERCENT MPE	REMARKS **********
C.E. ANDERSON	194-24-9230	2	LINE 1 PRESS AREA	22	7.5	165	832	9.45	
R.D. ARBUCKLE	169-24-0421	99	ASSIGNED EXPOSURE	30	7.5	225	900	10.23	
T.W. BRIDGE	202-40-2648	98	ABSENT	0	.0	0	1772	20.14	
R.N. CAPELLMAN	187-32-2606	99	ASSIGNED EXPOSURE	30	7.5	225	2055	23.35	
P.P. CAPONE	165-30-0975	22	LINE 2 PREP. AREA A	38	7.5	285	3194	36.30	
M. CHARLES	194-05-0775	19	LINE 2 GRINDER	76	7.5	570	2019	22.94	
M.A. COLLINS	178-20-0339	22	LINE 2 PREP. AREA A	38	7.5	285	2249	25.56	
D.A. DARGAN	166-32-7062	99	ASSIGNED EXPOSURE	30	7.5	225	675	7.67	
T.L. DAVIS	191-30-1864	98	ABSENT	0	.0	0	0	.00	
E.C. DINGER	191-30-2259	99	ASSIGNED EXPOSURE	30	7.5	225	1452	16.50	
		99	ASSIGNED EXPOSURE	30	3.5	105			
L.W. DOBY	263-30-2436	99	ASSIGNED EXPOSURE	30	7.5	225	1125	12.78	
W.S. FISHER	210-14-2353	97	DISABILITY	0	.0	0	105	1.19	
A.T. FROST	191-32-5435	41	LINE 3 PRESS	121	7.5	907	2106	23.93	
W.J. GORSE	165-26-0797	99	ASSIGNED EXPOSURE	30	7.5	225	1545	17.56	
		99	ASSIGNED EXPOSURE	30	3.5	105			
C.R. HENRY	168-36-5542	42	LINE 3 GRINDER	95	4.0	380	1284	14.59	
		99	ASSIGNED EXPOSURE	30	3.5	105			
T.W. JANOSKY	162-26-0372	41	LINE 3 PRESS	121	3.5	423	1459	16.58	

P. KUCLAC	198-22-0492	97	DISABILITY	0	.0	0	0	.00	
G.S. LIPSIE	178-38-5273	2	LINE 1 PRESS AREA	22	7.5	165	1799	20.44	
A.E. NEMET	191-30-0776	19	LINE 2 GRINDER	76	4.0	304	1778	20.20	
		42	LINE 3 GRINDER	95	3.5	332			
J.C. NOWIKOWSKI	190-22-6892	16	LINE 2 GRINDER	152	3.5	532	3580	40.68	
		42	LINE 3 GRINDER	95	4.0	380			
J.W. POWELL	551-36-8539	2	LINE 1 PRESS AREA	22	7.5	165	912	10.36	
		22	LINE 2 PREP. AREA A	38	3.5	133			
R.C. REID	302-32-6304	98	ABSENT	0	.0	0	876	9.95	
R.L. REIFSCHNEIDER	169-24-0822	99	ASSIGNED EXPOSURE	30	3.5	105	1545	17.56	
		99	ASSIGNED EXPOSURE	30	7.5	225			
W.K. SAHR	173-16-4636	16	LINE 2 GRINDER	152	4.0	608	1862	21.16	
		42	LINE 3 GRINDER	95	3.5	332			
J.S. SERENE	206-12-9205	16	LINE 2 GRINDER	76	4.0	304	1302	14.80	
		42	LINE 3 GRINDER	95	3.5	332			
J. SERIA	194-14-8390	41	LINE 3 PRESS	121	7.5	907	2249	25.56	
J. SHURGOT	188-24-4980	99	ASSIGNED EXPOSURE	30	7.5	225	3179	36.13	
C.F. SPIERING	206-34-2335	99	ASSIGNED EXPOSURE	30	7.5	225	2301	26.15	
E.S. SZCZEPANSKI	170-32-9082	22	LINE 2 PREP. AREA A	38	7.5	285	1160	13.18	
		22	LINE 2 PREP. AREA A	38	3.5	133			
F.S. SZCZEPANSKI	204-32-6595	99	ASSIGNED EXPOSURE	30	7.5	225	1125	12.78	
L.F. TEKLINSKI	190-22-7128	98	ABSENT	0	.0	0	0	.00	
M.P. TERNOWAY	208-26-6551	99	ASSIGNED EXPOSURE	30	3.5	105	1005	11.42	
		99	ASSIGNED EXPOSURE	30	7.5	225			
J.L. THEIERL	204-36-9365	99	ASSIGNED EXPOSURE	30	7.5	225	1125	12.78	
K.D. WATSON	183-36-0144	29	LINE 2 PRESS AREA	24	3.5	84	1522	17.30	
		22	LINE 2 PREP. AREA A	38	4.0	152			
		41	LINE 3 PRESS	121	3.5	423			

				SCHED EXPOSURE	30	7.5	225	1440	16.30
J.W. YOUNG	176-34-0250	22	LINE 2 PREP. AREA A		38	7.5	285	1919	21.81

MPE / 40 HRS. = (220 DPM/CM²) (40 HRS.) = 8.800 CT

****
HEALTH PHYSICS TECHNICIAN
DATE 9/22/71

19 70 Week Ending		μCi/ml X10^{-5}	Sum Prev. 52 wks	Avg. Prev. 52 wks
	4			
JAN	11	1.72		
	18	2.96		
	25	2.80		
	1	1.74		
	8	0.22		
FEB	15	1.59		
	22	2.38		
	1	1.43		
	8	2.11		
MAR	15			
	22	9.01		
	29	2.01		
	5	2.19		
APR	12	1.96		
	19	2.88		
	26	2.19		
	3	2.16		
MAY	10	2.16		
	17	1.62		
	24	2.35		
	31			
	7	0.73		
JUN	14	0.97		
	21	1.31		
	28	2.17		
	5			
JUL	12	2.43		
	19	2.45		
	26	0.88		
	2	1.87		
	9	1.85		
AUG	16	2.16		
	23	2.67		
	30	2.50		
	6	2.56		
SEP	13	2.23		
	20	2.50		
	27	2.36		
	4	1.76		
OCT	11	2.24		
	18	2.37		
	25	1.71		
	1	1.43		
		2.92		
NOV	15	3.09		
	22	4.04		
	29	2.08		
	6	2.86		
DEC	13	2.14		
	20	3.46		
	27		113.88	2.19

1971 Week Ending		μCi/ml X10^{-5}	Sum Prev. 52 wks	Avg. Prev. 52 wks
	3	1.56	115.44	2.22
JAN	10	2.20	115.22	2.23
	17		112.26	2.17
	24	3.51	113.67	2.19
	31		115.41	2.22
	7	3.17	118.36	2.28
FEB	14	2.60	119.57	2.30
	21	1.19	118.38	2.28
	28	0.65	117.60	2.26
	7	2.89	118.38	2.28
MAR	14	2.43	120.81	2.32
	21	2.60	114.40	2.2
	28	0.61	113.00	2.17
	4		110.81	2.13
APR	11	0.80	109.65	2.11
	18	1.56	108.33	2.08
	25	1.33	107.47	2.07
	2	0.36	105.67	2.03
MAY	9	0.16	103.67	2.0
	16		102.05	1.96
	23		99.70	1.92
	30	3.61	103.31	1.99
	6	2.40	104.94	2.02
JUN	13	2.07	106.04	2.04
	20	2.31	107.04	2.06
	27	2.58	107.45	2.07
	4	2.82	110.27	2.12
JUL	11		107.84	2.07
	18	2.9	108.29	2.08
	25	2.9	110.31	2.12
	1	2.9	111.13	2.13
	8	3.07	112.35	2.16
AUG	15	3.85	114.04	2.19
	22	2.57	113.94	2.19
	29	3.08	114.52	2.20
	5	5.90	117.86	2.27
SEP	12	3.68	119.31	2.29
	19	4.42	121.23	2.33
	26	1.12	119.99	2.31 ✓
39	3			
OCT	10		1169	224
	17			
	24			
	31			
	7			
NOV	14			
	21			
	28			
	5			
DEC	12			
	19			
	26			

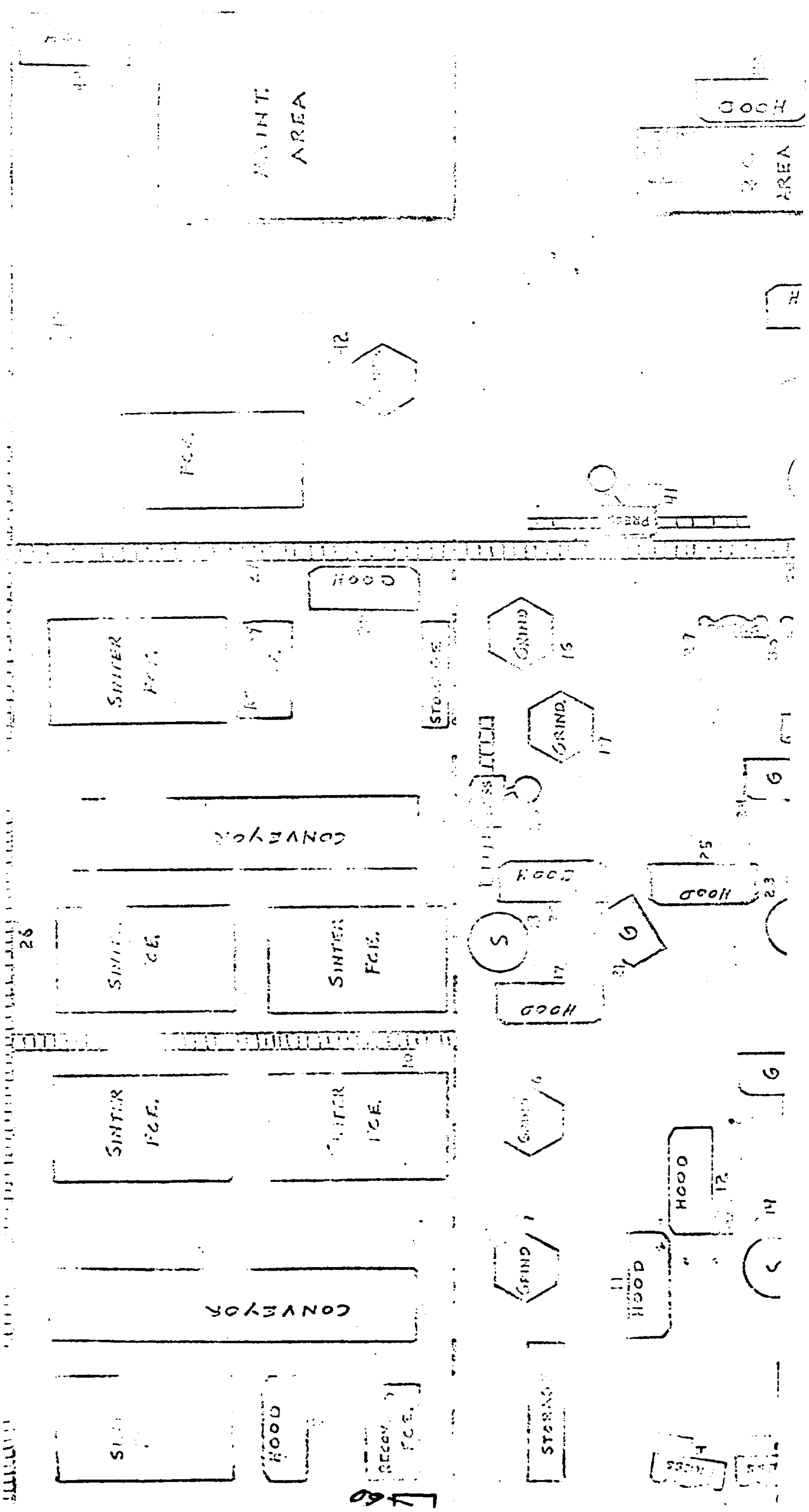
19 Week Ending		μCi/ml X10^{-5}	Sum Prev. 52 wks	Avg. Prev. 52 wks
JAN				
FEB				
MAR				
APR				
MAY				
JUN				
JUL				
AUG				
SEP				
OCT				
NOV				
DEC				

