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DJH - 9/13/01

September 12, 2001  
2130-01-20193

U. S. Nuclear Regulatory Commission  
Attn: Mr. H. J. Miller  
Regional Administrator, Region 1  
475 Allendale Road  
King of Prussia, PA 19406

Subject: Appeal of Final Significance Determination Inspection  
Report No. 05000219/2001-011

Oyster Creek Nuclear Generating Station  
Facility Operating License No. DPR-16  
NRC Docket No. 50-219

Reference: Letter to Ronald J. DeGregorio (Vice President, Oyster Creek, AmerGen Energy Company, LLC) from Hubert J. Miller (Regional Administrator, USNRC Region 1), "Final Significance Determination For A White Finding", dated August 28, 2001.

AmerGen Energy Company, LLC, Oyster Creek Generating Station, appeals the NRC staff's final significance determination, of a White finding, as described in reference 1. Enclosed with this letter is the AmerGen Energy Company, LLC request and basis for appeal of the characterization of this finding in accordance with NRC Inspection Manual Chapter 0609, Attachment 2, "Process for Appealing NRC Characterization of Inspection Findings".

We wish to emphasize at the outset that we at AmerGen and Oyster Creek take very seriously our responsibilities in the Security area, and we give the highest priority to Security matters. Our appeal of the White finding should not be construed to the contrary. Rather, we appeal because we earnestly believe Oyster Creek's Security Program Strategy is fundamentally sound, and because the single force-on-force exercise at issue does not fairly and accurately reflect the strength and soundness of our strategy and our commitment.

The outcome of the second exercise conducted on May 8, 2001, resulted directly from a failure to provide or simulate alarm indication to the security force and human performance issues, and not from a deficient strategy. These factors sufficiently undermined the integrity of the exercise so as to render its outcome invalid. In issuing its White finding, the NRC staff did not adequately consider the specific plant conditions and configurations that caused this outcome, did not act consistently with applicable SDP guidance, and did not provide sufficient written basis for its conclusory findings. Oyster Creek appeals the staff determination on all these grounds, and seeks elimination or reduction of the White finding.

Oyster Creek OSRE Appeal Letter  
September 12, 2001  
Page 2

The information contained in this letter or its enclosure is not considered to be Safeguards information.

If any additional information or assistance is required, please contact Mr. John Rogers at 609-971-4893.

Very truly yours,



Michael P. Gallagher  
Director, Licensing & Regulatory Affairs  
Mid-Atlantic Regional Operating Group

Enclosure

cc: S. J. Collins, USNRC, Director NRR  
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## OYSTER CREEK SIGNIFICANCE DETERMINATION APPEAL

### Background

On May 8-10, 2001, Oyster Creek Generating Station (OCGS) participated in an OSRE conducted by NRC Region 1. The OSRE inspection consisted of: selective examination of physical security plans, procedures, and representative records; a review and walk-down of selective portions of the plant; examination and review of target sets; completion of four tabletop exercises; observation of four force-on-force response exercises; observation of weapons proficiency demonstrations; and observation of exercise critiques. All of the tabletop exercises; three of the four force-on-force exercises as well as all other elements of the inspection were completed in a satisfactory manner.

One force-on-force exercise was not completed satisfactorily. That exercise, however, was materially affected by an unusual and unique set of circumstances that existed in the plant during the drill. These circumstances and the events that flowed from them undermined the integrity of the drill and invalidated its outcome. Specifically, the exercise had been designed such that Areas A and B containing components of the affected target set happened to be located in areas of the plant that were, at the time of the exercise, in a restricted operating condition and thus were inaccessible to both the adversaries and the defenders. To accommodate this condition, access to the restricted areas had to be simulated for purposes of the drill. While drill designers effectively were able to provide for simulated access to the restricted areas, they failed to include in the drill the sounding (or simulated sounding) of the alarms that normally would activate upon access to the areas in question.

During the drill, the adversaries simulated entry into the restricted Area A containing a component of the affected target set. But because no alarm sounded, the defenders were not aware of adversary access to Area A, and therefore could not and did not deploy an effective response strategy. As a result, the adversaries breached both Areas A and B during the drill and the drill ended. The absence of alarms thus directly affected implementation of the plant's protective strategy. Based on this set of circumstances, the inspectors concluded that the plant's protective strategy was vulnerable, and because of the loss of a single target set, they identified one preliminary finding of low to moderate safety significance (WHITE).

