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January 13, 1983
5211-83-012

Mr. R. C. Haynes
Region I, Regional Administrator
U. S. Nuclear Regulatory Commission
631 Park Avenue
King of Prussia, PA 19406

Dear Sir:

Three Mile Island Nuclear Station, Unit 1 (TMI-1)
Operating License No. DPR-50
Docket No. 50-289
Inspection Report 50-289/82-12

This letter confirms our understanding of the substance of our December 23, 1982 meeting and, although not requested by the report, provides comments and additional information bearing on NRC Region I Inspection Report No. 50-289/82-12.

During the meeting our performance on the annual emergency exercise, as documented in Inspection Report No. 50-289/82-12, was reviewed and we discussed the organizational structure and concept of operations for emergency response at Three Mile Island. Representing the Company at the meeting was Mr. R. C. Arnold, President, GPU Nuclear Corporation. He was accompanied by Mr. H. D. Hukill, Vice President/Director TMI Unit 1, and Mr. R. E. Rogan, Manager - Emergency Preparedness.

The inspection report listed deficiencies identified by NRC observers. We believe some activities were identified as being deficient because of an expectation on the NRC observers' part that our organization and concept of operations would parallel exactly the guidance of NUREG 0696. (We understand the NRC observers in general utilized primarily NUREG 0696 as their guidance during the observation of the drill.) Our current organization and concept of operations, which varies in some specific aspects from the guidance provided by NUREG 0696, evolved as a result of our experience in March and April of 1979 and drills and exercises conducted during the last two years which tested new emergency plans and procedures. Our plans and procedures have been extensively scrutinized during the Atomic Safety and Licensing Board proceedings and during inspections, appraisals and exercises over the last two years. Although our approach varies somewhat from NUREG 0696, it has been assessed by the NRC Staff to be effective and acceptable for accident response and management.

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Attached are our detailed comments on the report in which we identify the action we are taking to implement recommendations and to correct deficiencies. We have also addressed some instances where our evaluation indicates the observers comments do not require corrective action based upon our specific plans and procedures.

Based upon our critique of the exercise, including consideration of NRC observer comments, we conclude that the TMI Emergency Plan, its implementing procedures, and the capabilities of the GPUNC staff provide adequate assurance that public and worker health and safety will be protected in the event of an accident. Our conclusion is consistent with the NRC conclusion contained in Inspection Report No. 50-289/82-12.

We would like to again express our commitment to ensuring our organization is ready to respond effectively to an emergency at TMI. To this end, we will continue to welcome NRC staff review and critiquing of our emergency plans, procedures, and state of readiness.

Sincerely,

H. D. Hukill
Director, TMI-1

HDH/klk
Enclosure

Appendix A

Licensee Response to NRC Inspection Comments (Paraphrased)

A. Pre Exercise Activities

1. NRC Comment - Initial scenario package submittal was not timely and was judged to be incomplete.

   Response - To insure adequate review by the NRC and FEMA Staffs, and to permit time for appropriate revisions resulting therefrom, Licensee will make every attempt to ensure future submittals are consistent with the guidance provided by the NRC.

B. Exercise Observation

1. NRC Comment - Licensee organizational response was in accordance with their Implementing Procedures. However, shortcomings were identified by the NRC and Licensee observers.

   Response - Licensee acknowledges the occurrence of incidents of deficient individual performance during the exercise. These performance deficiencies have been evaluated and appropriate corrective actions have been initiated. The inspection report reflected that no individual performance deficiency nor the cumulative effect of all individual performance deficiencies was of such consequence as to result in an inability to adequately manage an emergency.

2. NRC Comment - In some areas the Licensee lacked a sufficient number of observers and controllers.

   Response - Licensee acknowledges having underestimated the number of observers and controllers required to support so complex a scenario. Prior to each future exercise, we will perform a detailed evaluation of the scenario in terms of observer requirements to ensure adequate coverage of all scenario activities by qualified observers. In this regard, Licensee has coordinated with other utilities and agencies (e.g., INPO) to provide outside observer participation in future exercises.

