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UNITED STATES REPRESENTATIVE  
UNITED NATIONS ATOMIC ENERGY COMMISSION  
EMPIRE STATE BUILDING  
NEW YORK 1, N. Y.  
MURRAY HILL 3-6800

21 June 1946

**SUBJECT: Third Report of Committee on Declassification.**

**MEMORANDUM to Major General L. R. Groves.**

**I. Action**

The Committee on Declassification has received specific written comments from the industrial organizations with which the Committee consulted on 27 and 28 December. The Committee has given careful consideration and study to these, in order to determine whether the topics suggested are appropriate for use in declassification.

**II. Recommendations**

The Chairman acting for the Committee, wishes to transmit to you the following recommendations of the Committee as a supplement to those in the memoranda of 17 November and 20 January:

- A. The topics in the first list (attached) should be added to those included in Section IX of the 17 November memorandum. A suitable classification for each topic has been recommended.
- B. No further Committee action should be taken on the topics in the second list (attached).

CLASSIFICATION CANCELLED  
DATE AUG 30 1972  
For The U. S. Atomic Energy Commission  
*R. Jackson*  
Division of Classification

*Richard C. Tolman*  
Richard C. Tolman  
Chairman of the Committee  
on Declassification

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DP-32FR89082473

Topics for addition to those included in Section IX  
of the 17 November memorandum.

A. General

Class I

1. Physical instrumentation which may have industrial application, provided the instruments are not solely applicable to the work of the Manhattan District. The motivation for developing the instruments and the application for which they were used should be disclosed only when the application itself is declassified.

Examples are:

- (a) Counter (radiation) and timer.
- (b) Radiation detector and monitor design and operation.
- (c) High voltage electronic regulator.
- (d) All special instruments except those of great importance to the diffusion plant; instruments recommended for declassification are:
  - i. Thermal flow meter.
  - ii. New types of diaphragm pressure gage.
  - iii. Acoustic (gas) analyzer.
  - iv. Various HF analyzers.
- (e) Thermal conductivity (low pressure gas analyzer).
- (f) Differential pressure transmitter and differential pressure receiver.
- (g) Magnetic valve operator (for Kellex).
- (h) Magnetic coupling (for Ferclve).
- (i) Continuous dew-point recorder.
- (j) Groove depth indicators.
- (k) Temperature and pressure instruments for making measurements in corrosive atmosphere.

2. Commercial mass spectrometers which make use of the improvements made in such instruments in building the line recorders and assay spectrometers but not spectrometers as were built for the purpose for which K-25 uses them should be released for sale for other purposes without in any way allowing manufacturers to connect their products with the operation of K-25.

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Topics in addition to those included in Section IX  
of the 17 November memorandum. (Contd.)

3. Equipment for the continuous analysis of the plant gas stream (line recorders).
4. Space recorder.
5. Leak detectors as built by General Electric and Westinghouse should be released for sale for other purposes without in any way allowing manufacturers to connect their products with the operation of K-25.
6. The technique of vacuum testing by means of a leak detector.
7. Automatic thickness control.
8. Analytical methods for determining fluorine and the fluorocarbons.

Class II

1. Technique for handling fissionable materials.

Class III

1. Operational, engineering and construction data referring specifically to the methods which have been and are being used.

B. Electromagnetic Process - (Y-12)

Class I

1. Studies of high voltage technique including studies of cable failure, insulator failure, drain phenomena, and sparking transients when not revealing unit design features.
2. Fundamental reports on electron emission from metal-ceramic junction, thermo-chemical transfer of metals, electron oscillations in electric and magnetic fields, provided no significant design specifications are included.
3. Corrosion tests on metals used in the presence of non-secret chemicals.
4. Abrasive cleaners and similar equipment not critical to plant operation.

Class III

- \*1. Charge or other critical material studies.
  - \*2. Fundamental reports directly and significantly influencing the design of the critical plant equipment.
  - \*3. General design of electrical features of equipment employed in the plant and not generally applicable to industry.
  4. Detailed design data such as electrical and mechanical specifications of the equipment and electron drain systems.
  - \*5. Design of ion sources.
  - \*6. Design of insulators and insulator shields.
  - \*7. Vacuum heater design.
  8. All matters descriptive of the actual physical equipment uniquely or critically related to the electro-magnetic process, or revealing equipment or production statistics.
  9. Production statistics, revealing rate and quantity of production.
  10. Reports relating to the production of the plant.
  11. Equipment statistics, revealing number of units in plant.
  12. Material and equipment lists.
  13. Drawings of process buildings, the chemical buildings including cooling towers.
  - \*14. High-voltage cubicles and heater control.
  15. Plant layouts, photographs and blueprints of M, E, Liner, Tank, and Magnet assemblies and Shim design.
- \* Topics marked with asterisk are topics on which the majority opinion of the Committee was followed when only one vote was cast for an adjacent Class (e.g. between Class I and Class II or Class II and Class III but not between Class I and Class III).

