UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

ENCLOSURE 1

November 6, 1990

Docket No. 50-219

Dr. Robert L. Long
Director, Corporate Services/
Director, TMI-2
Planning and Nuclear Safety
GPU Nuclear Corporation
One Upper Pond Road
Parsippany, New Jersey 07054

Dear Dr. Long:

SUBJECT: CLARIFICATION OF NRC STAFF POSITION ON HYDROGEN MITIGATION REQUIREMENTS - 10 CFR 50.44 - OYSTER CREEK NUCLEAR GENERATING STATION

This letter is in response to your July 17, 1989 letter and your request following the June 27, 1989 meeting with the NRC staff to Mr. Ashok Thadani, Director of the Division of Systems Technology, for a staff statement on compliance by BWR Mark I plants with the hydrogen mitigation requirements in 10 CFR 50.44. The staff's position on compliance by BWR Mark I plants is discussed in detail in Enclosure 1, "NRC Staff Position on BWR Mark I Compliance with 10 CFR 50.44." The staff's position with respect to Oyster Creek's compliance with 10 CFR 50.44 is as follows:

1. Oyster Creek must have capability to measure hydrogen concentration in the containment, (i.e., drywell and wetwell) as required by Section 50.44(b)(1).

2. Oyster Creek must be able to insure a mixed atmosphere in containment, as required by Section 50.44(b)(2).

3. Oyster Creek must have an initially-inerted containment, as required by Section 50.44(c)(3).

4. Oyster Creek must be able to control combustible gas concentrations in the containment following a postulated LOCA, as required by Sections 50.44(b)(3) and 50.44(g).

   (a) The above sections of 10 CFR 50.44 do not directly require a purging/repressurization system. However, Section 50.44(b)(3) does call for the control of combustible concentrations following a LOCA and Section 50.44(g) specifies the added requirements a purging/repressurization system must meet if the supporting analysis shows that such a system is needed. Therefore, if the supporting analysis for Oyster Creek shows such a system is needed, the system should satisfy the requirements identified in 50.44(g).

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(b) Section 50.44(a) identifies those sources to be evaluated with respect to hydrogen/oxygen generation following a LOCA. Section 50.44(d)(1) further defines the amount of hydrogen generated by metal-water reaction to be considered for the DBA LOCA. To this extent, the rule addresses the hydrogen/oxygen source terms. However, no specific models are identified within the rule for either radiolytic decomposition or metal corrosion. Regulatory Guide (RG) 1.7 has been used for this purpose. Alternative radiolytic models, as described in GE report NEDO-22155 are not acceptable for calculating the amounts of hydrogen/oxygen generated to show compliance with Sections 50.44(b)(3) and 50.44(g). The basis for this position is provided as a Safety Evaluation in Enclosure 2. NEDO-22155 was used by the staff ONLY for determining whether additional hydrogen control capability in the form of recombiners had to be provided in accordance with Section 50.44(c)(ii).

5. At the present time, the staff is unable to determine if Oyster Creek must rely on a purge/repressurization system as the primary means for combustible gas control following a LOCA as discussed in Sections 50.44(b)(3) and 50.44(g). Without an Oyster Creek plant unique analysis using RG 1.7, models and accompanying assumptions, such a determination is impossible. However, the staff believes it is highly probable that a purge/repressurization system will be shown to be needed.

(a) If Oyster Creek relies upon a purge/repressurization system as the primary means for combustible gas control following a LOCA, then the plant must have either an internal recombiner or the capability to install an external recombiner following the start of an accident, as required by Section 50.44(c)(3)(ii).

(i) NEDO-22155 may be used for the purposes of determining whether recombiner capability must be provided. Within this limited context, purge/repressurization may be shown as not the primary means of hydrogen control. However, the consequences of use of the purge/repressurization system considering RG 1.7 assumptions must be considered when evaluating potential oxygen sources.

(ii) The following prerequisites must be met if elimination of the need for recombiner capability is to be considered as contained in Section 50.44(c)(3)(ii). These prerequisities were first set forth in Generic Letter (GL) 84-09 (May 8, 1984).

