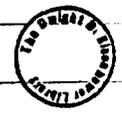


R

RC's briefing notes
for P Feb 66

semi-annual status report of AEC



I. Raw Materials

1. Prospects for uranium procurement continue to improve
2. Confident that US by 1968 can reach its goal of 12,500 of U308 annually. 406891
3. Table, p. 5 U.S., Canada, Australia, Belgian Congo, So Africa.

II. Fineworthy Materials

1. New requirements for weapons being developed - more big weapons, slow down on smaller weapons.
2. To meet interim thermonuclear requirements, new facilities started up in summer to produce LITHIUM 6 and DEUTERIUM GAS - requirements for OPERATION CASTLE met by November - now producing limited amounts for "emergency capability" of weapons
3. Plutonium production - exceeded in 1953 by 18% quantity specified by P in June/53. TABLE, p 8
4. Uranium 235 production - has continued to increase, exceeded by 27% quantity specified by P in June/53. Table, p 10

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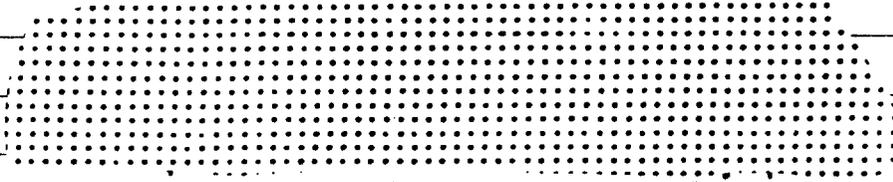
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III Weapons Development and Production

1. Objective: to produce thermonuclear weapons as quickly as possible to permit emergency delivery capability; also to develop improved thermonuclear weapons which are lighter and more easily developed.

2. Operation CASTLE



Result of CASTLE

1. provide guidance on selecting most efficient emergency capability weapons for stockpiling
2. judging value of lithium 6 as a thermonuclear fuel
3. evaluating other data to improve thermonuclear designs.

3. Fusion Weapons - developing 2 additional types to 5 improved types already existing (a 16-inch weapon for Navy; an 8-inch weapon for Army).

Table, p 12 - great growth of atomic cores (because making smaller "nuclear assemblies")



IV. Reactor Development

1. Industrial participation

a. Study agreements with 5 new industrial participation groups.

b. 8 groups of industrial + utility concerns now engaged in surveys of reactor technology.

2. Reports by AEC

a. estimate of social, political, economic, + international effects of using nuclear energy for industrial purposes.

b. technological accomplishments in reactor development, with recommended future development program.

3. Government reactor program

a. Workhouse to research and develop the first model reactor of the pressurized-water type (takes place of cancelled large-ship reactor) industry asked to submit proposals to participate financially.

b. 4 other experiments in different types of possible reactors at Argonne + Oak Ridge.

c. Submarine reactors

Nautilus

Sea Wolf (improved Nautilus)

At General Electric - a study of Advanced Reactor

d. Aircraft Reactors - two types being experimented with - General Electric and Oak Ridge. No flights will be made until tests prove reactor is capable of specific military use.



V. Unit Costs

down in 1953 over 1951

42% for plutonium

45% for uranium

{ despite 119% increase in cost
of uranium concentrates

Table, p. 18

VI. AEC Expenditures Table p. 19

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