MPC from 10CFR20 APPENDIX B, Table II Col. 1/2 _____

NOTE: If the 52 week average exceeds the MPC consult 10CFR20.403 and 10CFR20.405.

Effluent Record Form. Orig. 4/71

ITEM # 213 (B)



ITEM # 214

C/214

REPORT NO. 38

NUCLEAR FUEL DIVISION-MANUFACTURING

HEALTH PHYSICS REPORT

FOR PERIOD SEPT. 19 TO SEPT. 25, 1971

AIR SAMPLING SUMMARY:

Area Sampling 13 $D/M/M^3$ (Limit 220 $D/M/M^3$/5 days)

Operational Sampling Average 26 $D/M/M^3$

Operational Sampling/Area Sampling Ratio 2.0

Exhaust Air Average 1.65% MPC $D/M/M^3$ (Limit 8.8 $D/M/M^3$/5 days)

Daily Air Sampling over 220 $D/M/M^3$: NONE

LOOSE CONTAMINATION AVERAGE:

Area	Average ($D/M/100cm^2$)	Limit ($D/M/100cm^2$)
Line 1	812	1,000
Line 2	2244	1,000
Line 3	232	1,000
Change Room (lines)	373	500
Rod Loading		500
Lunch Rm. (lines)	28	10
Lunch Rm. Tables (lines)	9	10
Line Foremen's office	70	10
Chem. Lab.	21	10
High Bay Area		10
Office Area		10
Miscellaneous		

ITEM # 3/16

Nuclear Fuel Div., Health Physics Technician

L Perry

Date 9-30-71

(Refer to attachments for details and comments)

3/2/16

(E) 3 pages

AIR SAMPLE REPORT NO. 56

FROM SEPT. 19 TO SEPT 25, 1971

RESULTS IN D/M/M³

OPERATIONAL SAMPLES

LOCATION	NO.	HIGH	LOW	AVG.
L-1 PRESS	2	27	5	19
L-1 PRESS	3	27	7	20
L-1 PRESS	4	26	6	19
L-1 PRESS	5	22	5	17
L-1 GRINDER	6	16	4	10
1-1 GRINDER	7	16	8	11
-1 OX. HOOD	8	20	8	15
L-1 MISC. HOOD	11	15	8	11
L-1 PREP. HOOD	12	17	4	11
L-1 GRANULATOR	13	13	3	9
L-1 SLUGGER	14	15	3	10
L-1 PREP. HOOD	15	17	3	10
L-2 GRINDER	16	163	26	101
L-2 PREP. HOOD	17	26	13	17
L-2 SLUGGER	18	22	7	21
L-2 GRINDER	19	76	24	45
2 PREP. HOOD	20	32	6	19
L-2 GRANULATOR	21	28	8	20
L-2 PREP. HOOD	22	13	3	9
L-2 SLUGGER	23	93	16	41
L-2 GRANULATOR	24	86	7	35
L-2 PREP. HOOD	25	21	6	16
L-2 OX. HOOD	28	87	20	59
L-2 PRESS	29	32	7	22
L-2 PRESS	30	22	8	16
L-2 PRESS	31	22	5	15
L-2 PRESS	32	26	8	17
UTILITY SINK	34	34	6	22
L-3 GRANULATOR	37	37	5	19
L-3 PREP. HOOD	38	33	5	18
L-3 Q.C. HOOD	39	32	5	17
L-3 OX. HOOD	40	34	5	21
L-3 PRESS	41	181	29	103
L-3 GRINDER	42	148	29	86
L-3 SALVAGE HOOD	44	17	5	9

ITEM #

AREA SAMPLES

LOCATION	NO.	HIGH	LOW	AVG.
L-1 EAST WALL	1	24	6	17
L-1 SOUTH WALL	9	8	3	6
L-1 WEST WALL	10	26	6	18
L-2 SOUTH WALL	26	20	7	17
L-2 WEST WALL	27	51	12	36
L-2 I BEAM	33	17	3	11
L-3 EAST WALL	35	45	6	21
L-3 DOCK	36	19	3	10
L-3 AREA	43	27	7	18

EXHAUST SAMPLES

ROD LOADING	S-2 (45)			0
ROOF	A (46)			3.72 % MPC
ROOF	B (47)			1.75 % MPC
LINE 1 OX. FUR	(60)			0

#38

ADDITIONAL OPERATIONAL SAMPLES

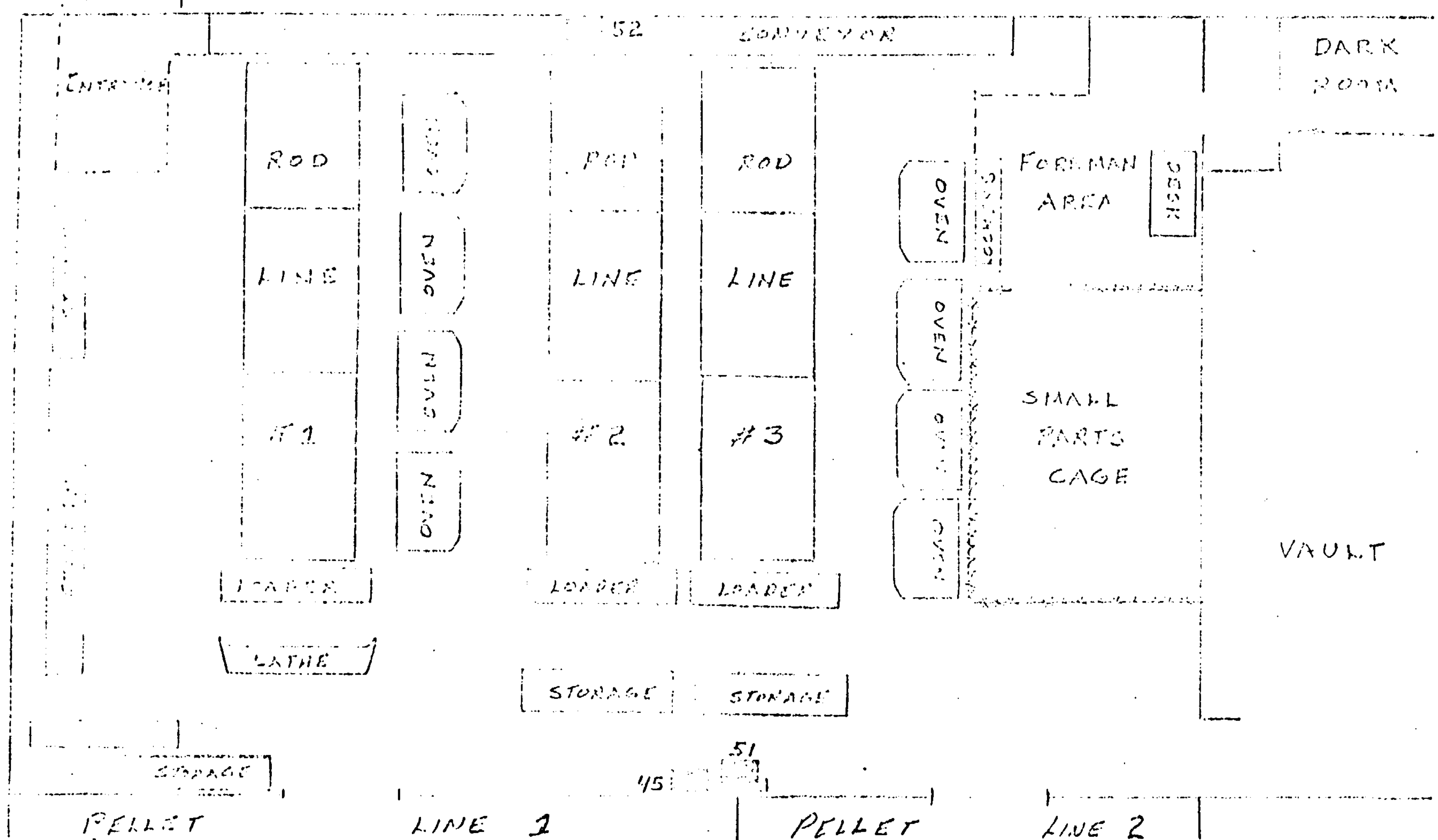
LOCATION	No.	HIGH	LOW	AVG.
LINE 3 CHALSINATOR	55	32	5	19