(A) Oyster Creek technical specifications and limiting conditions for operation (LCOs) must require that the containment atmosphere be less than four percent oxygen when the containment is required to be inerted;

(B) Oyster Creek uses only nitrogen or recycled containment air in all pneumatic control systems within containment; and

(C) There are NO potential sources of oxygen in containment other than those resulting from reactor coolant radiolysis. Reliance on a system which uses air to repressurize the containment to comply with other requirements of 10 CFR 50.44, such as an ACAD system, is inconsistent with this prerequisite.

If Oyster Creek uses an ACAD system, it does not fulfill the third prerequisite of GL 84-09, and recombiner capability must be provided for in accordance with 10 CFR 50.44(c)(3)(ii). However, use of an NCAD system, which meets the requirements of GDC 41, 42 and 43, will not be inconsistent with the third prerequisite of GL 84-09.

(b) If recombiners are required at Oyster Creek such recombiners must meet the requirements of Section 50.44(d). See Section 50.44(c)(3)(ii).

(c) If external recombiners are relied upon at Oyster Creek, the penetrations used for the external recombiners must meet the criteria in Section 50.44(c)(3)(ii)(A) and (B).

6. Oyster Creek must have high point vents for the reactor coolant system, the reactor vessel head, and any other systems required to maintain adequate cooling if the accumulation of noncondensible gases would cause loss of these systems, as required by 50.44(c)(3)(iii).

In summary please respond to this letter whether you agree with the staff's position on compliance by Oyster Creek with 10 CFR 50.44. If you disagree with the staff's position on what is required by Oyster Creek for compliance with 10 CFR 50.44, identify with specificity the areas of the staff position with which you disagree, and the basis for your disagreement, including all necessary technical and legal references. For those areas where you agree with the staff's position on the requirements of 10 CFR 50.44, demonstrate how Oyster Creek is in compliance with those requirements. For each requirement of 10 CFR 50.44 where Oyster Creek is not in compliance, provide a list of corrective actions necessary to achieve compliance and a schedule for implementation of those actions. Such corrective actions should be fully implemented within 270 days of the date of this letter. Your should indicate whether you intend to meet this schedule. If you do not intend to meet this schedule, provide an alternative schedule together with the basis for not fully implementing corrective actions within 270 days. Your response shall be provided within 60 days of the date of this letter.

The requirements contained in this letter affect fewer than 10 respondents and, therefore, is not subject to Office of Management and Budget review under P.L. 96-511.

Sincerely,

Steven A. Varga, Director
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Enclosures:
As stated

cc w/enclosures:
See next page

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ENCLOSURE 1

NRC STAFF POSITION ON BWR MARK I COMPLIANCE WITH 10 CFR 50.44 STANDARDS FOR COMBUSTIBLE GAS CONTROL SYSTEM IN LIGHT WATER COOLED POWER REACTORS

The staff has been concerned with the potential generation and control of hydrogen within the containment following a LOCA since the first power plant was constructed. However, it was not until 1971, that the staff documented its acceptance criteria in this regard. On March 10, 1971, Safety Guide 7, "Control of Combustible Gas Concentrations in Containment Following a Loss-of-Coolant-Accident" was issued. One of the criteria stated in the guide was the amount of zirconium metal-water reaction that was to be considered as part of the hydrogen production analysis. The staff selected five percent by weight of the zirconium within the reactor core as the upper limit. It was felt at the time that this value represented a reasonable limit of core degradation while maintaining a coolable geometry. The staff believed that much beyond five percent core damage, the subsequent core relocation could lead to a complete core melt down.

The guide was silent on how the designer should cope with the hydrogen that resulted from the metal-water reaction. However, the technology, in a manner of speaking, eliminated most of the conventional control methods. It was known that the reaction was a strong function of the zirconium temperature. This coupled with an understanding of the temperature response of the reactor core during an event showed that the hydrogen generated from the metal-reaction process would occur within a matter of minutes. As a result, there were no systems that could respond to such high rates of hydrogen production. This left only two viable options. One was to provide sufficient containment volume so as not to yield a flammable mixture when the metal-water produced hydrogen entered the containment. The other was to inert the containment during normal operation. By limiting the amount of oxygen within the containment, it transferred the flammable control parameter from hydrogen to oxygen. This change enabled the containment to accommodate any amount of hydrogen without affecting the flammable limit of the containment atmosphere.