AmerGen Energy, LLC ("AmerGen") requested a Regulatory Conference to discuss the preliminary White finding and to present information to the NRC regarding the peculiarities of the May 8<sup>th</sup> exercise in question. At the August 3, 2001 Regulatory Conference in the USNRC Region 1 office, AmerGen provided the following information to the NRC: An overview of the plant's security strategy; a brief description of the May 8<sup>th</sup> force-on-force exercise, including a discussion about drill timelines showing responder/adversary responses; the results of the plant's Root Cause Analysis of the exercise; analysis and transcripts of radio transmissions during the drill; information relating to operator actions; significance determination; and information relating to the successful results of the multiple post inspection exercises that were nearly identical to the second exercise of May 8<sup>th</sup>.

On August 28, 2001, the NRC notified OCGS of a final significance determination of "White" for the subject finding. In the notice, the NRC provided its conclusion that the White finding "is related to a protective strategy deficiency that resulted in the loss of a single target set and that the vulnerability is considered potentially predictable and occasionally repeatable." AmerGen now appeals NRC's finding.

### Basis for Appeal

Pursuant to NRC Inspection Manual Chapter 0609, Attachment 0609.02, "Process for Appealing NRC Characterization of Inspection Findings," a licensee's contention must fall into one of the following two categories: (1) that NRC staff did not consider "actual (verifiable) plant hardware, procedures or equipment configurations" in making its determination or (2) that the staff's significance determination process was inconsistent with the applicable SDP guidance or lacked justification. As set forth below in detail, the facts of this case meet both appeal criteria. The NRC staff failed to adequately consider that the drill outcome resulted solely from lack of alarms, and that the absence of alarms directly resulted from the unique situation created by restrictive conditions placed on plant hardware and equipment configurations. Admittedly, control of the drill was OCGS' responsibility. OCGS' failure to control the drill, however, does not mean that the plant's protective strategy is deficient, as NRC erroneously has concluded. It was the exercise, not the plant's protective strategy that was flawed. In failing to consider this critical distinction, the staff erroneously levied a White finding. Such a finding is inconsistent with applicable SDP guidance and with prior precedent.

In addition, NRC Inspection Manual Chapter 0609, Attachment 0609.02, "Process for Appealing NRC Characterization of Inspection Findings", requires the NRC to provide a written basis for disagreeing with the licensee's position in the Regulatory Conference. The NRC failed to comply with this requirement. Although the NRC stated in its August 28, 2001 letter that "the drill artificialities you cited as adversely affecting the outcome of the exercise were fully evaluated in our decision making process," and that "the artificialities were not a sufficient basis for us to change our initial assessment," the letter fails to provide anything more than the NRC's conclusions. The NRC failed to provide any explanation as to how it "fully evaluated" the artificial nature of the drill, or its reasoning for concluding that the drill artificialities were insufficient to alter the initial assessment. There is no explanation as to why the NRC concluded that OCGS' "response strategy remains deficient," or how "simple adversary strategy changes would have likely resulted in the same outcome."

## Discussion

### 1. **The May 8 second force-on-force exercise was invalid and should be disregarded.**

The NRC staff did not fully consider the impact of the lack of vital area alarms on the execution of the security strategy for the May 8<sup>th</sup> second force-on-force exercise. The lack of alarms significantly undermined the effectiveness of this exercise and thus rendered the outcome invalid. No conclusions about plant protective strategy can fairly be drawn from such a flawed exercise. As we explained in the August 3, 2001, presentation, the OCGS security system includes vital area access point alarms, which are continuously monitored and routinely tested to ensure operability. Compensatory measures are promptly implemented when degraded performance of the security alarm system is identified. A significant aspect of the plant's protective strategy is based on alarm indication. Shortly before the May 8<sup>th</sup> second force-on-force exercise, restrictive plant operating conditions were identified which prohibited adversary access to the vital area of the plant containing components of the target set in question. (The plant was in a condition of reduced availability of offsite power source. In a real security intrusion these restrictions would not apply.) As a result, entry to these areas had to be simulated. Although the participants were notified of the restrictions in the plant, they failed to consider in the short time available, the impact of these restrictions on the actual exercise. Specifically, the participants did not provide for alarms to actuate or be simulated upon adversary access to the areas in question. Because of this oversight in drill planning, no alarms were activated or simulated during the actual exercise that followed. The lack of alarms negated OCGS' ability to properly demonstrate its strategy. Without alarms, the defenders were not aware that adversary access had been simulated in Area A. The defenders deployed their protective strategy on the incorrect assumption that Area A had not been compromised and that redeployment to Area B was unwarranted. Meanwhile, the adversaries proceeded to Area B without resistance and simulated area breach and target destruction.

The failure to provide alarm indication caused the exercise to break down and to fail its purpose. We agree with the NRC that drill control is the licensee's responsibility, and we accept responsibility for the control problem. Importantly, however, failure to adequately control a drill is not indicative of a flawed protective strategy. Based on these circumstances, the NRC should re-evaluate its finding without considering the second force-on-force exercise of May 8, 2001. That is, the second May 8<sup>th</sup> exercise should not be a factor in the final SDP determination. If the flawed exercise is disregarded, as it should be, then the NRC should not issue any finding at all. All remaining force-on-force exercises and tabletop exercises were completed satisfactorily.