ADDITIONAL AREA SAMPLES

LOCATION	No.	HIGH	LOW	AVG.
LINE 3 EXIT (INSIDE)	49	19	3	12
LINE 3 EXIT (OUTSIDE)	50	6	0	3
ROD LOAD (NORTH WALL)	51	7	3	6
ROD LOAD (SOUTH WALL)	52	10	4	7
CEILING (EAST WALL)	53	.45% MPC		
CEILING (LINE 2)	54	3	1	2
FOREMANS OFFICE	57	10	3	7
CONT. LOCKER RM.	58	19	3	15
CONT. LOCKER RM.	59	27	5	19

ITEM # _____

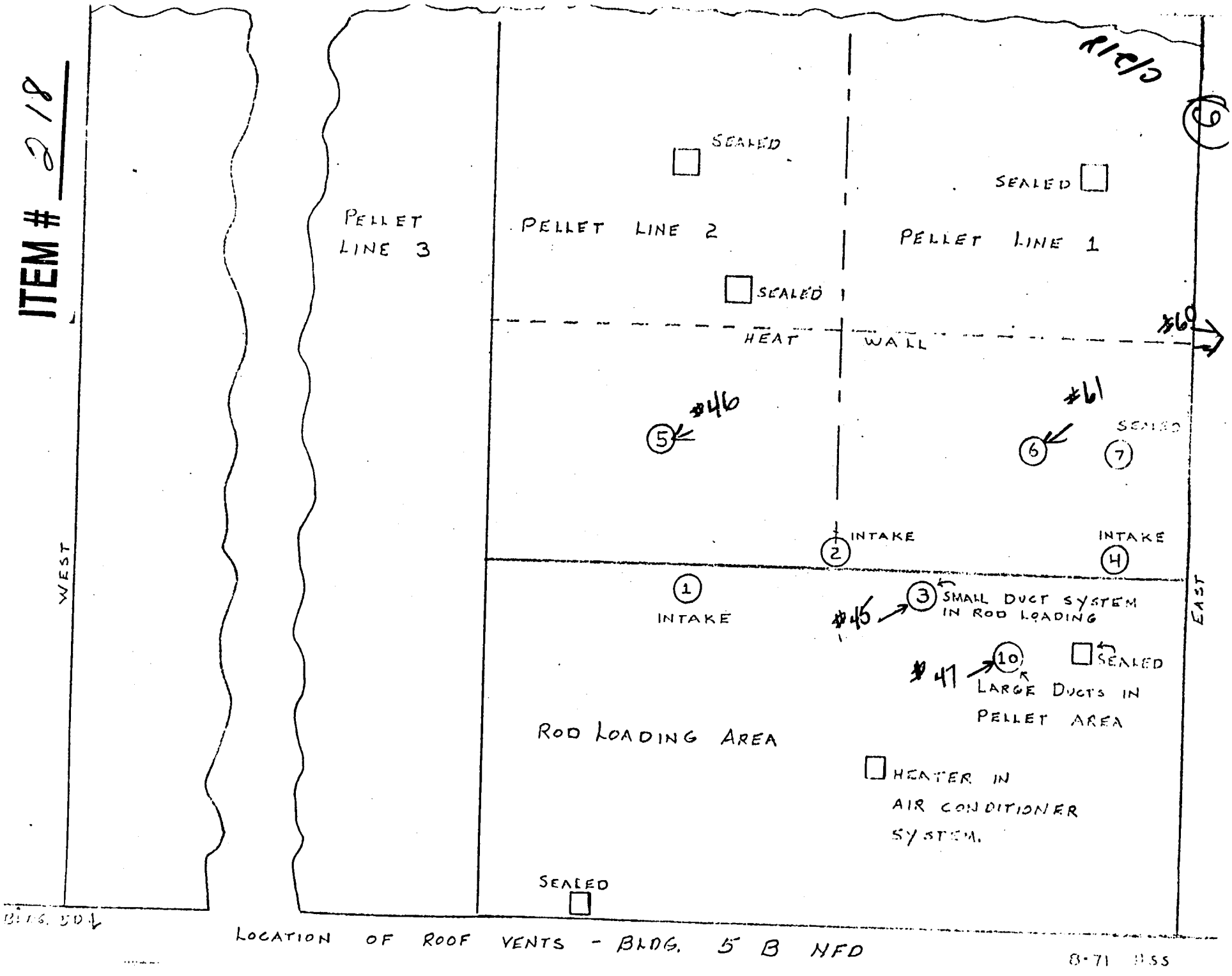
NFD Rod Loading



NOTE: AIR SAMPLE # 46 AND # 47 ON ROOF
AIR SAMPLE # 48 IS CAM (PORTABLE)

ITEM # 217 c/217

(F)


ITEM # 218
R1C/3
9
SEALED
SEALED
PELLET LINE 3
PELLET LINE 2
PELLET LINE 1
SEALED
#60
HEAT WALL
#46
#61
5
6
7
SEALED
INTAKE
INTAKE
2
4
1
INTAKE
3
SMALL DUCT SYSTEM IN ROD LOADING
#45
#47
10
SEALED
LARGE DUCTS IN PELLET AREA
ROD LOADING AREA
HEATER IN AIR CONDITIONER SYSTEM.
SEALED
WEST
EAST
BLDG. 5D4
LOCATION OF ROOF VENTS - BLDG. 5 B NFD
8-71 BSS

(1)

ITEM # 219

10/5/71

Nov 4 '71

Shipping Containers

The shipping containers used by Westinghouse at the Chesnick, Pennsylvania plant were inspected and the following information was obtained:

1. Fuel assemblies are stored in the vertical position on a baseplate rack which fixes the distance between assemblies. 4 assemblies are stored on a rack.
2. The finished assemblies are loaded into the shipping containers with an overhead crane and only one assembly is loaded or moved at a time.
3. The two models of shipping container being used the most at present are models CC (DOT No. 5B-5395) and RCC (DOT No. 5P-5450). These containers hold two assemblies in a "strongback".
4. Shipping containers coming into the plant contain Uranium oxide powder in a fiber pack. A central column of the fiber packs is in the center of a double stacked 55-gallon drum.
5. The inner container is removed from the drum, put in a tilting rack and then individual fiber packs are transported by a roller belt to the weighing station. The weight is recorded and a record also goes to accountability

(14) CC219

6. After weighing, the fiberpacks are identified with strips of colored tape that tell at a glance what Contract and enrichment is in the fiberpack. The accompanying route card also has the same 3 color tapes on it.
7. The fiberpacks are placed in storage racks that are six racks wide and 4 storage racks high. When fiberpacks are removed from the storage rack they are put on a transport cart that has two horizontal tracks that hold 11 or 12 fiberpacks per cart. The two tracks are one above the other.

Criticality Monitors

Each of the criticality monitors for SNM possessed and used under license no. SNM-338 were inspected. The location of the monitors is recorded in Exhibit A. Information obtained during the inspection is as follows:

1. There are nine criticality monitoring units and each unit consists of two monitoring instruments. Gamma radiation must activate both instruments if the evacuation horn is to sound, hence a failure of one instrument will not cause a false evacuation alarm.
2. The instruments are almost all located at ceiling level and it is not possible to see the instrument meter without getting a long ladder.

3. All the monitors were checked visually and the lighted bulb which shows that the power is on to the instrument, was observed in lieu of checking the meter itself. Since both instruments are in series, a power light on one instrument indicates that power is also available for the other instruments.
4. Both lights were on for all of the instruments except the following:
   a. No. 3 — The East power light was out
   b. No. 4. — Both power lights were out, but a ladder was obtained and it was determined that the meter on both instruments was functioning Mr. Pinos had the burned out bulbs replaced.
   c. No. 6 — The East power light was out. A check of the records in the instrument shop showed that this instrument was checked and the East power system was faulty on 7/29/71. A work order was issued to repair it but as of 9/30/71 the repairs had not been completed. Mr. Pinos was aware of the problem but Coverage is provided by

monitors 4 and 7 in addition to the one good instrument at Unit No. 6. He had not followed up on the repairs and agreed to have it repaired as soon as possible.

5. The Criticality monitoring instruments are calibrated on a regular schedule (quarterly) and a 10 millicuries and a 25 millicurie Cs-137 source are used for the calibration.
6. Each Thursday, the Criticality alarms are checked and this keeps everyone familiar with the sound of the evacuation horns or sirens.

Inspection of Process Area

Housekeeping and the control of SNM in the process areas looked good. The following observations were made:

1. There is a new pellet press being installed which Mr. Koppel said would eliminate the hand loading of pellets into the firing boats. The entire operation of pressing pellets and loading boats will be automatic. He said that with the increased capacity of the new press, he plans to only use the 4 old presses on small jobs of special material or to act as back-up capacity for the new press.

2. The vault storage of pellets and powder was found to be in accordance with the posted limits.
3. The pellets are loaded into shrouds, the end caps are welded on and the end sections are X-rayed. Mr. Koppel said they were producing about 2000 rods per week at present.

Criticality Evacuation Drills

Mr. Piros said that a plant wide evacuation drill is held annually, usually in october, and that additional drills are held for PFDL and ARD. Evaluation reports were reviewed for the following evacuation drills:

1. May 20, 1970 — Community wide involvement as well as the whole plant area. It was assumed that a fire had occurred which involved an ARD plutonium glove box. The evaluation showed some unexpected misor weaknesses which are being corrected.
2. June 4, 1970 — PFDL & ARD
3. October 13, 1970 — Entire plant
4. May 27, 1971 — PFDL & ARD
5. July 28, 1971 — PFDL

10/5/71

6. Mr. Piros said he has scheduled an all plant evacuation for the early part of October 1971.

Nuclear Safety Evaluations

Mr. Piros said that Nuclear Safety Evaluations are based on the license No SNM-338 and that the calculations are submitted to DNL in application for the use of new equipment. Mr. Piros was reminded that it was his responsibility to evaluate minor changes and re-arrangements that do not require submission to DNL and that records of these evaluations should be kept on file in his office. He agreed that such a file would be a valuable record for things he approves.

NFD Safety Committee and Audits performed

The NFO Safety committee and audit team consists of the following:

P. J. Koppel — Manager of NFD
L. P. Plowman — Supervisor of Quality Control
C. C. Collum — Superintendent of Operations
B. H. Carroll — Manager of Production Planning and Control
W. E. Piros — Manager of Health, Safety and Services

Audits are normally made on Monday, about 1:00 PM. Corrective action is usually taken immediately.