3. NRC Comment - In some functional areas of emergency response, there were unnecessary simulations.

   Response - Despite specific instructions to the contrary, Licensee acknowledges that several observers did authorize unnecessary simulation. The issue of simulation has received intense management attention. Written guidance is being provided to all observers concerning the circumstance under which simulation may be authorized (i.e. to protect personnel and equipment safety) and the impact of unauthorized simulation on exercise performance. This subject will continue to receive considerable management emphasis during all future pre-exercise activities.

4. NRC Comment - Two isolated incidents of prompting diminished to some extent free-play during the exercise.

   Response - Licensee acknowledges the occurrence of an incident of prompting on the part of a primary controller in the control room during a peak activity period in the exercise. However, as concluded by the NRC Observer, this incident did not significantly impact on the overall exercise. Inquiry failed to confirm the second prompting incident. Licensee has taken positive steps to ensure all controllers/observers appreciate that prompting is undesirable and should be avoided. Written guidance is being provided to all exercise observers/controllers which defines "prompting", establishes that prompting, in the context of that definition, is not authorized, and notes that only designated controllers are authorized to vary from the planned scenario. This item will continue to receive particular attention during all future pre-exercise activities.

C. Exercise Critique

1. NRC Comment - The NRC team attended the post-exercise critique conducted by the licensee on August 12, 1982. In addition, meetings were held between the NRC Team Leader and licensee's personnel on October 6-8, 1982. A comparison of licensee and NRC team findings showed that findings identified by the licensee were usually similar in nature to those identified by the NRC team.

   Response - None

D. Scenario Limitations

1. NRC Comment - Post-Accident Sampling and Analysis were not exercised; therefore, the Licensee's capability to retrieve, transport and analyze highly radioactive samples during accident conditions was not demonstrated.

   Response - While it is true that a post-accident sample was not obtained, it was not the result of a scenario limitation. Further, there is no requirement to demonstrate post-accident sampling and analysis during an annual exercise. The scenario did cause the Emergency Director to call for such sampling and analysis at an appropriate time. However, based on in-plant conditions at the time, a risk-benefit analysis resulted in the conclusion that the risk associated with drawing and analyzing a post-accident sample far exceeded benefits achievable in terms of managing the accident. For the next annual exercise, the Licensee will demonstrate the ability to perform post-accident sampling and analysis.

The remaining three comments under this section address unnecessary simulation, insufficient controllers, and prompting, all of which have been addressed above.

E. Protective Action Recommendations

1. NRC Comment - When the degradation of conditions in-plant called for the declaration of Site Area and General Emergency categories, the Licensee neither made PAR's nor a positive declaration that no such recommendations were needed at that time. The PAR's were given, however, within a reasonable timeframe (25 minutes), after careful consideration of plant conditions and radiological aspects.

   Response - We have evaluated this NRC suggestion. Established procedures and existing practices with the Commonwealth of Pennsylvania, which conform to federal guidelines, do not require a positive declaration concerning protective actions (i.e., a need or lack of need to implement protective actions) simultaneous with the declaration of Site Area or General Emergency. The Licensee does not agree with the use of negative recommendations; it believes the inherent pitfalls discourage use except in direct response to a specific inquiry. Licensee procedures base the decision to recommend protective action on consideration of existing and projected plant conditions, including uncertainties, and offsite radiological hazards. The development of these recommendations is an evolving process. The State and NRC representatives located at the EOF are generally aware of the discussions leading to protective action recommendations. It is Licensee policy to base protective actions on due consideration of all influencing factors using federally provided guidance. Recommendations are passed to the Commonwealth of Pennsylvania, according to established procedure, at the time when protective actions are determined to be appropriate by the Licensee. In that context, Licensee considers the actions of the Emergency Director and Emergency Support Director during the exercise to have been timely, proper, and consistent with established procedures.

2. NRC Comment - In addition, the licensee failed to provide means (e.g., periodic briefings at the EOF) to convey PAR's and current emergency status to local, state and federal officials, and to discuss with them the bases for PAR's and their impact on the population.