Even if the flawed exercise is considered, however, the NRC still should reduce the White finding to Green. The Interim Physical Security Significance Determination Process (PSSDP) for findings developed in multiple scenarios in force-on-force exercises describes the GREEN finding as one where "the licensee has failed to adequately perform a limited portion of the protective strategy . . ." The issue at OCGS involved a single exercise

where the protective strategy was not fully implemented because expected alarms were neither received nor simulated. This condition was by its very nature an isolated occurrence, caused by restrictive plant operating conditions and nothing else. Similarly, the performance failure can hardly be categorized as either predictable or repeatable, especially given OCGS' performance in the other force-on-force exercises and in the tabletop drills. Additionally, loss of the initial component area was in part the result of individual performance issues as discussed in the May 18, 2001 letter and in the August 3, 2001 meeting. Based on these circumstances, the Oyster Creek situation should properly be seen as a performance issue of very low safety significance. There is precedent for this resolution. In its inspection of San Onofre (50-361/362/2000-17), the NRC determined that exercise artificialities and controller confusion prevented a definitive conclusion in regard to the licensee's protective strategy. Our case is similar, and the NRC should make the same determination here. These criteria indicate a finding of Green based on PSSDP standards.

A White finding under these circumstances is inconsistent with the standard for making a White finding. It also is inconsistent with other situations in which NRC has issued White findings. A review of recent OSRE inspection data indicates that White findings have been levied against licensees who failed to adequately perform multiple portions of the response strategy. Specifically, Farley (05000348/01-07 and 05000364/01-07) and Quad Cities (050-00254/00-201 and 050-00265/00-201) were given White findings for their failure to protect the target sets in two of the four scenarios run at their sites. Neither of these cases involved a fundamentally flawed exercise, as is the case here.

**2. The NRC's arguments in support of the White finding lack merit.**

The NRC staff has attempted to discount the artificiality of the lack of alarms. NRC Inspection Report 05000219/2001/011 states that the NRC OSRE team observed, "there was radio communication between responders that should have provided sufficient indication that one of the components was probably lost, even without the door alarm." The NRC's contention is not accurate; the mere fact that there was radio communication among the defenders is inconclusive without alarm indications. OCGS Nuclear Security recorded security radio transmissions during the drill in question, and provided a transcript of the communications to the NRC staff at the regulatory conference. The transcript demonstrates that no alarms were received from the access points for the planned initial adversary target area, and that no alarms or loss of equipment function was reported by Operations. The transcript further demonstrates that the information transmitted during the drill was not sufficient to indicate which of several target set components in the area was the adversaries' objective. Responders are trained to follow direction of the Response Team Leader (RTL) and/or Central Alarm Station (CAS), and to hold position unless otherwise directed. The responders were in radio contact with the RTL and CAS during the entire drill. But without the alarms, the RTL/CAS reasonably believed Area A was defended and had no reason to re-deploy responders from the original positions.

The NRC also indicated in its August 28 letter that OCGS' response strategy is deficient because one "target" was undefended and "as predicted during table-top drills prior to the

exercise, the remaining target area in that target set was vulnerable." This observation appears to be based on NRC's theory that if, under normal circumstances (i.e., alarms sounding), adversaries breached Area A of the target set, then they could achieve access to Area B before the defenders could re-deploy to defend Area B. The observation is not accurate. OCGS had demonstrated that no vulnerability exists for the following reasons:

The OCGS Defense Strategy is to deploy responders to protect high probability target sets and to stage the responders to protect as many components within each set as possible. This strategy provides for rapid re-deployment based on alarms and intruder actions. The responders are redeployed at the alarm. Calculation of the time it takes for an adversary to proceed from Area to Area within a target set does not include the time it takes the adversary to enter the initial component target area and deploy explosives. This adds to the adversary time to reach the secondary component target area. As discussed in the August 3, 2001 meeting, the route for responders from Area A to Area B is down to a lower elevation, uncomplicated by plant equipment, and out of adversary line of sight. The adversary route is much more challenging. It requires moving through an area damaged by explosives, down to a lower elevation, through a pump room, and back up a stairway to a higher elevation. In addition, the timelines for multiple responders to reach the secondary response position indicated that the responders' response times were shorter than adversary response times. Therefore, the responders have sufficient time to reach the second component set and get in a defensible position prior to the arrival of the adversaries. Follow-up conversations with the staff indicated that the staff did not consider these time lines. These time lines provide positive demonstration that the responders would have been in a defensible position prior to the adversaries' arrival. Moreover, NRC staff did not perform any plant walk downs to validate their position.