(7)

10/6/71

The NFD Safety Committee audit reports are very brief and merely identify the problem, assign the responsibility for corrective action to some person, and report when the corrective action is complete. The reports for 1971 were reviewed and the following information was obtained, both from the reports and from discussions about the reports, with Mr. Pirio:

Date of Audit	Comments
1-4-71	Royal Master Grinder - limit in the grinder is 40 lbs. (18.2 Kgs.). Amount of Uranium removed according to the log sheet is: Line No. 1 - 20 Kgs., Line No. 2 - 26.2 Kgs. Recommend a more frequent inspection rate.
1-11-71	Line No. 2 - 19.1 Kgs.
1-18-71	Line No. 2 - 28.4 Kgs. Line No. 3 - 32.5 Kgs.
1-25-71	Line No. 2 - 28.4 Kgs. Line No. 3 - 19.6 Kgs. Line No. 1 - 18.2 Kgs. Clean out frequency changed to eliminate problem. Some pellets found on vault floor. Potential for mixed enrichment unless they are picked up and returned to container immediately.
2-1-71	No Report prepared. Inspection made
2-8-71	Line No. 1 19.2 Kgs.
2-15-71	No violations
2-22-71	Material unidentified in Line No. 3 area.

3-1-71	No violations
3-8-71	Line No. 1 – 20 Kgs. Line No. 3 violation of pellet storage limit.
3-15-71	No violations
3-22-71	No violations
3-29-71	No violations
4-5-71	No violations
4-12-71	Need to clean the plant areas and replace the criticality signs with new signs.
4-19-71	Same as 4-12-71
4-26-71	Same as 4-12-71
5-3-71	Same as 4-12-71. Also found pellets on the floor in the Rod loading area.
5-10-71	Carry over on two housekeeping items from 4-12-71.
5-17-71	Two enrichments found in the Line No. 3 oxidation area. Loose powder found on the shelves of line No. 2. Clean up needed to hold down airborne.
5-24-71	Two items from 4-12-71 inspection to be corrected
6-1-71	Material found with in the 12" spacing required
6-7-71	additional Material found with in the required 12" spacing.
6-14-71	No violations
6-21-71	No violations
6-28-71	No violations
7-5-71	No Report
7-12-71	No Report

7-19-71	No violations
7-26-71	Fiberpacks not properly separated by a physical barrier - line 3
8-2-71	No violations
8-9-71	18.1 Kgs. of grinder sludge on line 1. Mixed enrichments found at line 3.
8-16-71	Pellets found on the floor in the Rod Salvage area.
8-23-71	No violations
8-30-71	Found a small amount of loose powder on the cart and on the bottle roller.
9-7-71	Ladders were found in the brazing pit. The furnace and cart in the line 3 scrap recovery area is covered with a fine dust of Uranium powder. Pellets found on the floor. There is still loose powder on the bottle roller.
9-13-71	Ladders are still in the brazing pit.
9-20-71	Three different enrichments found in line 1. There is excess material in the line 1 hood. Mixed enrichments found in the line 3 oxidation area. Ladders still in the brazing pit.
9-27-71	Powder found on the vault floor (small amount). Ladders in brazing pit.

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10/6/71

Safety and Industrial Hygiene Policy and Planning Committee

Mr. Pires said that the membership of the Safety and Industrial Hygiene Policy and Planning Committee is as follows:

C. C. Collum, Chairman, Superintendent of Operations
C. W. Bates, Secretary, Safety and Fire administrator
J. L. Mathis, Vice Chairman, Works Engineer
W. E. Pires, Manager of Health, Safety and Services
R. L. Eichinger, Astra Nuclear Laboratory
R. J. Wiggins, Manager, Plutonium Fuel Development Laboratory
W. R. Jacoby, Manager, Advanced Reactors Division, Plutonium Development Laboratory.
E. D. Constable, Consultant to Electro Mechanical Division
G. E. Bollibon, Manager of Operations, Electro Mechanical Division

Meetings held and comments about the meetings are listed below:

December 17, 1970 – Mr. J. J. Miller, Chairman, Regular meeting
January 5, 1971 – Mr. C. C. Collum, Chairman, Special Meeting
January 21, 1971 – Job safety analyses completed for the site
February 18, 1971 – Vice Chairman Mathis presided. Health Physics performance for 1970 discussed. Comments are that First Aid training is needed.
March 18, 1971 – Lost-time accident Charges to departments was discussed.

(11)

10/6/71

April 28, 1971 – A brief review of the Rocky Flats symposium was presented by Pires and Wiggins.

May 20, 1971 – The Glove-box fire testing program was reviewed.

June 17, 1971 – Decided that the emergency telephone call signs should be changed.

July 22, 1971 – Postponed while members attended the discussion of the occupational and Health Safety act.

August 4, 1971 – members attended the discussion of the occupational and Health Safety act.

August 25, 1971 – members discussed and attended the meeting on occupational and Health Safety act.

September 29, 1971 – Status report presented on the occupational and Health Safety act training program. Discussed having a fire truck at the site. Discussed Respirator Training Program. Mrs. Pires reported that the new fire alarm systems is to be installed by 12/31/71. An Evacuation drill, site wide, is to be held in October, 1971. All facilities will be evacuated at the same time.

(12)

10/6/71

Possession of SNM

The possession of SNM at Chemirad, under license No. SNM-338 was discussed with B. N. Carroll, Manager of accountability. He provided the inspector with an inventory sheet for the period ending 8-27-71 and a copy of the Amendment No. 29 which authorizes their new SNM limits. (See Exhibit B). Of the material still on hand, some of it is authorized by amendment 27. Mr. Carroll explained that each time they get a new contract, they ask for possession and rec of the full quantity of U-235 in the contract. This appears to mean that no old amendments ever cancelled out the new amendment just adds to it, on the basis that when a job is done, it is all shipped out.

The actual inventory showed 97,798 Kgs. of privately owned enriched uranium and 1220 Kgs. of leased enriched uranium. For the different enrichments it is for less than 5% but not less than 3.3% — 98 Kgs. for 2.8 to 3.3% enrichment 908 Kgs., for 2.3 to 2.8% enrichment 45.0 Kgs. and for less than 2.3% enrichment 1402.5 Kgs of U-235. This system of licensing appears to have some weaknesses as in Control. Will discuss with DNL later.

(13)

10/6/71

Management Discussion

Those present at the Management Discussion meeting on October 1, 1971 were:

Westinghouse:

E. J. Cattabiani, General Manager of the Electro-Mechanical Division (Landlord)
Pete J. Koppel, Manager of Nuclear Fuel Division
Wes. E. Piros, Manager of Health, Safety & Services

U.S. AEC:

W. G. Browne, Fuel Facilities Inspector
W. R. Lorenz, Radiation Specialist

Mr. Cattabiani was informed that there were no items of non-compliance observed during the inspection of license No. NM-338.

The reporting system and the correspondence between Region I and Westinghouse for the inspections made, was discussed.

The Criticality Monitor at location No. 6 which had failed and which had not been repaired in a period of two months was discussed and Mr. Piros said he was making the repair a top priority

item with the Instrument department and he was issuing instructions to follow repair problems more closely.

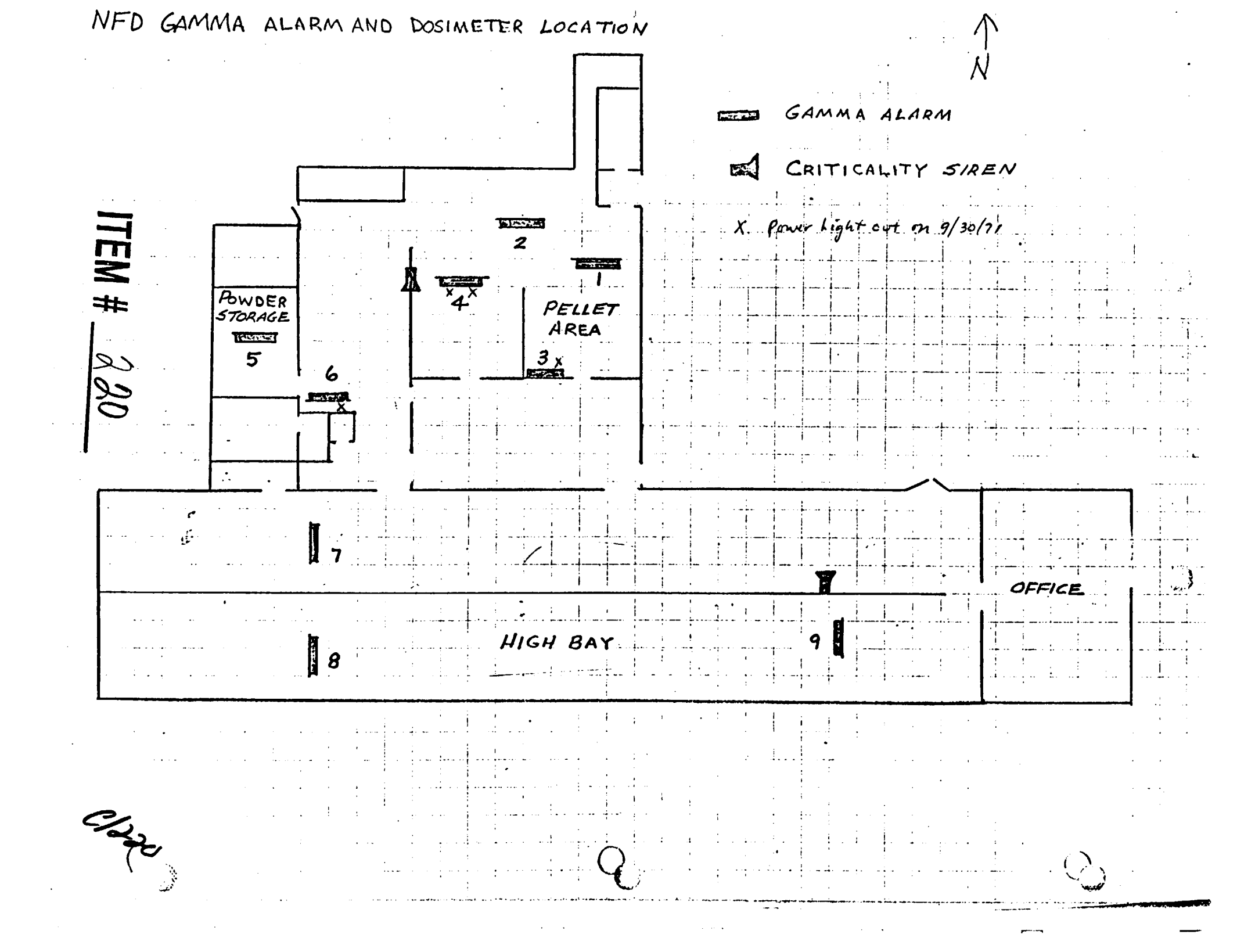
The need for more detailed reports on the cause and corrective action to be taken following a nuclear safety audit was discussed. Mr. Rioos said the reports would be prepared in more detail.

