EXECUTIVE OFFICE OF THE PRESIDENT
BUREAU OF THE BUDGET
WASHINGTON 25, D. C.

November 21, 1950 as of
November 17, 1950

MEMORANDUM FOR THE FILE

SUBJECT: Conversation with Dr. Oliver Buckley, President, Bell Telephone Laboratories

Dr. Buckley, with whom I spent the morning through lunch time on November 17, is President of Bell Telephone Laboratories, is about 63 years of age, will retire in another couple of years, or thereabouts, has been with Bell Telephone Labs for 36 years and has been President for the last several years. He is a physicist. He is a member of the General Advisory Committee of the AEC. He was present at Dr. Compton's Group Conference at the Pentagon a week or ten days ago. He is a member of the Council, that is the Board of Directors in effect, in the National Academy of Sciences (about 500 members) and is also a member of the two other honor learned societies--the American Philosophical Society (Philadelphia--founded by Benjamin Franklin--about 400 members) and of the American Academy of Arts and Sciences (Boston).

I led into a discussion of how the Bell Telephone Laboratories' scientific program and its financial budget is worked out, and for background asked him to give me a general idea of the size and organization of Bell Telephone Labs and its relations with other companies. Bell Tel Labs has only two customers in addition to the United States Government, that is, the Western Electric Company and the American Telephone and Telegraph Company. Bell Tel does all the research and development work for these two related enterprises. American Tel and Tel is the operating and holding company, Western Electric Company is the manufacturing subsidiary. Bell Tel works on a non-profit basis, that is, doing its work at cost to the two related enterprises. Largely it is self-starting on research and development projects, but occasionally a request comes in from the manufacturer or the operating company. Its budgets and technical plans are, however, discussed as to each major program with the other two companies which have, as customers will, the right of refusal or modification. Actually few changes are made by Western Electric or American Tel and Tel. The Board of Directors of Bell Tel Lab consists of three members each from American Tel and Tel, Western Electric and from within the organization of Bell Tel itself.

Bell Tel's budget is about $50,000,000 per year, including, or perhaps in addition to, about $10,000,000 per year of Government

military work and a few million dollars worth of outside contracts. These are really complete sub-contracts of additional military work. Exclusive of Government work the budget has been quite stable for several years. Some increase in Government work is planned. These following percentages may not be completely consistant with the foregoing dollar figures but are correct as to order of magnitude: Government military work has been around 15% of the total and is going to go up to about 20% of the total volume done. Western Electric

Bell Tel Labs has about 6,000 employees in total, of whom about 2,400 are technical people, and therest clerical and miscellaneous service personnel. Of this total some 3,000 work at the West Street Building which is the headquarters of the Company and the place where I called on Dr. Buckley, in New York City that is. Of the others about 2,400 are at the Summit New Jersey Laboratory and the remaining 600 or so at the Whippany Laboratory where a good deal of classified work, including guided missiles work, is done for the Government.

Apart from Government work Bell Tel Labs has about 450 living projects which comprise its program. These range in size from $1,000 to about $1,000,000. Some of the larger ones have a number of sub-divisions both for operating and accounting purposes. Each of the 450 projects is individually reviewed and authorized annually, or more often if there is a major change. Dr. Buckley showed me a number of sample justification reports of these projects which described them in summary form but going to several closely typewritten pages for the larger ones. These he must also justify to American Tel and Tel and/or Western Electric Company.

Mervyn Kelly is apparently his next in line--this is the man of whom Caryl Wilson spoke so highly. Jim Fisk is in line to become Director of Research. I was shown the organization charts and the breakdown into major divisions and sub-divisions. As to ideas I was told that very largely they originate around roughly the middle of the organization in eschelon terms, not at the extreme bottom or the extreme top--at any rate not in substantial measure.

The parallel between the RDB control problem and that of the top management of Bell Tel Labs seemed worth pursuing a bit, and description of Bell Tel's functioning was illuminating to a degree. Dr. Buckley urged that I talk with Mervyn Kelly who has intimate dealings with military matters, and this I will endeavor to do. It is evident that the continuity of the personnel and organization in Bell Tel Labs and the degree of confidence which the top command has in its juniors all the way down the line greatly simplifies its problem of program development and approval as compared with the RDB. Of course its program is also more constant and the whole problem is therefore very much simpler. Nevertheless this is a sizeable organization, with some $50,000,000 annually of research and development work, and there should be things to learn from a comparison.

Dr. Buckley stressed that the ultimate control always came from the pinch of dollar authorizations. That is to say there must always be, and there is, in his company a ceiling on amounts that can be spent. The Bell Tel staff from the bottom to the top are always full of more ideas than they can be given money to work on. And this, in his opinion, is a good thing as well as a necessary thing, for ~~by~~ putting a dollar ceiling ~~on its~~ causes management all the way through from top to bottom and up again to consider and evaluate each program so as to put the more important and the more relevant first in priorities. He pointed out incidentally that every bit of research work they do, including what is termed basic research work, has some direct relationship to communications and ultimately to the needs of American Telephone and Telegraph Company. This is somewhat contrary to my and the general impression that they do a good deal of basic research work which is not pointed directly to communications or anything else, but he was very clear about the rigorous exclusion of research work which cannot be related in some reasonable way at least to the ultimate improvement of telephonic and other communications equipment or systems.

Personnel turnover, as might be expected, is very low; probably Bell Tel Labs represents an extreme in comparison with military laboratories in this respect. Selection is careful and rigorous, and thereafter dismissals are very few--but there are some. As to promotions, he pointed out, that men are passed over frequently, that it is not a selection and promotion by seniority arrangement by any means and he gave me a large number of examples of where younger men are promoted in accordance with merit and competence over their seniors.

He recommended that I talk with Guy Suits of General Electric Company, which he describes as one of the best, and an excellent laboratory. The pattern there he said is quite different from Bell Tel Labs. He also recommended that I talk with George Merck, President of Merck and Company, particularly in connection with his experiences in the NDRC--OSRD. Also for other industrial laboratory discussions he recommended Mees at Eastman Kodak, who has many ideas about organization. He said that Lee DuBridge has good sense. He recommended that I speak with Julius Stratton, ~~now~~ with one of the universities. As to industrial laboratories, he urged that I see Charles Thomas. He said be sure to see him, although he does not know about the OSRD stuff, he has very much good sense. Incidentally, I learned that efforts were made to get Dr. Thomas to take the Chairmanship of the Research and Development Board after Dr. Compton's resignation, and that it was only after Thomas had definitely turned it down that Webster was selected. I have also been informed elsewhere that the President was quite receptive to the idea of asking Lewis Strauss to take this post.

He made a number of references to Prof. Ed Bowles, formerly of MIT who was fulltime technical advisor to Secretary Stimson, having been put in that position by Dr. Bush. Bowles had many ideas and was largely responsible for the creation of RAND. He had no concern at all about running crosswise or any way through or around an organization in order to get things done.

As to an OSRD, he definitely said none should now be organized or created even in embryo form--maybe later on, but now now.

As to Scientific Advisor to the President, he was inclined against it, although not strongly. Principally he wanted a precise definition of the job, and feeling that this was not possible he felt that he would not be disposed to creation of it unless or until it could be well defined. However, if there is to be a Scientific Advisor to the President he says DuBridge is the man.

He was enthusiastic for the type of work being done by the Weapons Systems Evaluation Group. He stressed that more effort here will save a great deal of cost and effort later on. That is, more thought and analysis to the utility of weapons before they are designed and produced will cut off some which though feasible will not prove useful.

He has a very high regard for Bill Webster's ability.

WTG:vc

William T. Golden