   Response - It is the conclusion of the Licensee, based on discussions after the exercise with State and Federal officials, that the flow of information was timely and adequate to ensure a clear understanding of the current emergency status. It was also the conclusion of the Licensee that discussion of protective

actions had been sufficiently detailed to ensure that State and Federal officials understood the basis for the decision and that all concerns had been addressed. Licensee believes that lack of familiarity with specific details of TMI's emergency procedures may have contributed to the different assessment of this issue by NRC observers.

F. Emergency Facilities

1. NRC Comment - Although the Licensee's concept of operations did not appear to significantly have an adverse effect during the exercise, consideration should be given to adopting the concept of operations recommended by written guidance.

   Response - The Licensee's concept of operations evolved as a result of the experience of March and April 1979 and ensuing drills and exercises. The fundamental precept is to place the Emergency Director in the in-plant location where he has direct access to operational and radiological information and where he can best manage and direct accident response and plant recovery. The Licensee experience to date has supported our judgement that the Emergency Director is most effective when operating from the control room. Evaluations by the NRC Staff during previous exercises and the ASLB proceedings attested to the effectiveness of this concept. We have considered this NRC suggestion. However, to experiment with this concept would be very costly. It would require relocation of key emergency communications systems and radiological assessment computers to the TSC. In addition, the TSC, which is already in need of modifications to facilitate its current function, also would have to serve as the primary work station of the Emergency Director, his advisors, and the Radiological Assessment Coordinator and his staff. Based on experience to date, the required commitment of resources and disruption of existing emergency communications systems does not appear to be warranted.

2. NRC Comment - The concept of operations of the TSC, in particular the inter-relationships with the Technical Functions Center (TFC), were not clear to the participants. Primary responsibilities for responding to technical questions in support to operations became blurred to personnel at the TSC and the Emergency Support Director (ESD) was heavily involved in technical support at the EOF.....TSC personnel did not have timely access to ongoing plant conditions, and were slow in suggesting feasible technical solutions. This was, in part, due to the internal physical layout of the TSC.

Response - The concept of operations suggested in NUREG 0696 provides for the Emergency Director to manage the emergency from the TSC and for dose assessment to be accomplished in this facility. Under the Licensee's concept of operations, the TSC is the facility from which the Plant Engineering Staff provides technical support to the operations staff and the Emergency Director. This facility is equipped with a direct data link to the plant process computer which in a real emergency provides real time plant parametric information. The inter-relationship between the TSC, the Parsippany Technical Functions Center (PTFC) and the Emergency Director is well defined and is one of the specific aspects of our emergency plan which differs from NUREG 0696. The TSC provides technical support concerning plant operating procedures, emergency operating procedures and normal plant specific concerns and serves as liaison between the PTFC and the operations staff. The PTFC is designated as the repository of technical expertise for the Corporation and provides technical support, analysis, and guidance in matters concerning specific equipment response, exceeding normal equipment operating limits and technical specifications, varying from established operating procedures, and violating emergency operating procedures. Both facilities provide support to the operating staff. We are unable to verify the observations by the NRC that the concept of operations was not clear to the TSC personnel. To insure a clear understanding of roles and responsibilities, a meeting of the concerned parties was conducted at which the respective roles and relationships of the TSC and PTFC were reaffirmed. The Licensee also will modify the TSC to provide an improved work environment.

3. NRC Comment - The EOF was noted to be crowded and noisy. The physical layout/organization was not conducive to the holding of meetings between principle response managers, state and federal officials. Maps and status boards were poor. Consideration should be given to moving the EOF to a larger facility and to modifying the internal physical layout in order to improve the manner of interaction between emergency response personnel in the EOF.