The Scope of the inspection was presented.

The IBM program for air samples and personnel exposures was discussed by Mr. Lowry.

The positive, chronic and low level bioassay results of selected employees was discussed as being the result of as yet unevaluated low levels of exposure. Urine samples 15-25 dpm.

Loading dock area problems discussed on the basis of having the big doors open part of the time. Evaluation needed.


NFD GAMMA ALARM AND DOSIMETER LOCATION
N
GAMMA ALARM
CRITICALITY SIREN
X. Power light out on 9/30/71
ITEM # 220
POWDER STORAGE
PELLET AREA
HIGH BAY
OFFICE
1
2
3 X
4 X
5
6
7
8
9

WESTINGHOUSE
FORM 54330A

MBA MONTHLY INVENTORY REPORT FOR SS MATERIAL

LOCATION	RIS SYMBOL	MBA	FOR PERIOD ENDING
N.F.D. - Cheswick, Pennsylvania		4	8/27/71

PREPARED BY (MBA REPRESENTATIVE)	DATE	APPROVED BY (MANAGER)	DATE
R. J. Misejka	9/2/71	B. H. Carroll	9/13/71

REPORT ONE FUEL TYPE ONLY PER FORM

☐ FACILITY MATERIAL (MCY)
- ☐ > 75 W/O
- ☐ < 75 W/O
- ☐ NORMAL
- ☐ DEPLETED
- ☐ PLUTONIUM

☐ LEASED MATERIAL _____ LICENSE NO.
- ☐ URANIUM
- ☐ PLUTONIUM

☐ SUPPLY AGREEMENT (TAS)
- ☐ URANIUM
- ☐ PLUTONIUM

☒ PRIVATE OWNERSHIP
- ☐ SOURCE GRADE URANIUM _____ LICENSE NO.
- ☒ ENRICHED URANIUM 338 LICENSE NO.
- ☐ PLUTONIUM _____ LICENSE NO.

DESCRIPTION (INDICATE PHYSICAL/CHEMICAL FORM OF INVENTORY)	PROJECT	~~NET W.~~ (gm.)	ELEMENT (gm.)	W/O ISOTOPE	ISOTOPE (gm.)
Storage	NOF 4		12593	3.3681%	424
"	KEAF 1		55781	2.283%	1273
"	KEAF 2		43736	3.0395%	1328
"	KEAF 3		250626	3.395%	8506
"	WEAF 2		19580	3.042%	596
"	WEAF 3		91557	3.404%	3117
"	FPAF 2		193	2.566%	5
"	FPAF 3		63152	3.108%	467
"	VPAF 2		46411	2.573%	1194
"	VPAF 3		190077	3.117%	2319
"	NBAF 1 - Bezwan 2		457209	2.449%	10529
"	NBAF 2		142265	2.788%	4550
"	NBAF 3		153355	3.506%	5481
"	NBAF 4		215959	3.230%	5281
"	UEBF - 2 [illegible]		680217	3.615%	24034
"	UEBF		4408	3.036%	134
"	UEBF		29533	2.906%	859
"	WIAF 1		26	2.27%	0
"	WIAF 2		53928	3.022%	1641
"	WIAF 3		68585	3.397%	4368
Process	CWAF 1 2 on 1		30014154	2.236%	671091
"	CWAF 2 2 on 1		29297461	2.80%	820253
Storage	MEAF 3		268	3.41%	9
"	MEAF 2		9	3.03%	0
Process	NOCF 3 Bezwan 1		796312	3.224%	24035
"	CEGF 5 [illegible] 1		389636	4.057%	15807
"	VIAF 1 Separ 2		801316	1.85%	14832
"	RGWF		110180	1.85%	2038
"	FLAF 1-5	8969795	~~13102701~~	1.85%	~~242557~~
"	CEGF 4-3		228687	2.80%	6404
"	CEGF 3-4		237955	3.30%	7853
"	CWAF 3		176	3.30%	6
Storage	MHAF		192784	3.0%	5358
Process	WPAF 1-6	16737794	~~8869795~~	2.27%	~~3164139~~
"	NSAF 1-6		7542772	2.27%	171221
	WPAF 2		10	3.03%	0
	FLAF 2		44	2.55%	1
	TOTAL		~~94163451~~		~~2221709~~

APPROVED
APPROVED WITH EXCEPTIONS AS NOTED
R. E. TSCHIEGG, MGR. NFMM & S. MES
Date SEP 14 1971

ITEM # 221

DATE RECEIVED ACCEPTED BY

WESTINGHOUSE
FORM 54380A

MBA MONTHLY INVENTORY REPORT FOR SS MATERIAL

LOCATION	RIS SYMBOL	MBA	FOR PERIOD ENDING
N.F.D. - Cheswick, Pennsylvania		4	8/27/71

PREPARED BY (MBA REPRESENTATIVE)	DATE	APPROVED BY (MANAGER)	DATE
R. J.Misejka	9/2/71	B. H. Carroll	9/13/71

REPORT ONE FUEL TYPE ONLY PER FORM

☐ FACILITY MATERIAL (MCY)
- ☐ > 75 W/O
- ☐ < 75 W/O
- ☐ NORMAL
- ☐ DEPLETED
- ☐ PLUTONIUM

☐ SUPPLY AGREEMENT (TAS)
- ☐ URANIUM
- ☐ PLUTONIUM

☐ PRIVATE OWNERSHIP
- ☐ SOURCE GRADE URANIUM _____ LICENSE NO.
- ☐ ENRICHED URANIUM _____ LICENSE NO.
- ☐ PLUTONIUM _____ LICENSE NO.

☒ LEASED MATERIAL 338 LICENSE NO.
- ☒ URANIUM
- ☐ PLUTONIUM

DESCRIPTION (INDICATE PHYSICAL/CHEMICAL FORM OF INVENTORY)	PROJECT	NET WT. (gm.)	ELEMENT (gm.)	W/O ISOTOPE	ISOTOPE (gm.)
Storage	NOF 2		1700	2.78%	47
"	IPAF 2		41541	2.705%	1123
"	IPAF 3		33327	3.22%	1071
"	CPAF 2		180563	2.561%	4739
"	CPAF 3 Addition 2		329220	3.096%	10192
"	NOBF		48555	3.1966%	1550
"	CEXF		666	4.057%	27
"	YSSF		14546	4.938%	719
"	CYCF		109314	4.010%	2188
"	RGWF - Group		368077	3.220%	10511
"	NBAF 2 Addition 2		836671	2.7765%	23230
"	NBAF 3 "		729002	3.5123%	25604
"	NBAF 4 "		498415	3.2443%	16170
"	SCFE - 1		9029236	4.005%	360959
	TOTAL		1220833		458130

☑ APPROVED

☐ APPROVED WITH EXCEPTIONS AS NOTED

R. E. TOSCHECK, Mgr. NFM & S. NES R E Toschek

Date SEP 14 1971

DATE RECEIVED ACCEPTED BY

THIS IS AEC GERMANTOWN GA PLS
FROM
WESTINGHOUSE NUCLEAR ENERGY SYSTEMS
PITTSBURGH, PENNA.
TWX NO 710 797 3658

9-15-71

TO
US ATOMIC ENERGY COMMISSION
DEPARTMENT OF MATERIAL LICENSING
WASH D C

ATTN: MR DONALD NUSSBAUMER

THE WESTINGHOUSE ELECTRIC CORPORATION REQUESTS AN AMENDMENT TO LICENSE SNM-333, DOCKET 70-337, TO AUTHORIZE THE RECEIPT, POSSESSION, USE AND TRANSFER OF UP TO 1930 KG OF URANIUM-235 CONTAINED IN LOW ENRICHED URANIUM OXIDE FOR THE FABRICATION OF FUEL ASSEMBLIES AS LISTED BELOW.

1. 640 KG OF 235U CONTAINED IN 16,000 KG OF URANIUM OXIDE AT A NOMINAL ENRICHMENT OF 4.0 W/O FOR A REPLACEMENT REGION FOR THE SELNI NUCLEAR POWER REACTOR.

2. 140 KG OF 235U CONTAINED ON 4000 KG OF URANIUM OXIDE AT A NOMINAL ENRICHMENT OF 3.4 W/O FOR REPLACEMENT FUEL FOR THE MIHAMA #1 NUCLEAR POWER REACTOR.

3. 300 KG OF 235U CONTAINED IN 16,700 KG OF URANIUM OXIDE AT A NOMINAL ENRICHMENT OF 1.8 W/O FOR A REPLACEMENT REGION FOR THE NOK #1 NUCLEAR POWER REACTOR.

4. 850 KG OF 235U CONTAINED IN 27,500 KG OF URANIUM OXIDE AT A NOMINAL ENRICHMENT OF 3.1 W/O FOR A REPLACEMENT REGION FOR THE H.B. ROBINSON #2 NUCLEAR POWER REACTOR.

FOR ITEM 1, THE PROCESSES AND NUCLEAR CRITICALITY SAFETY LIMITS SPECIFIED IN OUR YANKEE REGIONS V AND VI APPLICATION, DATED OCTOBER 14, 1964, WILL APPLY.

FOR ITEMS 2, 3 AND 4 THE PROCESSES AND NUCLEAR CRITICALITY SAFETY LIMITS SPECIFIED IN OUR INDIAN POINT #2 APPLICATION, DATED AUGUST 4, 1967, WILL APPLY. WHEN THE ENRICHMENT TO BE PROCESSED DIFFERS FROM THAT SPECIFIED IN THE INDIAN POINT #2 APPLICATION, THE NUCLEAR CRITICALITY SAFETY LIMITS IN THAT APPLICATION THAT ARE APPLICABLE TO THE NEXT HIGHER ENRICHMENT WILL BE USED.

