

April 26, 1948

Homi J. Bhabha, 'Note on the Organization of Atomic Energy in India'

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Summary:

A series of notes from Dr. Bhabha detailing important requirements and recommendations for the development of India's nuclear power capabilities.

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Note on the Organisation of Atomic Research in India

By

H.J.Bhabha
*Chairman**Board of Research on Atomic Energy*

1. The Report submitted to you, Mr Prime Minister, on my return from Europe and America collected evidence which made it reasonable to believe that within the next couple of decades atomic energy would play an important part in the economy and industry of countries and that, if India did not wish to fall even further behind the industrially advanced countries of the world, it would be necessary to take more energetic measures to develop this branch of science and appropriate larger sums for the purpose.

An immediate objective should be the setting up of a small atomic pile. Resolution 1 of the last meeting of the Board of Research on Atomic Energy given in the appendix supports this proposal.

2. In that Report it was pointed out that the quickest and the most desirable way of developing atomic energy in India would be to come to an agreement with the Governments or atomic energy agencies of one or more countries such as Great Britain, France and Norway. Such agreements would be on mutually advantageous terms involving the exchange of raw materials used in the generation of atomic energy and the pooling of scientific and technical information.
3. It must be clearly understood that the possession of sufficient quantities of Uranium is a *sine qua non* for the generation of atomic energy. Thorium can only be used for this purpose after it has been treated in an atomic pile in such a way as to generate a particular variety of uranium in it. A pile cannot be started without uranium, or plutonium, which is a substance generated from uranium in a pile.
4. So far no large and concentrated deposits of uranium bearing materials have been found in India, though the monazite sand of South India contain a fraction of a per cent of uranium. It is essential, therefore, that our immediate programme should include an extensive and intense search for sources of uranium. These geological surveys would take at least two years if carried out in any careful and exhaustive way, and it is possible that their result may be negative. In that case India would either have to depend on an agreement with a foreign power for the purchase of her uranium and go in for the much costly process of extracting uranium from monazite. If, therefore, the Indian Government wishes to possess a pile in operating condition in India within a period of few years, then an agreement with a foreign atomic agency is inevitable.
5. In deciding on the structure of the organization which Government must set up in order to develop atomic energy and research on a bigger and more effective scale than hitherto the following two basic facts of the situation must be taken into account.

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(i) Absolute secrecy will have to be observed and ensured with respect to any secret information given to us by a foreign atomic energy agency.

(ii) The paucity of the scientifically and technically trained personnel will require some of the top people to do more than one job at the same time.

These two conditions by themselves practically determine the essential structure of the organization.

6. Condition (i) requires that the development of atomic energy should be entrusted to a very small and high-powered body composed of say three people with executive power, and answerable directly to the Prime Minister without any intervening link. For brevity, this body may be referred to as the Atomic Energy Commission.

The present board of Research on Atomic Energy cannot be entrusted with this work since it is an advisory body which reports to the Governing Body of the Council of Scientific and Industrial Research, composed of 28 members including officials, scientists and industrialists. Secret matters cannot be dealt with under this organization.

7. The same conditions of security require that the Atomic Energy Commission have its own secretariat independent of the secretariat of any other Ministry or Department of Government, including the envisaged Department of Scientific and Industrial Research.
8. In the chart of the proposed Department of Scientific and Industrial Research, which was given to me by Sir S.S.Bhatnagar on your instructions, the present Board of Research on Atomic Energy is shown as part of this Department but not under the Council of Scientific and Industrial Research as at present. The reason regarding security etc. which have been given above make this arrangement undesirable and I have, therefore, given in Appendix II a modification of this chart which only differs from the original chart given to me in having the Atomic Energy Commission directly under the Prime Minister and not as part of the Department of Scientific and Industrial Research. In my opinion, already expressed to you in a letter from Simla in June, 1947, it is desirable that the Department of Scientific and Industrial Research should be under the Prime Minister. I understand, however, that there is a possibility that it may be put under a Minister without portfolio who would be in charge of its day to day operation. Should this step become necessary through force of circumstances then it will be necessary to separate the Atomic Energy Commission from the Department of Scientific and Industrial Research if it is now made part of that Department. The Atomic Energy Commission whose work has important international implications must always be attached directly to the Prime Minister, and I am, therefore, strongly of the opinion that it should from the start be organized directly under the Prime Minister and not as a part of the Department of Scientific and Industrial Research. Full co-ordination of the activities of the Department of Scientific and Industrial Research would be ensured by the circumstance that the Director of Scientific and Industrial Research would be a member of the Commission and

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act as its Secretary for ordinary administrative purposes.