16. M and E units.
17. Manufacturers' prints of:
  - (a) Reactors.
  - (b) Cubicles.
  - (c) M and E units.
  - (d) Shims.
  - (e) Special chemical equipment.
18. Specifications relating to the high voltage cubicles, M and E units, and special chemical equipment.
19. Instructions relating to the high voltage cubicles, the M and E units, and special chemical equipment.
20. Division Progress Reports, reports by plant test groups and minutes of meetings concerning plant technical problems.
21. Operational information, such as process time cycles, process efficiency and chemical losses.
22. Cost and economic studies, particularly for the plant as a whole and the critical process equipment employed.

C. Diffusion Processes. (K-25, K-27 and S-50)

Class I

1. Fluorocarbons.
  - (a) Physical and chemical properties.
  - (b) Analytical methods.
  - (c) Processes for manufacturing fluorocarbons.
2. Laboratory and pilot plant work on chlorofluorocarbons and fluorocarbons.
3. Design and construction of a plant to produce Xylene hexafluoride and its mono and dichlorides.
4. The technology of fluorine.
  - (a) Manufacturing processes.
  - (b) Materials of construction for fluorine.
  - (c) Methods of handling fluorine.
  - (d) Vacuum pumps for fluorine.
  - (e) Compressors for fluorine.
  - (f) Disposal system for fluorine.

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Topics in addition to those included in Section IX  
of the 17 November memorandum. (Contd.)

5. Design and construction of a fluorine cell plant and fluorine packaging, storage, and compression plant.
6. Heat transfer characteristics of finned copper tubing.
7. Cold Traps.
  - (a) Mechanical description of cold traps.
  - (b) Performance data on cold traps.
  - (c) Scraped cold traps.

Class III

1. Description of gaseous diffusion plant.
  - (a) Process design.
  - (b) Engineering description.
  - (c) History of construction.
  - (d) Operating instructions.
  - (e) Production records.
2. Any information from which plant productivity could be derived, such as the sizes of equipment in the base stages.
3. Diffusion barrier.
  - (a) Types of barrier developed.
  - (b) Properties of barrier.
  - (c) Methods of manufacturing barrier.
  - (d) Methods of producing nickel powder.
  - (e) Barrier specifications for diffusion plant.
4. Methods of Testing Diffusion Barriers with inert gases.
  - (a) Separation factor.
  - (b) Porosity.
  - (c) Surface properties.
5. Separation performance of diffusion barriers with UF<sub>6</sub>.
  - (a) Experimental methods.
  - (b) Barrier separation factors with UF<sub>6</sub>.
6. Fluorocarbon requirements of diffusion plant.

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Topics for addition to those included in Section IX  
of the 17 November memorandum. (Contd.)

D. Plutonium Project (X-10 and W)

Class I

1. Physical characteristics of graphite.

Class II

- \*1. Effects of neutron radiation on graphite.
- \*2. Detailed pile theory, computational methods and exponential pile methods.
- \*3. Exponential piles.
- \*4. Results of exponential experiments.
- \*5. Properties of moderators, such as migration and diffusion lengths.
- \*6. Danger coefficients of different elements and their damaging values.

Class III

1. Quantities and dates of shipment of graphite for various Manhattan District projects.
- \*2. Material relating to the separation of heavy water; i.e., the design of the towers and associated equipment. (Trail)

\* Topics marked with asterisk are topics on which the majority opinion of the Committee was followed when only one vote was cast for an adjacent Class (e.g. between Class I and Class II or Class II and Class III but not between Class I and Class III).

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Topics for which no further Committee action  
is recommended.

A. General

1. Advance designs referring to all the processes used on the Manhattan District.

B. Electromagnetic Process - (Y-12)

1. All instructions from manufacturers pertaining to the operation of their equipment, except for the high voltage cubicles, H and E units, and special chemical equipment.
2. All manufacturers' prints except those of:
  - (a) Reactors.
  - (b) Cubicles.
  - (c) M and E units.
  - (d) Shims.
  - (e) Special chemical equipment.
3. All specifications except those relating to the cubicles, M and E units and special chemical equipment.
4. Maps of the Y-12 Area.
5. All drawings of miscellaneous buildings (at Y-12) such as machine shops, cafeterias and change houses.
6. Significant information which might lead to considerably improved electromagnetic separation or operable units other than those now employed.

C. Diffusion Processes (K-25, K-27 and S-50)

1. Narrative history of the project.

copy to  
declassification

Dear Dr. Tolman:

Thank you for the Third Report of Committee on Declassification which you sent to me on 21 June 1946. This will require revision of our guides and I believe it will be advisable at the same time to incorporate changes which our experiences to date indicate are needed. *we expect to do*  
This ~~will be done~~ through the procedure of the Senior Responsible Reviewers acting somewhat like a sub-committee of the Declassification Committee, which we discussed on June 24th and about which I wrote you on June 28<sup>TH</sup>.

Sincerely yours,

LRG

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