The NRC also failed to consider that Operations representatives participating in the exercise identified certain operator actions involving components, not listed in the target set, that would be effective to mitigate the severity of plant damage and in preventing radioactive releases to the public. These actions, although not proceduralized, were simple, and would easily have been completed in time to maintain the plant in a safe condition. Direction from the NRC in a memorandum dated November 17, 2000, "Conduct, Agenda, and Rules of Engagement for Operational Safeguards Response Evaluations" page 3, item 5 states, "Operator actions, beyond those already considered within the target set, will be considered as mitigating factors in the assessment of the overall risk to public health and safety of the lost target set, but will not be considered as criteria in determining the success or failure of the scenario." NRC Inspection Manual Procedure 81110 "Operational Safeguards Response Evaluation (OSRE)" section 3 Evaluation Guidance states that the team should assume that significant radiological release would be the objective of an act of sabotage at a power reactor and should use prevention of significant core damage as an evaluation criterion. This criterion makes adversary success more difficult and more accurately reflects significant public health and

safety concerns than would a criterion of prevention of damage to any piece of safety equipment. Accordingly, even though the adversaries were able to simulate destruction of two components of the target set during the second exercise, their actions would not have had a credible impact on plant safety since another component, which was already protected, was still available. The actions described by the operators would have maintained the plant in a safe condition eliminating the likelihood of a radiological release and the resulting effect on public health and safety.

Our failure to identify all safety significant equipment when determining a target set has been deemed to be of low safety significance and has been captured in the site's Corrective Action Program. This oversight should not result in a White finding. Notably, the NRC issued a Green finding to the Farley Nuclear Plant (50-348/01-07 and 50-364/01-07) for its failure to consider all safety significant equipment when determining a target set that needs to be protected against the Design Basis Threat.

In its August 28, 2001 letter, the NRC indicated that "absent the artificialities, simple adversary strategy changes would have likely resulted in the same outcome." But this statement is invalid for several reasons. First, it is conjecture. Performance ratings for OSRE inspections are based on actual exercises evaluated during the inspection. The NRC did not run the drill without "artificialities" – that is, with alarms. In addition, there were no drills ran which incorporated any so-called "simple adversary strategy changes." The NRC has not even identified what those "simple adversary strategy changes" are. And it is not apparent that these postulated "adversary strategy changes" ever were evaluated during a tabletop or force-on-force exercise. Significantly, during the tabletop exercise in which the strategy deficiency was supposedly identified, the responders successfully interdicted the adversaries.

Second, OCGS conducted a second force-on-force drill on the second evening of drills. This second drill involved adversaries attacking the same response position from multiple approaches. In this exercise, which the NRC observed, the responders were successful in interdicting and neutralizing the adversaries employing the protective strategy without individual performance deficiencies. In addition, as explained in the August 3, 2001 conference, since the time of the OSRE, OCGS has run multiple, similar drills against each team and in all cases where appropriate alarms were received and/or simulated, the protective strategy was fully implemented and the security force was successful in protecting the target set.



### Conclusion

After thorough review of the issue and the results of an extensive, independent root cause analysis investigation, Oyster Creek management has determined that the plant's protective strategy is sound. The only reason a target set was lost during the second May 8<sup>th</sup> force-on-force exercise was because the exercise was flawed. OCGS failed to recognize the need to simulate alarms on vital area access points. Consequently, the protective strategy was not fully implemented. The NRC has erroneously failed to acknowledge this distinction between a flawed exercise and a deficient strategy, and has erroneously concluded that OCGS' strategy is deficient. It is not. Had this been a real intrusion, security alarms would have been received, the protective strategy would have been implemented, and responders would have been re-deployed to secondary response positions based on the alarms. The responders would have interdicted the adversaries, appropriately armed, and in defensive positions. In addition, even if the adversaries were able to eliminate the components within the target set, their actions would not have had a credible impact on plant safety since loss of these components alone would not have prevented use of an already protected component. The plant operators' actions would maintain the plant in a safe condition eliminating the likelihood of a radiological release and its resulting effect on public health and safety.

The NRC staff failed to fully consider actual (verifiable) plant and equipment configurations, and it inconsistently applied the applicable SDP guidance. The staff also failed to provide sufficient justification for the conclusions it drew from the exercise and from the additional information provided by the licensee during the regulatory conference held on August 3, 2001 in their classification of the issue. OCGS respectfully requests that the May 8 second force-on-force exercise be declared invalid, and no finding be issued. If the drill in question continues to be considered, we request that the NRC reduce the inappropriate White finding to an appropriate finding of Green.