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ATOMIC ENERGY COMMISSION
WASHINGTON 25, D. C.

Mr. Murray
Re: GAC Meeting

August 19, 1953

SUMMARY - GAC MEETING - AUGUST 19, 1953

CLASSIFICATION CANCELLED
OR CHANGED TO
BY AUTHORITY OF
2-26-64

1. Future GAC Meeting.

The next meetings of the GAC will be held on November 4, 5, 6. 107741

There are difficult decisions facing the Commission before that time, e.g., CASTLE shots. A willingness was expressed for either the entire GAC, or a sub-committee, to meet in emergency session, if necessary. The Chairman indicated that there is a strong possibility the AEC will desire to consult with the GAC. Dr. Rabi cited the previous endorsement by the GAC of the tests.

2. Patent Policy.

The GAC has not had adequate time, but will reconsider this problem. Interim views were requested because of time pressures. Dr. Rabi stated that nobody on the Committee felt that the provisions went too far; some, possibly a majority, felt that they should go a lot further in permitting patents.

The Committee discussed the problem of disclosure by the Commission of the present state of the art and the amount of work to be done on this in preparation for the coming into being of legislation.

The Chairman of the AEC asked for submission of individual views, and Mr. Murray suggested that each member should read the Coms testimony. Agreed that the individual members would submit their views about Sept. 15.

3. Accelerators.

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The GAC agreed that large new accelerators should be at national laboratories, both for increased usefulness of the machines and added payoff of the laboratories.

Dr. Smyth reviewed the proposals: the Harvard and Brookhaven machines to be preceded by an electron model.

Dr. Rabi said it was the feeling of some that the next accelerator should be at Brookhaven, and a similar one at Argonne.

Dr. Whitman felt the Commission should arrive at a policy to help university planning.

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4. Sunshine.

The GAC was much impressed by the presentation and complimented Dr. Libby. It is felt that for the first time the show is on the road. There is enough evidence to cause concern, and the AEC should support SUNSHINE.

The program looks sensible, sane, and definite.

Dr. Smyth expressed our thanks to the GAC and to Dr. Libby.

The Chairman asked if we knew enough to put a redflag on CASTLE. Dr. Libby said our ignorance is such that the range of possibilities casts a shadow on CASTLE, but that we should probably go ahead.

There is no money problem at present.

5. Reactors.

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Dr. Rabi said that / a superb presentation of various views was made. The consensus is in favor of development of civilian power -- and, in a reactor which would produce significant amounts of power. The PWR seems a good direction in which to go, but the development should be around a scheme where the cost per installed kw. would be in the range of other means, e.g., 50% more - a couple of millions more.

The GAC is pleased that the Commission/^{saved} sewed up the SRE. 2.

The Committee, perhaps unanimously, felt that the design should be studied carefully, but that we should not proceed with construction if the cost per installed kw. exceeded, say, \$320.

The Committee considered various types of subsidies - direct, cost of raw materials, purchase of by-products. A large majority felt that subsidy is necessary to start the industry.

Dr. Libby said there was a wide spectrum of opinion. He feels that civilian power is far off and that we should stress other civilian uses. He likes the PWR for possible Navy uses.

Dr. Whitman said he did not quite agree with Dr. Rabi's statement about getting down to a definite cost per kw.; rather, we should try to build only if the design promises a reactor in the ball park of economic power.

Dr. Murphree said that if the design won't extrapolate to a reactor of, say, 300,000 kw. at about \$300 per kw, we should not proceed with that design. Research and development is excluded.

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55,000 kw. on Dr. Murphree's basis should cost about \$33,000,000.

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Dr. Murphree is not too happy about subsidy. He feels that the solution might be to place the reactor at an AEC installation needing power.

Dr. Rabi said competition would be a great catalyst.

Dr. Wigner looked with concern at PWR because it would be built with great disregard for cost. IX

Mr. Strauss said we "plead guilty" to this having happened at AEC installations, but he said that we would make every effort to prevent that in this instance. ✓

There was considerable, but not unanimous, agreement that time was not of prime importance.

In response to Mr. Murray's question, Dr. Rabi said he felt that time was not a prime consideration.

Dr. Whitman said he felt there was urgency but not, for example, a need for overtime.

Mr. Murray threw some doubt on the cost figures presented yesterday.

Dr. Fisk said he felt that the costs should be in the ball park, and Mr. Murray agreed. Talking about the cost figures, Mr. Murray cited this morning's meeting with North American.

Dr. Smyth said that perhaps we needed a figure with a plus or minus so many dollars.

6. Other Matters.

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In response to the GAC's concern about information, Mr. Strauss said he had in mind a plan for setting up one person charged with the responsibility of keeping the GAC informed. He would discuss this with the Chairman of the GAC and the General Manager.

There was discussion of a proposed executive order for centralization of funding for basic research.

Mr. Strauss suggested that we would be helped in our comments by the GAC comments.

Dr. Rabi asked what remedial steps might be taken. DOE ARCHIVES

Dr. Buckley disagreed that scientists should do the reviewing, and Dr. Whitman agreed with him. Dr. Fisk cited the business practice of deciding a percentage to be devoted to research.

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7. Spontaneous fission rates of Pu-240 and U-236.

Mr. Strauss had asked for GAC help on the classification of these matters.

Dr. von Neumann asked whether the fact that the Russians probably know something is reason for declassification. Dr. Libby replied that as long as there is doubt we do not declassify. Dr. Smyth added that we weigh the advantages of declassification.

The advantages of classification were discussed. Dr. Libby pointed out that the Russians discovered spontaneous fission.

The degree of conservatism of the Senior Responsible Reviewers was discussed. Dr. Wigner expressed the opinion that in the thermomuclear field, they had not been on the conservative side.

Dr. Rabi said he felt the GAC should make no recommendation. He felt it extremely unlikely that the Russians could make plutonium without knowing about the spontaneous fission. He could see no likely importance to U-236.

Mr. Strauss asked what were the advantages of declassification. Dr. Rabi replied that the scientific tradition; and, Dr. Whiman said, supporting the senior reviewers were the advantages.

Dr. Wigner said he had concluded that there was very little danger in the declassification of either matters.

8. The usual amenities were exchanged.

EUGENE M. ZUCKERT
Commissioner

DISTRIBUTION:

Mr. Strauss
Dr. Smyth
Mr. Murray
Mr. Campbell
Mr. Boyer
Mr. Williams

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8/29/53

TO: Mr. Murray

These are some rough notes I
took at the GAC meeting.

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E.M.Z.

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Mr. ZUCKER

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