



UNION CARBIDE CORPORATION  
NUCLEAR DIVISION  
P.O. BOX X, OAK RIDGE, TENNESSEE 37830

May 16, 1980

Mr. E. Igne  
Staff Engineer  
US Nuclear Regulatory Commission  
Advisory Committee on Reactor  
Safeguards  
Washington, D. C. 20555

Dear Mr. Igne:

ACRS Subcommittee Meeting on Concrete and  
Concrete Structures, April 22-23, 1980

The ACRS Subcommittee on Concrete and Concrete Structures met on April 22-23, 1980, to review the NRC research program in the area of structural engineering. The NRC staff made an excellent presentation of their program. Although most of the effort is in a relatively early stage of development, the program should provide valuable information and tools for the evaluation of nuclear reactor plant structures in the near future. The program provides a balanced effort for the areas of load definition, structural response, and structural performance.

The division of responsibilities between the Structural Engineering Research Branch and the Mechanical Engineering Research Branch raises a concern about the adequacy of attention to the structure-mechanical system interface. For example, the transmission of dynamic loads is a concern since added structural safety margin may result in larger forces being applied to the mechanical systems. Additional effort appears to be needed in the structural engineering research program to investigate the structure-mechanical system interface relationships. In this regard, some effort should be devoted to defining "failure" and in establishing performance goals for structures and structural components.

The division of research responsibilities between NRC and industry was discussed briefly, and adequate attention appears to have been given to this question in the formulation of the structural engineering research program. However, it is not apparent that adequate provisions have been made for integrating the results of related research efforts by industry-sponsored groups, such as EPRI, and other government organizations, such as DOE, into the NRC program. A separate research program activity,

8006160 203


May 16, 1980

directed toward this integration, may be desirable to assure maximum utilization of information generated in these related activities. It should be noted that a separate task has been identified for an International Cooperative Program starting in FY 1981. This exchange of information should provide an effective way to multiply the benefits of the NRC program.

The Technical Assistance Program activities in the structural engineering area were discussed. In most cases, the distinction between Technical Assistance Program activities and research activities is clear. In a few cases, however, the distinction is not obvious, and periodic review may be desirable to assist in maintaining an effective interface between the two programs.

The question of how research contracts are awarded was discussed briefly. The basis for determining whether the work should be performed by a national laboratory or by an outside firm is not clear. Contributions by both are needed in a comprehensive program of this magnitude. Any basis for dividing the work should consider the cost-effective utilization of available talent and resources to meet both the short- and long-range needs of NRC.

Sincerely,



T. W. Pickel

TWP/blm

cc: C. Siess, Chairman of Subcommittee  
W. Mathis  
P. Shewmon