IF YOU HAVE ANY QUESTIONS, PLEASE TELEPHONE ME AT (412) 373-4652.

KARL R SCHENDEL - LICENSE ADMINISTRATOR
WNES NUCLEAR CENTER

END

ITEM # 222 c/22

FROM
WESTINGHOUSE NUCLEAR ENERGY SYSTEMS
MONROEVILLE, PA. 9/17/71
TWX NO. 710-797-3658

TO
U. S. ATOMIC ENERGY COMMISSION
DIVISION OF MATERIALS LICENSING
WASHINGTON, D.C.

ATTENTION: MR. DONALD NUSSBAUMER

PLEASE MAKE THE FOLLOWING CHANGES IN THE QUANTITIES OF URANIUM-235 SPECIFIED IN OUR APPLICATION, DATED SEPTEMBER 15, 1971, FOR AN AMENDMENT TO LICENSE SNM-338, DOCKET 70-337.

TOTAL	235U	BECOMES	1700 KG.
ITEM 1	235U	BECOMES	565 KG.
ITEM 2	235U	BECOMES	120 KG.
ITEM 3	235U	BECOMES	265 KG.
ITEM 4	235U	BECOMES	750 KG.

NO OTHER CHANGES IN THE CONTENTS OF THE APPLICATION ARE REQUESTED.

KARL R. SCHENDEL
LICENSE ADMINISTRATOR
WESTINGHOUSE ELECTRIC CORP.
NUCLEAR ENERGY SYSTEMS
P. O. BOX 355
PITTSBURGH, PENNSYLVANIA 15230

END

d223

ITEM # 223

WESTHSEAPD PGH

SEP 21 71 PB182
P WA243 CI INTER FR REG COLLECT TLX W WASHINGTON DC 09-21 1128A EDT
WESTINGHOUSE ELECTRIC CORP, KARL SCHENDEL MONROEVILLE NUCLEAR CENTER
PO BOX 355 / PGH 15230
AEC-053. PURSUANT TO TITLE 1, CODE OF FEDERAL REGULATIONS, PART 70, SPECIAL NUCLEAR MATERIAL LICENSE NO. SNM-338, IS HEREBY AMENDED TO AUTHORIZE THE RECEIPT, POSSESSION, AND USE OF SPECIAL NUCLEAR MAERIAL IN ACCORDANCE WITH TWX APPLICATIONS DATED SEPTEMBER 15 AND 17, 1971. ALL OTHER CONDITIONS OF THIS LICENSE SHALL REMAIN THE SAME. THE PREVIOUS AMENDMENT TO THIS LICENSE, DATED JUNE 28, 1971, SHOULD HAVE BEEN NUMBERED. AMENDMENT NO. 29. PLEASE MAKE THE NECESSARY CORRECTIONS.
REFERENCE/ DML/RTW/ DOCKET NO. 70-337, SNM-338, AMENDMENT NO. 30.

DONALD A NUSSBAUMER US AOMIC ENERGY COMMISSION WASH DC.

COLL AEC-053 10 70 SNM-338 15 17 1971 28 1971 29 DML:RTW; DPR DML:RTW; 70-337 SNM-338 30. /CDC1234567/(331)

WESTHSEAPD PGH

V

ITEM # 224 c/24

UNITED STATES
ATOMIC ENERGY COMMISSION
WASHINGTON, D.C. 20545

SEP 20 1971

DML:CEM
70-337
SNM-338, Amendment No. 71-40

Westinghouse Electric Corporation
ATTN: Mr. Karl R. Schendel
Box 355
Pittsburgh, Pennsylvania 15230

Gentlemen:

Enclosed is Amendment No. 71-40 to Special Nuclear Material License No. SNM-338 authorizing the delivery of special nuclear material to a carrier for transport in the BB 250-2 package. This amendment supersedes in its entirety Amendment No. 71-26 to this license.

Note that Condition 4.(b)(2)(ii) requires four (4) steel drums for each shipping insert and a U-235 mass limitation per drum for the contents as specified. Also note that this amendment does not authorize the transport of special nuclear material. Such transport is normally subject to regulation by the Department of Transportation (DOT). Questions regarding their requirements should be directed to DOT.

Sincerely,

Donald A. Nussbaumer

Donald A. Nussbaumer, Chief
Fuel Fabrication and
Transportation Branch
Division of Materials Licensing

Enclosure:
As stated

cc: Mr. Alfred W. Grella
Department of Transportation

ITEM # 225

C/225

(H)

Form AEC-401a
(7/70)

UNITED STATES
ATOMIC ENERGY COMMISSION

SEP 20 1971

- - - - - -

LICENSE AMENDMENT
for
DELIVERY OF RADIOACTIVE MATERIAL
to a
CARRIER FOR TRANSPORT

Pursuant to the Atomic Energy Act of 1954 and Title 10, Chapter 1, Code of Federal Regulations, Part 30, "Rules of General Applicability to Licensing of Byproduct Material", Part 70, "Special Nuclear Material", as appropriate, and Part 71, "Packaging of Radioactive Material for Transport", the following amendment to the license identified below is hereby issued, authorizing the licensee to deliver radioactive material to a carrier for transport, and is subject to the conditions specified in that license and to the conditions specified below:

LICENSEE	
1. Name: Westinghouse Electric Corporation	3. License No. SNM-338
2. Address: Box 355 Pittsburgh, Pennsylvania 15230	Amendment No. 71-40
	Docket No. 70-337

CONDITIONS

4. (a) Packaging

(1) Model number: BB 250-2

(2) Description: Inner container is 11.5" ID, 16-gage steel cylinder, 63.5" long, with bolted and gasketed top flange closure and seal welded bottom plate. Inner container is centered and supported in a 22.5" ID by minimum 74" long 16-gage steel drum by 1/4" diameter spring steel rods and vermiculite. Container is constructed in accordance with Westinghouse Electric Corporation Sketch SKA-252-1.

(b) Contents

(1) Type and form of material

(i) Bulk uranium oxide (UO_2 or U_3O_8) powder with a maximum density of 2 g U/cc and enriched to a maximum 4 w/o in the U-235 isotope. The maximum H/U atomic ratio, considering all sources of hydrogenous material within the inner container shall not exceed 1.13.

ITEM # _____

(1) Type and form of material contd.	(ii) Uranium compounds which will not decompose at temperatures up to 750°F. Uranium may be enriched to a maximum 5 w/o in the U-235 isotope. The maximum H/U atomic ratio, considering all sources of hydrogenous material within the inner container shall not exceed 1.5.
(2) Maximum quantity of material per package	(i) For the contents described in 4.(b)(1)(i): Total contents not to exceed 250 pounds, with the U-235 content not to exceed four (4) kilograms.
	(ii) For the contents described in 4.(b)(1)(ii): Total contents not to exceed 250 pounds, with the U-235 content not to exceed five (5) kilograms. Four (4) steel drums containing not more than 1.3 kilograms U-235 each shall be packaged in the shipping insert within the inner container as shown in Westinghouse Electric Corporation Sketch SKA-252-1 and Drawing C7108D10. The steel drums shall be constructed in accordance with US Military Standard MS 24347 with a maximum ID of 8.5" and a nominal height of 15.38".
(c) Fissile Class	II and III
(1) Minimum transport index to be shown on label for Class II	0.5
(2) Maximum number of packages per shipment for Class III	200 packages

5. The package authorized by this amendment is hereby approved for use under the general license provisions of Paragraph 71.7(b) of 10 CFR Part 71

6. This amendment supersedes, in its entirety, Amendment No. 71-26 to this license dated June 17, 1968.

ITEM # _____

REFERENCES

Licensee's application dated March 1, 1968, requesting approval to deliver special nuclear material to a carrier for transport in the BB 250-2 package.

Supplements dated April 8, May 21, 1968, May 21, July 23 and September 3, 1971.

FOR THE ATOMIC ENERGY COMMISSION

Date of Amendment SEP 20 1971

Donald A. Nussbaumer

Donald A. Nussbaumer
Division of Materials Licensing

70-337

DOCKET NO. 70-1151

Westinghouse Electric Corporation Power Systems

Box 355
Pittsburgh Pennsylvania 15230

September 28, 1971

For Div of Compliance

U. S. Atomic Energy Commission
Division of Materials Licensing
Washington, D. C. 20545

Attention: Mr. Donald A. Nussbaumer, Chief
Fuel Fabrication & Transportation Branch

Gentlemen:

Subject: Listing as User of Generally Licensed Shipping Package

In accordance with the provisions of paragraph 10CFR71.7(b), the Westinghouse Electric Corporation hereby notifies the USAEC of its intent to deliver special nuclear material to a carrier in a generally licensed shipping package.

Name of licensee	-	Westinghouse Electric Corporation	
Licensed Location	-	Columbia, S.C.	Cheswick, Pa.
License Number and Docket		SNM-1107 70-1151	SNM-338 70-337
Package Licensee	-	Nuclear Fuel Services, Inc.	
License Number, Amendment No. and Docket	-	SNM-124, Amendment 71-12 70-143	
Packaging Model	-	RMG - 181 - I	

If you have any questions, please write me at the above address, or telephone me collect on (412) 373-4652.

Very truly yours,

Karl R. Schendel

Karl R. Schendel
License Administrator

KRS:jh

ITEM # 226

C1226

DOCKET NO. 70-337
SNM-327
For Div. of Compliance

Westinghouse Electric Corporation

Power Systems

Joseph C Rengel
Executive Vice President
Nuclear Energy Systems

Westinghouse Building
Gateway Center
Pittsburgh Pennsylvania 15222

August 27, 1971

U. S. Atomic Energy Commission
Office of the Director of Regulations
Washington, D. C. 20545

Attn: Mr. Harold L. Price, Director

Gentlemen:

Subject: Control No. 1129 (3/2/64) (9/7/65) Letter
C. H. Weaver to R. W. Lowenstein. Letter
C. H. Weaver to H. L. Price

Effective August 1, 1971, the signature of Mr. Karl R. Schendel or, as an alternate, Mr. A. T. Sabo, is authorized on Westinghouse license applications, amendment requests, or related correspondence. Mr. Schendel continues to be the License Administrator, however, he will report to Mr. A. T. Sabo, Director of Industrial Hygiene and Safety, Nuclear Energy Systems. Their address is Westinghouse Electric Corporation, Nuclear Energy Systems, P.O. Box 355, Pittsburgh, Pennsylvania 15230.