For the case of the Mark I design, the containment volume proved to be too small to preclude a flammable mixture upon the introduction of the hydrogen produced by the metal-water reaction. Therefore, the use of the criteria set forth in Safety Guide 7 resulted in the inerting of all Mark I power plants except Vermont Yankee. The owners of Vermont Yankee obtained a legal ruling allowing the plant to operate without inerting.

There were no changes in the staff criteria until 1976. On October 21, 1976, the NRC published its intent to create a new regulation concerning combustible gas control for nuclear power plants. This was done by noticing a proposed rule 10 CFR 50.44, "Standards for Combustible Gas Control Systems", for public comment (41 FR 46467). The proposed rule maintained the criteria established in Safety Guide 7. In particular, the metal-water reaction was maintained at the five percent specified in the guide. However, the accompanying other sources of hydrogen/oxygen production such as radiolysis and corrosion were not transferred into the rule. They remained within the guide since it was felt that putting such detail into the rule would overly complicate the rule. The staff, however, continued to use the production models specified in the guide as the basis for reviewing the adequacy of the hydrogen analyses used to support compliance of the rule.

The industry responded during the comment period with only minor comments except for one area. BWR owners argued that the use of five percent by weight was a poor method to establish the amount of metal-water reaction. They argued that this approach would penalize a design with a thicker clad while maintaining all other design parameters the same.

The staff took this major criticism under review and concluded that there was merit in the argument. As a result, the NRC published a revised version of 10 CFR 50.44 on November 27, 1978 (43 FR 50162) which established the amount of metal-water reaction based on an average depth-of-fuel-cladding involvement rather than a percentage of cladding material. The staff chose a depth of 0.00023 inches of involvement as the new metal-water criterion. This value was selected to yield the equivalent of five percent by weight for the reactor design containing the thinnest clad. For all BWR designs, this change represented a relaxation in the previous staff criteria. Because of the thick BWR clad design, the new rule reduced the total amount of metal-water reaction to about one half of the amount calculated using the five percent by weight criteria for a typical Mark I design.

As a result of this relaxation, it was now possible for some Mark I plants to show that the hydrogen produced by metal-water reaction would not yield an almost immediate flammable mixture. Dependent upon the other sources of hydrogen production coupled with the containment volume, it was now possible to show for some plants that the combustible control system (i.e. Containment Atmospheric Dilution (CAD) or recombiner) was sufficient without the need for inerting. In fact, Hatch Unit 2 on June 13, 1978, became the first Mark I containment design to be licensed under the new rule. The licensee was able to show through analysis that the capacity of its installed hydrogen recombiners, as the only means of combustible gas control, was sufficient to demonstrate compliance with 50.44. It should be noted that the supporting analyses used the hydrogen/oxygen source terms and models described in Safety Guide 7.

Following issuance of the Hatch 2 license, approximately half of the BWR licensees with Mark I containments had submitted or were planning to submit requests to eliminate the need for operating the plant inerted. The bases for such a request were plant specific analyses using the criteria and models specified in the rule and Safety Guide 7. Before the staff could act on these requests, the Three Mile Island, Unit 2 (TMI-2) accident occurred on March 29, 1979. The staff stopped all review on these requests until a thorough evaluation of the accident could be made.

Up until this point in time, the staff and the majority of the industry believed that the Design Basis Accident (DBA) for which 10 CFR 50.44 was based represented the worst accident that needed design consideration. Any event beyond the DBA would lead to complete core meltdowns, which no design could accommodate.

The TMI accident proved this thinking to be wrong. First of all, the accident went well beyond the design basis of 50.44. The "best estimate" metal-water reaction at TMI was about 56 percent rather than the approximate 3 percent written into the rule. This amount of hydrogen was easily handled by the large dry containment. However, had the same amount occurred within a Mark I containment, the hydrogen concentrations would have been well into the detonable range. Secondly, and most important, was the observation that a reactor core could be severely damaged and still retain a coolable geometry. Therefore, there was merit to consider how various designs would respond to similar accidents.

Thus, based on the evidence obtained from this accident, the staff revised 50.44 effective January 4, 1982 (46 FR 58484). For the most part, there were no deletions from the rule. Rather, there were new items added to reflect the need to consider TMI-like accidents. In other words, those sections that existed prior to this latest revision are still based on DBA considerations. However, for systems required under these sections, their use in TMI-like accidents would obviously need to be considered from a safety viewpoint.

