

June 16, 1959

MEMORANDUM

TO: File

FROM: J. B. *JBG* Graham/ACRS

SUBJECT: COMMISSION MEETING OF JUNE 9, 1959, REACTOR SAFETY STANDARDS AND CRITERIA

Commissioners Graham, Floberg and Vance (Acting Chairman) and the General Manager represented the Commission. Dr. McCullough and Dr. Newson represented the ACRS. Before making his introductory remarks, Dr. McCullough pointed out that the request for this briefing had been received between the ACRS meetings. Therefore the remarks he was about to make represented his personal views rather than the Committee's views on this subject. Dr. McCullough presented his material in accordance with the outline which had been prepared and submitted to the Commissioners prior to the meeting.

At the conclusion of the presentation Mr. Vance asked, "what is the International Agency doing in this connection?" Dr. McCullough replied that he did not know. Mr. Vance then suggested to the General Manager that the USAEC might do something to stimulate interest on the part of the International Agency in this subject. The General Manager replied that he would be willing to do this but that he would predict that the International Agency would be slow to respond. Mr. Vance remarked that this topic would be a natural one for the International Agency to pursue. Mr. Price stated that the Commission had urged this sort of action upon the International Agency; within the last six months they have shown some indication of pursuing this course of action.

Mr. Vance asked if it were not so that the sequence of events was important in the review of reactor projects. You generally have first an option on the site exercised by the contractor even before he decides on the type of reactor that is to be built. Thus the train is quite a ways down the track before the ACRS evaluates the projects from the public hazards standpoint.

Dr. McCullough emphasized that in order to obtain good criteria and standards you must put competent people to work on the project. Dr. Newson remarked that technical person looks for an exact solution to the problem, and if he does not see one he may take no position at all. He outlined in general terms the techniques which he was employing in his present study. This approach is to be as quantitative as possible.)

F/16

Mr. Graham pointed out that the AEC helps out universities by giving them grants. He asked if this might not be a good approach to the problem. Dr. Newson replied that this might be one way of solving the problem. He thought that if notice was given competent physicists and engineers will come forth to work on the problem.

Mr. Graham observed that in the atomic weapons field there are many safety devices which prevent inadvertent detonation of a bomb. The Sandia Corporation has made a quantitative study of the problem and has been able to state probabilities such as one in 50 billion of accidental detonation based on a probability analysis of the separate components of the bomb.

Mr. Graham recalled the Mississippi Steamboat catastrophe. Based upon this the Franklin Institute did pioneer work in designing codes for boiler vessels. He asked if the Navy experience was evidence that the welding and inspection techniques now in industrial use were inadequate for nuclear reactor problems. Dr. McCullough said that most of the existing boiler code had been carried over but needed refinement. Mr. Graham then said that this was a case of upgrading the technology and asked if Dr. McCullough believed that the problem could be solved in this manner. Dr. McCullough said that he did and he wanted to do it before the steamboat explodes.

Mr. Graham then asked if the training of personnel for the PWR was as rigid as in the case of the submarine crews. Dr. McCullough replied that there had been careful training and selection of the PWR operating crews but it is not quite the same since you can handle Navy people in a different manner than you can civilians.

Then Mr. Graham said that the AFSWP and Navy experience should be a source of learning and the Commission should see to it that training and selection of crews for civilian plants should be as good as in the Navy.

cc: July ACRS Meeting File