There will be no change in the procedures outlined in Mr. Weaver's letter of March 2, 1964. On the attached page is a list of the current licenses involved.

Very truly yours,

J. C. Rengel
Executive Vice President

Attachment: List of Licenses

30 copies transmitted.

ITEM # 227

CB27

U.S. AEC
Information for Licenses

August 27, 1971

LICENSES ADMINISTERED UNDER

CONTROL NO. 1129

CURRENT LIST OF LICENSES

Users and Site	License Numbers
Nuclear Energy Systems	
Cheswick	SNM-338, 1120, 1170; 37-05809-01, 37-05809-02 SMB-355
Columbia, S.C.	SNM-1107
Forest Hills	37-00497-09
Waltz Mill	SNM-576, 738, 770; CX-11; 37-09442-04; TR-2
Astronuclear Laboratories	
Cheswick	37-05809-03
Large	SNM-951; 37-09442-02; SMB-915
Waltz Mill	37-09442-01
Research Laboratories	
Churchill	SNM-47; 37-00497-06; SMB-550
Headquarters Industrial Hygiene Laboratory	
East Pittsburgh	37-00497-13
Semiconductor Division	
Youngwood	37-07934-01

UNITED STATES
ATOMIC ENERGY COMMISSION
WASHINGTON, D.C. 20545

JUL 12 1971

DML:CEM
70-338

70-337

Westinghouse Electric Corporation
ATTN: Mr. Karl R. Schendel
Box 355
Pittsburgh, Pennsylvania 15230

Gentlemen:

SNM-237

This refers to your application dated May 21, 1971, requesting an amendment to Special Nuclear Material License No. ~~SNM-237~~ to authorize the delivery of special nuclear material to a carrier for transport in the Model BB 250-2 package. In connection with our review of this application we need the following:

1. A drawing of the U.S. Military Standard MS 24374 steel drum which includes the materials, dimensions and method of construction.

2. An analysis which demonstrates that the inner steel drums will maintain the 8.5" cylinder diameter under normal and accident conditions.

3. An array analysis which gives appropriate consideration to the effect of interspersed moderation. The array analysis presented uses factors for interspersed moderation that were derived from experiments with highly enriched uranium metal. These factors should not be applied to low enriched materials since interspersed moderation could raise the infinite multiplication factor of undermoderated units.

Sincerely,

Original Signed by
Donald A. Nussbaumer

Donald A. Nussbaumer, Chief
Fuel Fabrication and
Transportation Branch
Division of Materials Licensing

Distribution:
Docket File
Branch R/F
DML R/F
PDR
CO:HQ (2)
RLStevenson, DML
CEMacDonald, DML

ITEM # 228

UNITED STATES
ATOMIC ENERGY COMMISSION
WASHINGTON, D.C. 20545

MAY 26 1971

DML:RTW
70-1143
70-1086
70-337

Westinghouse Electric Corporation
ATTN: Mr. Karl R. Schendel
License Administrator
Monroeville Nuclear Center
P.O. Box 355
Pittsburgh, Pennsylvania 15230

Gentlemen:

This refers to your applications dated January 14, 1971, and April 7, 1971, requesting amendment of Special Nuclear Material License No. SNM-1120 to incorporate activities currently conducted under the provisions of License No. SNM-338 and License No. SNM-1170. Under these proposals, activities in the Advanced Reactor Division (ARD) Laboratory in Building 7 and in the Materials Systems Laboratory (MSL), also in Building 7, would be covered by License No. SNM-1120. License No. SNM-1170 would be terminated and License No. SNM-338 would be amended to delete the MSL activities.

In connection with our review of these applications, please provide the information identified in the enclosure to this letter.

Sincerely,

Original Signed by
Donald A. Nussbaumer

Donald A. Nussbaumer, Chief
Fuel Fabrication &
Transportation Branch
Division of Materials Licensing

Enclosure:
As stated

Distribution:
Docket File
PDR
FF&TB R/F
DML R/F
CO:HQ (2)
RTWoolsey (2)
RStevenson, DML
LRouse, DML
DANussbaumer, DML

ITEM # 229

MAY 26 1971

ENCLOSURE

SNM-1120 (70-1143)

1. Provide an updated description (including updated organization charts for the various license documents) of the management organization that will be responsible for radiation and nuclear safety under License No. SNM-1120 as amended. The organization's structure through the highest level of management should be presented, and should clearly identify the lowest level of management which will be fully responsible for all activities to be conducted under this license. Also, building layout prints such as Figs. 4.2.1 and 6.5.1 of application dated January 14, 1971; Figs. 4.2.1, 6.5.1, and 6.6.2 of application dated June 13, 1969, and Figs. 3.2.1 and 5.5.1 of application dated January 28, 1969, should be updated as necessary to clearly indicate all areas comming under the jurisdiction of the PFDL license.

2. Please confirm that the qualifications and responsibilities described for the Nuclear Criticality Safety Engineer in paragraph 5.2.5 of the PFDL application dated June 13, 1969, also apply to activities in Building No. 7, where appropriate.

3. Please confirm our understanding that only plutonium as oxide or other non-pyrophoric forms of plutonium will be possessed and used except for those activities described in the applications dated January 28, November 14, 1969, and June 30, 1970 (originally the applications for the ARD license under Docket No. 70-1086), and that for these activities plutonium metal will be handled in glove boxes under an inert atmosphere. Also furnish additional information on your provisions for storing plutonium in metallic form to preclude accidental ignition.

4. Confirm that the maximum Pu-238 content to be specified for License Item 7-A shall not exceed 2.0 w/o. Also specify the maximum Pu-238 content for Item 7-H. We note that you have not included an Item 7-I. Please clarify.

5. Specify the correct address as it should appear in Item No. 2 of the amended license.

6. On page 36 of application dated January 28, 1969, you mention "fire detection units which are strategically located in the dry box lines." Please provide additional information on these fire detectors including approximate locations in the lines, types of detectors, alarm settings, etc.

7. In our letter dated October 7, 1969, we stated that Table 9.1.1 (of the PFDL application) was not approved and, therefore, was not a condition of the license. We feel that this table should be amended to conform to

the MPV's or should be deleted. We also mentioned a typographical error on page 101 of this application; i.e., for steps 14 through 16, the densities should be greater than (not less than) 1 gram Pu/cc. This page should be corrected.

8. In our letter dated November 13, 1969, we stated that, "even though allowance for the effect of U-235 is required in Section 7.1, page 64 of your PFDL application, and appropriate references are made to this requirement in Tables 7.1.2 and 7.2.2, we do not believe that such mere reference is adequate to assure that consideration of the U-235 content would not be overlooked." We feel that all references to plutonium in these tables should be changed to indicate that values given are "plutonium and plutonium equivalent of U-235 present."

9. On page 41 of application dated January 14, 1971, the recipient is unidentified for the calculations mentioned in footnotes (3) and (4). Please complete these sentences.

Westinghouse Electric Corporation   Power Systems

PWR Systems Division
Box 355
Pittsburgh Pennsylvania 15230

April 28, 1971

HARRY P.

50-87

Carlson
~~Higginbotham~~
~~Nelson~~
~~Crocker~~

SUGGEST THAT THIS BE PUT IN ONE LICENSE FILE WITH REFERENCES TO ITS LOCATION PUT IN ALL OTHER APPLICABLE FILES. (SEE LIST OF LICENSES)

For Div. of Compliance

RECEIVED APR 30 1971 U.S. ATOMIC ENERGY COMMISSION Regulatory Mail Section

U. S. Atomic Energy Commission
Washington, D. C. 20545

Attention: Mr. L. E. Johnson, Acting Director
Division of Materials Licensing

Dr. P. A. Morris, Director
Division of Reactor Licensing

Gentlemen:

Subject: Corporate Information for Licenses

The Westinghouse Electric Corporation hereby submits current information applicable to the USAEC Licenses listed at the end of this letter which have been issued to the Corporation. Corporate information was originally sent to you in a letter addressed to Mr. R. W. Lowenstein, Assistant Director of Regulations, dated April 3, 1964, and thereafter has been updated at least annually. The last previous letter, dated July 30, 1970, was transmitted jointly to the addressees of this letter.

The Westinghouse Electric Corporation is incorporated in the Commonwealth of Pennsylvania, with principal offices located in the Westinghouse Building, Gateway Center, Pittsburgh, Pennsylvania 15222. All of the Directors and Officers are citizens of the United States of America.

Westinghouse is a publicly held corporation whose stock is traded on principal securities exchanges. It is not owned, nor is there (to the best of our knowledge) an appreciable ownership of Westinghouse stock, by an alien, foreign corporation or foreign government. No individual is known, from the records of the Corporation, to own one percent or more of its capital stock.