To address TMI-like accidents the rule required Mark III designs and ice condenser containments to provide systems and components necessary to establish and maintain safe shutdown and to maintain containment integrity, assuming hydrogen equivalent to a 75 percent metal-water reaction. For Mark I and II containment inerting and hydrogen recombiner capability were sufficient to accommodate hydrogen from a 75 percent metal-water reaction without resulting in a burnable mixture.

For those Mark I or Mark II containment designs that rely on a purge/repressurization system for control of combustible gas within the DBA envelope, they are also required to provide hydrogen recombiner capability. The need for such a system was again based upon the evaluation of the TMI accident. Extreme public reaction was encountered at the mention of venting at TMI even though the radiation levels were extremely low by any standard.

As a result, it was believed prudent for those designs which rely on venting as the primary means of combustible gas control to provide an alternative which was not based on venting; notably the recombiner. The addition of recombiner capability provided an additional option. For DBA and beyond, the recombiner could be used in lieu of venting. The recombiner would also be used in long term recovery. Recombination would eliminate the need to release large amounts of hydrogen into the plant environment. The new requirement did not require the recombiner on-site, but the licensee must show that a penetration and the necessary power and instrumentation channels are available. Additionally, the licensee must show that the recombiner could be hooked-up and made operational in a timely manner.

The final requirement was to install a high point reactor vent(s). The intent was to preclude the potential of a steam bubble which would prevent natural circulation as observed during the TMI accident.

Each one of these three new requirements were introduced to better cope with accidents beyond the DBA. Previously accepted licensee's FSAR analyses had shown that these added requirements would not be needed for the DBA. Therefore, it is clear that the staff's intention was to eliminate the weaknesses found in the Mark I and II designs to cope with TMI type accidents.

Throughout the evolution of staff requirements, as described above, there were no specific reporting requirements written into the original rule or any of the revisions. There were, however, implementation dates provided within the rule. As a result, the responsibility of compliance was given to the licensee without the need to provide the supporting justification to the staff. Therefore, the staff has not reviewed the plant specific analyses supporting the rule beyond the licensing stage, except for those isolated cases where the licensees have requested design or TS changes affecting these systems.

For those limited cases, the staff has used the models and equations provided in Safety Guide 7 to confirm the licensee's analyses which demonstrate compliance with the provisions of 10 CFR 50.44(e), (f), and (g). In addition, the licensees have also used Safety Guide 7 assumptions. The staff, using these assumptions, have concluded in every case that the licensee needed an active combustible gas control system to prevent flammable conditions. The DBA metal-water reaction generated hydrogen was insufficient in about half the cases to achieve flammable conditions for a non-inerted case. However, when added to the oxygen/hydrogen produced by events such as radiolysis and corrosion, the combination is more than sufficient to yield a flammable condition within 30 days whether the containment is initially inerted or not.

With the issuance of the latest rule change, the BWR Owners Group (BWROG) which represents plants that use a purge repressurization system took exception to the requirement for recombiner capability in 10 CFR 50.44(c)(3)(ii). A BWROG was formed to provide the staff with the necessary generic justification to support the individual licensee's position. During these discussions, the NRC has granted relief from the implementation date stated within the rule.

A brief summary of the BWROG position is necessary to follow the staff actions. It believed that the staff should recognize the benefits gained by the inerted containment when judging the benefits of the recombiner capability requirement. This is particularly important since the BWROG has said that the individual plant costs were estimated to be well over one million dollars to provide recombiner capability. The demonstration that recombiner capability was not warranted, in light of the additional cost, relied on the acceptance of radiolysis models that are significantly less conservative than those recommended by Safety Guide 7. These models were documented in NEDO-22155, dated June 1982.

This was the first time anyone from industry proposed the use of anything other than Safety Guide 7 assumptions for the calculation of radiolysis generation rates. But, it was done in a very limited fashion. The models were initially presented only to support the exemption from the recombiner capability requirement. The differences between the models in Safety Guide 7 and NEDO-22155 result in hydrogen/oxygen generation rates due to radiolysis which are several orders of magnitudes lower.

Using the models presented in NEDO-22155, the BWROG was able to show for a typical Mark I design that the initial inerted containment would be all that is needed for the first 30 days of an accident. This was key to the argument since it showed that neither a recombiner nor venting would be needed for at least one month following an accident.

