Form AEC-417 (Tentative)
(8-56)

UNITED STATES ATOMIC ENERGY COMMISSION

Compliance Inspection Report

1. Name and address of Licensee
Baker & Company, Inc.
113 Astor Street
Newark 5, New Jersey

2. Date of Inspection
June 6, 1957

3. Type of Inspection
Initial

4. 10 CFR Part(s) Applicable
20-40

5. License (or Permit) No(s). and Expiration date(s)

Number	Exp. Date	Number	Exp. Date
C-3387 w/amends. 1&2 (C.R.Bergherm)	11/1/57		
R-121 (J.W.Becker)	3/1/58		

6. Scope of License(s) and Permit
C-3387 - Licensed to receive possession of and title to 500 lbs of refined source material during the term of this license for use in research and development on rolling, drawing, and fabricating metals and fuel elements, and processing purification and recovery procedures. R-121 - Licensed to receive possession of and title to 150 lbs of refined source material during the term of this license for use in manufacture of platinum metal products embodying thoria.

7. Special Conditions and Limitations of License(s) or Permit
Licensed to transfer and deliver possession of and title to refined source material to any person licensed by the AEC, within the limits of his license. Required to maintain records of inventories, receipts and transfers of refined source material. Neither license nor any right under either license shall be assigned or otherwise transferred in violation of the provisions of the Atomic Energy Act of 1954.

8. Inspection Findings
Baker & Co., Inc., is engaged in the refining and manufacture of precious alloy products and salts under License R-121. Laboratory space and process facilities are available for use in working with source material, but no specific areas or facilities are solely devoted to the use of source material. Instrumentation is available for radiation detection. There is no radiation safety committee or radiation safety program in effect. No written instructions, film badges, or dosimeters are available to personnel, and no physical surveys are made. There is no waste disposal. Procurement procedures are adequate and records are maintained of all purchases, inventories, and sales made under the licenses. No areas or CONT'D

9. Items of Non-compliance
None

10. Give date of last previous inspection: 12/21/55 by L. D. Low

11. Is "Company Confidential" information contained in this report? No
(Specify page(s) and paragraph(s).)

Distribution:
2 cys. - Division of Inspection, Washington
2 cys. - Inspection Division, NYOO

R. H. Engelken/B. L. Barless
(Inspector)

Approved by:
Robert W. Kirkman
New York
(Operations Office)

June 19, 1957
(Date report prepared)

If additional space is required for any numbered item above, the continuation may be extended to the reverse of this form using head to foot format, leaving sufficient margin at top for binding, identifying each item by number and noting "Continued" on the face of form under appropriate item.

RECOMMENDATIONS SHOULD BE SET FORTH IN A SEPARATE COVERING MEMORANDUM

GPO 912710

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ITEM #8 CONT'D

or containers are posted with radiation caution sign and symbol. No work is presently being done under License C-3387, but such work is expected to begin within a few months. Approximately 5 lbs of U metal and 3 lbs of uranium nitrate obtained under this license are stored in Dr. Hausman's laboratory. Baker & Co. is also engaged, under an AEC Contract, in the decontamination of platinum and platinum alloys. The contaminants are usually plutonium or polonium and decontamination is carried out in a building approximately 20 x 20'. No inspection was made of this facility.

PART 40 INSPECTION

Baker & Company, Inc.
113 Astor Street
Newark 5, N. J.

Date of Inspection: 6/6/57

Persons Contacted:

Mr. L. C. Burman, Sales Engineer
Dr. Eugene Hausman, Research Chemist
Mr. G. DeWorth, Supervisor of refining area

12. Organization & Administration

Baker & Co. is engaged in the refining and manufacture of precious alloy products and salts. Baker & Co. has no radiological safety committee or radiation safety officer.

Persons using or having responsibility for material are as follows:

Dr. E. F. Rosenblatt, Research Director & Production Manager, is the overall supervisor of work with licensed material.

Dr. Eugene Hausman, Research Chemist, who was with the Manhattan District at Argonne and later at Oak Ridge, has the present stock of U stored in his laboratory and does small scale work on synthesizing uranium compounds.

Mr. Eugene Nurmi, Chemist, who is in charge of the enriched scrap pilot plant, has no radiation training.

Mr. G. DeWorth, Supervisor of the area refinery, is in charge of the production of metal alloys under License R-121. He has had no radiation training.

13. Facilities and Uses

Under License C-3387, no material has been obtained except approximately 5 lbs of U metal and 3 lbs of uranium nitrate. These materials are stored in the research building in Dr. Hausman's laboratory. Actual large scale research and development on rolling, drawing, fabricating metals and fuel elements, and purification and recovery procedures will be carried out in the enriched processing building. No special facilities for handling source material were noted. Responsibility for licensed material will lie with Mr. L. Burman.

Under License R-121, source material is used in the production of platinum metal products embodying thorium. Storage of the present inventory of 15 lbs of thorium nitrate is in a locked safe approximately 12 x 15'. This safe is located on the second floor of Building O. Present workload involves use of less than 1 lb Th p/wk.

The typical process involved in the production of platinum alloys (e.g. 4% W plus 0.4% Th) as described by Mr. DeWorth involves mixing the salts of the metals concerned in the required percentages, heating this mixture in a furnace to produce the spongy alloy, grinding the alloy by hand, reducing the alloy in a hydrogen atmosphere, and finally grinding, sieving, and assaying the powder. The powder is then removed to Baker's E. Newark plant for sintering, which yields the platinum alloy in finished metallic form. These operations were not observed, but it was noted by us and confirmed by Messrs. Burman and DeWorth that great care is taken to prevent any loss of the materials involved, due mainly to the value of the platinum involved.

Baker & Co. is also engaged, under an AEC contract, in the decontamination of platinum and platinum alloys. The contaminants are usually plutonium or polonium, and decontamination is effected in a building approximately 20 x 20'. No inspection was made of this facility.

14. Instrumentation

The following instruments were available in the research building:

1 Anton, 210-T, GM, beta gamma end window probe
1 Tracerlab P-12 gamma scintillation probe
1 Atomic Lab scaler for use with the above probes
1 Pluto alpha, beta, gamma survey instrument

15. Radiological Safety Precautions & Procedures

No radiological safety precautions or procedures are in effect at Baker & Co. No instructions are provided persons working with licensed material. There is no personnel monitoring. No physical surveys are made, as the licensee feels that no significant hazard exists at present which would warrant these procedures.

16. Procurement Procedures & Control

Mr. L. C. Burman is responsible for procurement of material under License C-3387. Mr. J. W. Becker is responsible for procurement under License R-121.

17. Records

Records of source material purchase, inventories, and sales (in the case of Pt alloys) are maintained.

18. Storage

Storage of materials (approximately 5 lbs U metal and 3 lbs uranium nitrate) under License C-3387 is in Dr. Hausman's laboratory in the research building. Storage of materials under R-121 is in a locked safe on the second floor of Building O. All materials are broken down into quantities less than those requiring labeling.

19. Waste Disposal

According to Mr. Burman, there is no waste disposal.

20. Posting

No posting or labeling of areas with radiation caution sign and symbol was noted.

21. Personnel Monitoring

There is no personnel monitoring.