For Pages 2, 3 & 4 plus 1970 Annual Report See SNM-1170

ITEM # 230

2105

FORM AEC 766
(12-70)
PI 1200/8

U.S. ATOMIC ENERGY COMMISSION

COMPLIANCE STATISTICAL DATA INPUT REPORT

A-F	A. DOCKET NUMBER	B. REPORT NUMBER	C. PRIORITY/ CATEGORY	INSPECTION/INVESTIGATION DATES FROM	INSPECTION/INVESTIGATION DATES TO	F. REGION MAKING INSPECTION
	70-337	71-1	A(1) I	D. 3/22/71	E. 3/25/71	CO:I

LICENSEE	FACILITY	LICENSE NUMBER
Westinghouse Electric Corp.	Cheswick Facility	SNM-338

G TYPE OF REPORT:
1 ☐ INITIAL INSPECTION 2 ☒ REINSPECTION 3 ☐ INVESTIGATION 4 ☐ INQUIRY 5 ☐ VENDOR

H REPORT ACTION:
1 ☐ CLEAR 2 ☐ DRL/DML FOR ACTION 3 ☐ 591 4 ☒ 592 5 ☐ CDN 6 ☐ HEADQUARTERS FOR ACTION

J CHARACTER OF ENFORCEMENT ACTION:
1 ☐ SAFETY ITEM 2 ☐ NONCONFORMANCE 3 ☐ NONCOMPLIANCE

K FIELD ACTION AS A RESULT OF INQUIRY
1 ☐ CONDUCT INVESTIGATION 2 ☐ REVIEW NEXT INSPECTION 3 ☐ REFER TO GM STAFF 4 ☐ REFER TO NON-AEC AUTH. 5 ☐ REFER TO OTHER REG OFFICE 6 ☐ NO FURTHER ACTION

L REASON INSPECTION REPORT TO HEADQUARTERS FOR ACTION:
- 01 ☐ IMMEDIATE THREAT TO HEALTH AND SAFETY
- COMPLEX ITEM INVOLVING:
  - 02 ☐ NONCOMPLIANCE
  - 03 ☐ LICENSING PROBLEM
  - 04 ☐ POLICY MATTER
  - 05 ☐ INTERPRETATION
- 06 ☐ SAFETY ITEM
- 07 ☐ COSTLY TO CORRECT
- 08 ☐ > 90 DAYS TO CORRECT
- 09 ☐ UNCORRECTED N/C
- 10 ☐ NO CORRECTION ACTION PLANNED
- 11 ☐ INADEQUATE CORRECTION ACTION PLANNED
- 12 ☐ 592, CDN. NO REPLY RECEIVED
- 13 ☐ 592, CDN. INADEQUATE REPLY
- 14 ☐ UNREVIEWED SAFETY ITEM
- 15 ☐ DESIGN CHANGE w/o DRL APPROVAL
- 16 ☐ APPROPRIATE FOR HQS ACTION
- 17 ☐ DISCRETION OF REGIONAL OFFICE
- 18 ☐ REVIEW
- 19 ☐ OTHER

M SUBJECT OF INQUIRY OR INVESTIGATION:
- 01 ☐ TYPE A
- 02 ☐ TYPE B
- OVEREXPOSURE:
  - 03 ☐ INTERNAL
  - 04 ☐ EXTERNAL
- 05 ☐ RELEASE
- 06 ☐ LOSS OF FACILITY
- 07 ☐ PROPERTY DAMAGE
- 10 CFR 20.405 OVEREXPOSURE
  - 08 ☐ INTERNAL
  - 09 ☐ EXTERNAL
- 10 ☐ EXCESSIVE RADIATION Levels
- 11 ☐ EXCESSIVE CONCENTRATION LEVELS
- 12 ☐ CRITICALITY
- 13 ☐ LOSS OR THEFT
- 14 ☐ CONTAMINATION
- 15 ☐ UNSAFE OPERATION
- 16 ☐ FIRE, EXPLOSION
- 17 ☐ HUMAN (OPERATOR) ERROR
- 18 ☐ COMPLAINT
- 19 ☐ PUBLIC INTEREST
- 20 ☐ LEAKING SOURCE
- 21 ☐ TRANSPORTATION
- 22 ☐ EXPIRED LICENSE
- 23 ☐ EXPOSURE REPORTED AND FOUND INVALID.
- 24 ☐ CONSTRUCTION/EQUIP. DEFICIENCY
- 25 ☐ EQUIPMENT FAILURE
- 26 ☐ EXCEED LIC/TECH SPEC REQ'S
- 27 ☐ DEPARTURE FROM FSAR/TS's
- 28 ☐ OTHER

N HEADQUARTERS ACTION ON INSPECTION AND INVESTIGATION REPORTS:
- 01 ☐ NO ACTION
- 02 ☐ LETTER-CLEAR
- 03 ☐ LETTER-NONCOMPLIANCE
- 04 ☐ LETTER-SAFETY ITEM
- 05 ☐ PART 2 NOTICE
- 06 ☐ PART 2 NOTICE AS RESULT OF FOLLOWUP TO 592, CDN
- 07 ☐ ORDER
- 08 ☐ LICENSE AMENDMENT
- 09 ☐ ENFORCEMENT VISIT
- 10 ☐ APPLICATION DENIAL
- 11 ☐ REFER TO DRL FOR RESOLUTION
- 12 ☐ REFER TO DRL FOR INFO.
- 13 ☐ OTHER

O DATE REPORT SENT TO HEADQUARTERS: APR 26 1971

P DATE 591, 592 ISSUED: April 1, 1971

Q DATE LICENSEE REPLY RECEIVED: April 19, 1971

R DATE NOTICE, ORDER ISSUED:

S DATE REPORT FORWARDED:

T DATE LICENSEE REPLY RECEIVED:

COMMENTS

C/231

ITEM # 231

APR 26 1971

Westinghouse Electric Corporation
Box 217
Cheswick, Pennsylvania 15024

Attention: Mr. P. Koppel, Manager, Nuclear Fuels Division

Gentlemen:

Thank you for your letter dated April 16, 1971 informing us of the steps you have taken to correct the items of apparent noncompliance which we brought to your attention in our letter dated April 1, 1971. We will review these matters during our next inspection.

Your cooperation with us is appreciated.

Very truly yours,

Robert W. Kirkman
Director

CO:I:WKL

cc: Mr. C. J. Cattabiani, General Manager, Electromechanical Div.
Mr. W. Piros, Manager, Industrial Safety
Mr. T. Stern, General Manager, Nuclear Fuels Division
Mr. R. Bish, Operating Manager

bcc: Gen W. Roy, CO
A. Giambusso, CO
L. Kornblith, CO
R. Engelken, CO

ITEM # 232

OFFICE ▶	compliance				
SURNAME ▶	Lorenz/ caz	Crocker			
DATE ▶	4/26/71	4/26/71			

C/232

Form AEC-318 (Rev. 9-53) AECM 0240 ☆ U. S. GOVERNMENT PRINTING OFFICE: 1968 O-320-507

Region I, Division of Compliance

Routing Slip

To: _____

Inspector

_____ Response by licensee adequate

_____ Response by licensee inadequate

Comment on Inadequacy

_____

Reviewer

_____ Concurrence

_____ Non Concurrence

Comment on Non Concurrence

C1233

ITEM # 233

Westinghouse Electric Corporation Power Systems

Electro Mechanical Division

Box 217
Cheswick Pennsylvania 15024
Cable WECHESWICK
(412) 274 6300
(412) 363 8700

April 16, 1971

Mr. Robert W. Kirkman, Director
United States Atomic Energy Commission
Division of Compliance
Region I
970 Broad Street
Newark, New Jersey 07102

Dear Mr. Kirkman:

Subject: SNM-338 (Docket No. 7-337)

Reference is made to your letter dated April 1, 1971. The following are the answers, in the same chronological order, as stated on the Form AEC-592, which was attached to the reference letter:

(a) Personnel exposure records have been corrected to include a, continuous, cumulative seven-day exposure for the employe.

(b) On future overexposures, the requirements of 10 CFR 20.405(a) will be complied with.

(c) On future overexposures, the employe will be notified as per the requirements of 10 CFR 20.405(c). In the one case referenced in your letter, the employe was notified as per the 10 CFR 20.405(c) requirements.

If there are additional questions, please do not hesitate to contact me.

Very truly yours,

P. J. Koppel
Manufacturing Manager

rs

cc Mr. E. J. Cattabiani
Mr. W. E. Piros
Mr. T. Stern
Mr. R. Bish

C/234

ITEM # 234

ITEM # 225

APR 1 1971

Westinghouse Electric Corporation
Box 217
Cheswick, Pennsylvania 15024

Attention: Mr. F. Kappel, Manager
Nuclear Fuels Division

Gentlemen:

This letter relates to the discussion Mr. Walter Lorenz of this office held with you following the inspection conducted on March 22 through 25, 1971 of the activities authorized under AEC Special Nuclear Materials License No. SNM-336.

It appears that certain of your activities were not conducted in full compliance with conditions of the license. The items and references to the pertinent requirements are listed in Item 5 of the enclosed form AEC-592.

The purpose of this letter is to give you an opportunity to advise us in writing of your position concerning these items, of the corrective steps you have taken or plan to take with respect to them, and the date all corrective action was or will be completed. Your reply should be sent to us within 20 days of the date of this letter to ensure that it will receive proper attention in our further evaluation of this matter.

Should you have any questions concerning this matter, you may communicate directly with this office.

Very truly yours,

Robert W. Kirkman
Director

CO:I:WRL

Enclosure:
Form AEC-592

cc: Mr. E. J. Cattabiani, General Manager, Electromechanical Division
Mr. W. Piree, Manager, Industrial Safety
Mr. T. Stern, General Manager, Nuclear Fuels Division
Mr. R. Bish, Operating Manager

bcc: G. W. Roy, CO, 2 cys.
A. Giambusso, CO
L. Kornblith, CO
R. Engelken, CO

OFFICE ▶				CO		
SURNAME ▶				Lorenz/nvk	Crocker	
DATE ▶				4/1/71	4/1/71	

Form AEC-318 (Rev. 9-53) AECM 0240 ☆ U. S. GOVERNMENT PRINTING OFFICE: 1968 O-320-507

CR235

K

(2)

Form AEC 592
(11-70)

UNITED STATES ATOMIC ENERGY COMMISSION
DIVISION OF COMPLIANCE

1. LICENSEE	2. REGIONAL OFFICE
Westinghouse Electric Corporation 3 Gateway Center Pittsburgh, Pennsylvania 15230	U.S. Atomic Energy Commission Region 1, Division of Compliance 970 Broad Street Newark, New Jersey 07102
3. LICENSE NUMBER(S) [illegible] (Docket No. 70-337)	4. DATE(S) OF INSPECTION March 21 through 23, 1971

5. The following activities under your license (identified in Item No. 3 above) appear to be in noncompliance with AEC regulations or license requirements, as indicated.

a. Contrary to 10 CFR 20.103(a), "Exposure of individuals to concentrations of radioactive materials in restricted areas", on at least one occasion in February, your records indicate that a person was exposed to concentrations of radioactive materials in a seven day period of greater than that permitted by this section.

b. Contrary to 10 CFR 20.405(a), "Reports of overexposures and excessive levels and concentrations", the Commission was not notified of the exposure described in Item a., above.

c. Contrary to 10 CFR 20.405(c), "Reports of overexposures and excessive levels and concentrations", the individual who received the exposure described in Item a., above, was not notified in writing of the nature and extent of the exposure.

Supplementary page None attached. Walter R. Lovern 4/1/71
AEC Compliance Inspector — Date

ORIGINAL: LICENSEE. COPIES: ☐ CO REGION ☐ CO HEADQUARTERS ☐ REG. FILES

ITEM # _____