The staff did look at these new models in view of the request. From the staff's review, the request was in two parts. First of all, were the models for hydrogen/oxygen generation rates reasonable for the purpose of evaluating the need for providing a recombiner or the capability to install an external recombiner following the start of an accident as required by 50.44(c)(3)(ii)? In this context, the staff believed that the models could be a more "best estimate" approach than those required for the supporting analysis of 50.44(g).

If the staff accepted these new models for the purpose of determining recombiner capability, the analysis using these revised models would determine if the plant relied upon a purge/repressurization system. This was the second part of the request. Note that the staff would allow two analyses. The analysis used to show compliance with 50.44(g) would still utilize Safety Guide 7 assumptions while the analyses supporting the need to have recombiner capability could use the more realistic assumptions of NEDO-22155, if found acceptable.

This was the scope of the staff's review. Within this limited context, the staff did provide qualified endorsement of the models and therefore the overall conclusions of the BWROG position. The staff indicated that the models were appropriate for the major segment of accidents under consideration. For degraded core accidents where significant amounts of metal-water reaction hydrogen are produced, the hydrogen acts as an inerting component with respect to oxygen. As a result, either set of models would show no need for an active combustible control system.

However, the staff found that there was a small number of accidents, both within the DBA envelope and slightly beyond, where the assumptions used in NEDO-22155 were at least questionable. The staff weighed the benefits to be gained for this sector of accidents to the costs of providing recombiner capability. On balance, the staff concluded that the costs outweighed the benefits for this limited situation. To reflect this position, the staff issued Generic Letter 84-09. However, at no time did the staff consider changing the acceptance criteria for the DBA. Safety Guide 7 requirements have been and continue to be the basis of acceptance for the DBA events. In fact, as a result of this limited review, the staff believed that it had confirmed the appropriateness of the Safety Guide 7 models.

When granting relief for the hydrogen recombiner capability in GL 84-09 the staff also recognized the increased importance in controlling possible oxygen supplies other than those recognized in Safety Guide 7 since the recombiners would not be available. As a result, the thrust of the generic letter was to accept the BWROG position of not requiring recombiner capability, but to require added assurance that there would be no significant oxygen sources available within the individual plants that could cause the atmosphere to become deinerted during the course of the accident. For those limited supplies of oxygen such as instrument air, the licensee was expected to show that the amount of oxygen that could be expected to be released into the containment would not cause the containment to become deinerted within the first 30 days after an accident.

Since issuance of the generic letter, several licensees have plants for which resolution is needed. Some of these plants have what is referred to as an ACAD system to satisfy 50.44(e), (f), and (g). This system uses standard air to repressurize the containment and thereby reduce the hydrogen concentration. All of these plants were reviewed at the licensing stage prior to the TMI accident. At that time, the staff found this type of combustible gas control system acceptable for meeting the DBA event. However, with the results from the TMI accident, the staff has focused on the role of the ACAD system for the entire spectrum of accidents including those that are referred to as degraded core events.

The staff consideration included the Emergency Procedure Guidelines (EPGs) and the evolution of these guidelines into the plant specific Emergency Operating Procedures (EOPs). These plants have chosen not to recognize the ACAD system as a possible system for use in the mitigation of an accident. However, in many cases the system is functional and could be operated from the control room. It is the potential of misuse that most concerns the staff. If operated during an accident which is beyond the DBA, the ACAD would actually deinert the containment.

The neglect of a supposedly safety system equally concerns the staff. If one were to assume that the operators would not activate the ACAD during the accident, then there is total reliance on the initial inerting process to maintain an inerted containment during the entire 30 day period. However, based on past reviews it appears to the staff that using Safety Guide 7 assumptions would show a need for an active combustible gas control system.

Under these restrictions, the staff believes that using Safety Guide 7 assumptions, an active combustible gas control system will be required. Therefore, the staff has requested these analyses from each of the licensees to confirm compliance with 10 CFR 50.44(e), (f), and (g).

If the analyses show that the active ACAD system is needed within the 30 day period, the ACAD must be considered as an oxygen source with respect to meeting the requirements of Generic Letter 84-09. Therefore, if the ACAD system is intended to be used, it would both represent an oxygen source contrary to the guidelines of Generic Letter 84-09 and represent a threat in the dealing of accidents beyond the DBA.