Response - At the time of this exercise, the Licensee was in the process of relocating the EOF to a significantly improved facility within the TMI Training Center. This move has been completed and Licensee believes it has resulted in significant improvements that address all elements of the NRC comment. To further elaborate on the concept of operations, the following information is offered. The role of the EOF is to provide for overall management of emergency response support activities and to serve as the primary point of contact with the management of offsite agencies. The Emergency Support Director (i.e., the senior corporate management representative) directs the activities of the EOF, is empowered to

commit the resources of the Corporation, and serves as the principle spokesman for the Corporation. In the course of performing his duties, the Emergency Support Director monitors operational and radiological conditions in and around the plant making use of a small, highly qualified staff to keep him appraised of the current status of the plant. That staff also ensures his views and concerns are included in the technical decision-making process. However, direct responsibility for the functioning of the plant remains with the Emergency Director. In addition, the primary link for the communication of technical and radiological information to the NRC and the State originates from the Control Room. The Emergency Support Director remains knowledgeable of this data and utilizes it in assessing the adequacy of offsite support, insuring a common understanding with offsite organizations of the situation, and (in conjunction with the Emergncy Director) formulating protective action recommendations.

4. NRC Comment - The internal layout, organization and logistics of the OSC were not conducive to an efficient handling of in-plant teams. Accountability of team members performing various actions in hazardous areas was not kept in an organized manner, and briefings concerning technical and radiological conditions were poor.

   Response - The Licensee is re-evaluating the utilization of the physical facility as well as the management and control structure of the OSC. Consideration is being directed to modifying the concept of operations so that a minimum staff operates from the OSC. The remaining personnel, who are on stand-by to perform selected emergency response duties, will be stationed in a staging area, readily accessible to the OSC, to be called forward as needed. Specific procedures are in place to provide for accountability of response teams and for conducting pre-dispatch briefings for emergency response workers. Licensee acknowledges that some briefings were not as complete as desired and that procedures were poorly implemented, in some cases. Licensee will incorporate NRC recommendations on the use of status boards to more effectively track efforts and composition of work teams.

5. NRC Comment - One EMT dispatched from the Environmental Assessment Control Center (EACC) lacked the knowledge and understanding of the equipment and procedures necessary to adequately perform their duties.....Licensee should investigate how and why untrained individuals became assigned to offsite monitoring teams, and design a method to prevent its recurrence.

Response - Licensee acknowledges that REMP Team #4 performed unsatisfactorily during the exercise. However, Licensee does not agree that the team was untrained and unfamiliar with the equipment. The team had received training similar to that received by other teams who performed successfully. An inquiry into the reasons for poor performance reflected a combination of causes, one of which was that this was the team's first time "under fire". The stress of the NRC observed exercise, inclement weather, and failure to follow procedures resulted in unsatisfactory performance. However, it is noteworthy that the false readings and offsite radiological information generated by this team was recognized by the EACC personnel to be erroneous since it was in conflict with the substantial information available from the other teams and other sources. Therefore, the information was not used in developing dose projections or in arriving at any conclusions concerning offsite environmental impact. The inherent checks and balances of the system were adequate to ensure that a faulty or inconsistent reading was identified as such. Remedial training is being conducted for this and all REMP teams.

G. Radiological Protection of Emergency Workers

1. NRC Comment - The NRC Team concluded that retraining of exercise controller/observers should be considered to prevent unnecessary simulation, and that retraining of participants in areas pertaining to radiological protection was needed.

Response - A number of perceived poor radiological practices identified by the NRC Observer Team were a result of poor controller performance, an insufficient number of controllers, and unnecessary simulation. The Licensee acknowledged that pre-entry briefings were incomplete in some cases. This issue has received considerable management attention and significantly improved performance was demonstrated during the recent quarterly exercise. Licensee also acknowledges that there was a long delay in determining the airborne radiation levels in the Auxiliary Building; clearly, this was an individual performance deficiency. However, Licensee does not agree that there was no systematic means for performing surveys to determine plant radiological conditions. A number of radiation monitors and surveys were used. As mentioned previously, Licensee acknowledges that the use of status boards would have facilitated tracking and control of emergency response teams in the OSC and will incorporate appropriate status boards in the OSC operation. It should be noted that there was a system in place and procedures did exist to provide for the coordination, technical direction and communication between in-plant repair teams and the OSC.