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August 12, 1983

Docket No. 50-320

Mr. B. K. Kanga, Director  
 Three Mile Island Unit 2  
 GPU Nuclear Corporation  
 P.O. Box 480  
 Middletown, PA 17057

Dear Mr. Kanga:

Subject: TMI-2 Reactor Building Radiological Conditions

At the TMI-2 Reactor Building Dose Reduction Program Status Meeting on July 28, 1983, you provided the NRC a status report of the programs of the Phase 2 activities. In this meeting you discussed the difficulties encountered and the steps you were taking to improving reactor building radiological conditions to support reactor defueling.

We recognize that improving the radiological conditions in the reactor building is a difficult task. We support your recent organizational revisions, i.e., establishment of a Dose Reduction Working Group and Data Management and Analysis Group, to improve your efforts to provide an integrated systematic ALARA program to support an expeditious reactor disassembly and defueling program. It is essential that sound technical management guidance and controls be applied to implement a program of this magnitude. This program should clearly include the following elements:

- (1) evaluation of existing information to determine if the information is sufficient to characterize reactor building radiological conditions
- (2) identification of additional information needed to characterize reactor building radiation/contamination sources
- (3) prompt acquisition of necessary additional information
- (4) evaluation of the new information to characterize sources and determination of their contributions to worker dose
- (5) definition of activities to eliminate or mitigate the radiation/contamination sources
- (6) implementation of activities
- (7) evaluation of effectiveness of activities
- (8) modification of activities to optimize cleanup

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 PDR

OFFICE	THIPO:NRR	THIPO:NRR	PD:THIPO:NRR			
SURNAME	RLo;hg	RAWeller	BJSnyder			
DATE	8/11/83	8/11/83	8/11/83			

These eight essential aspects should be explicitly applied in your reactor building dose/contamination reduction programs. In various meetings and correspondence you have described your activities and have addressed the above eight aspects; however, it is not clear that your program implements the above listed elements in an integrated and systematic way or that the various complex technical issues (e.g., an understanding of the major contributors to exposure on the 347' elevation) have been approached in a systematic manner. For example, at the July 28, 1983 meeting, your staff theorized that contaminated paint on the dome and walls may be a significant contributor to the 347' elevation gamma fields; however, this theory apparently has not been followed up. It seems that after over 260 reactor building entries during the past three years, definitive paint samples would have been obtained and analyzed to determine if this is or is not the cause.

We recognize that it is easy to be critical of a complex program such as this. In the July 28, 1983 meeting, your staff itemized several activities that were currently underway in your dose reduction program. It is not clear to us that these activities are consistent with the essential elements listed above. To assist the NRC in its oversight function of your program, please provide us with the following:

- (1) A description of how your dose reduction program implements the eight elements listed above.
- (2) Anticipated plans and schedules which should include but not be limited to the following activities:
  - (a) Identification of the predominant sources of the gamma radiation fields on the 305' and 347' elevation. Your response should include:
    - (i) interim plans and schedules for characterization of the cable tray sources
    - (ii) contribution of 282' elevation gamma sources to the 347' elevation dose
    - (iii) dose contribution from the contaminated surfaces, e.g., reactor building dome, to the 347' elevation dose
    - (iv) plans and schedules for defining, obtaining and evaluation of concrete borings
  - (b) Identification of the source of airborne radioactive contaminants. Your response should include activities planned to use decontaminated flush water.



Mr. B. K. Kanga

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Please provide us with the above information by October 1, 1983.

Sincerely,

Original signed by  
B. J. Snyder

Bernard J. Snyder, Program Director  
Three Mile Island Program Office  
Office of Nuclear Reactor Regulation

cc: J. Barton  
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