It was in this atmosphere, that the staff has discussed the resolution of Generic Letter 84-09 with the five licensees. The licensees wish to obtain relief from the requirement to have recombiner capability. However, the combustible gas control system which each affected plant relies on to meet the DBA requirements of the rule has been shown to be a threat to safety for all but DBA events. This is further aggravated by the fact that the staff has found the models contained in NEDO-22155 which the licensees have generically used to support the position of not requiring an active combustible gas control system unacceptable for DBA applications. Details of the staff evaluation are provided in Enclosure 2 of the staff's letter.

The staff recognizing this apparent difficultly, understands the position of the licensee. They have in good faith put into operation ACAD systems. At the time, these systems were more than adequate to accommodate all credible events. However, after TMI, the staff and the industry have recognized the need to consider the degraded core events. It is unfortunate that the use of these once recognized safety systems must now be considered a safety threat. But, the fact remains that the systems can no longer be considered as an effective safety system for all accidents.

Therefore, the licensee must also recognize the potential threat of this "DBA safety system" for beyond DBAs. Otherwise, the licensee must provide recombiner capability since the use of the system represents an oxygen source as defined within GL 84-09 and it cannot be demonstrated that the containment will remain inerted for 30 days.

In an attempt to resolve this issue, the staff has suggested the possibility of using the normal nitrogen inerting system as the "necessary" active combustible gas control system and declare the ACAD system non-operational. However, the staff needs to understand the design and availability of the nitrogen inerting system. To this end, the staff issued a request to each licensee to show how it believed it met the DBA requirements of 50.44. It is felt that the supporting analyses must use Safety Guide 7 assumptions since the models contained in NEDO-22155 have not been approved by the staff for the entire spectrum of accidents.

The staff is confident that the analyses will show that an active system is needed to show compliance with 50.44. To this end, the staff also requested design information of the normal nitrogen inerting system and an evaluation of how the system meets GDC 41, 42, and 43. This response was important since the staff has indicated that the system used to satisfy the provisions of 10 CFR 50.44(g) need only satisfy these GDCs. This position was offered in light of the fact that the licensees had previously provided an ACAD system to meet this same requirement.

<u>Summary</u>

1. It is the staff's opinion that the use of the ACAD system could pose a threat to the plant for many of the possible beyond design basis events. Since the operators will have a difficult task in determining whether or not the event is within the DBA envelope, it is the staff's opinion that the ACAD system should be rendered inoperable.

2. The staff has evaluated the methodology for determining the generation rates of oxygen by radiolytic decomposition of water in the inerted containment as documented in GE Report NEDO-22155 dated June 1982. The staff finds this method unacceptable for analyses used to demonstrate compliance with 50.44(e), (f) and (g). The basis for this denial is provided in the related Safety Evaluation enclosed with the staff's letter.

3. The licensee should demonstrate how the plant complies with the requirements of Sections 50.44(e), 50.44(f), and 50.44(g) for design basis loss-of-coolant accidents (LOCA). The licensee should include analyses using Regulatory Guide 1.7 "Control of Combustible Gas Concentration in Containment Following a LOCA, assumptions and methodology for rates of generations of oxygen and hydrogen described in Standard Review Plan (SRP) 6.2.5 Appendix A.

4. If an active combustible gas control is shown to be required based on the analyses, a description of that system should be provided to show how it meets the General Design Criteria (GDC) 41, 42, and 43 as required by 10 CFR 50.44(g).

5. Generic Letter 84-09 grants relief from the hydrogen recombiner capability for TMI like accidents, for those inerted Mark I containments that do not rely upon safety grade purge/repressurization systems as the primary means of hydrogen control, when all sources of oxygen except radiolysis are removed from the containment. Accordingly, any licensee for Mark I BWR which has concluded that a recombiner capability is not required for its facility should address the three criteria for oxygen source requirements provided in Generic Letter 84-09. It is the staff's position that if a facility has an ACAD system operational, then the licensee does not comply with the requirements of Generic Letter 84-09.

6. The licensee should develop procedures for post-accident combustible gas control compatible with the guidelines of Revision 4 to the BWR Owners Group Emergency Procedure guidelines.

It is the staff's intent to expedite closure of this long standing issue. This request for information concerning the normal inerting system is intended to allow the licensee the opportunity to show how this system can meet the rule using the staff guidance provided above.