



UNITED STATES
NUCLEAR REGULATORY COMMISSION

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June 26, 2012

Mr. Thomas D. Gatlin
Vice President, Nuclear Operations
South Carolina Electric & Gas Company
Virgil C. Summer Nuclear Station
Post Office Box 88
Jenkinsville, SC 29065

SUBJECT: VIRGIL C. SUMMER NUCLEAR STATION, UNIT 1, CLOSEOUT OF BULLETIN
2011-01, "MITIGATING STRATEGIES" (TAC NO. ME6488)

Dear Mr. Gatlin:

On May 11, 2011, the U.S. Nuclear Regulatory Commission (NRC) issued Bulletin 2011-01, "Mitigating Strategies" (Agencywide Documents Access and Management System (ADAMS) Accession No. ML111250360), to all holders of operating licenses for nuclear power reactors, except those that have permanently ceased operation and have certified that fuel has been removed from the reactor vessel. The purpose of the bulletin was to obtain a comprehensive verification that licensees' mitigating strategies to maintain or restore core cooling, spent fuel cooling, and containment following a large explosion or fire were compliant with Title 10 of the *Code of Federal Regulations* (10 CFR), Section 50.54(hh)(2).

The bulletin required two sets of responses pursuant to the provisions of 10 CFR 50.54(f). The South Carolina Electric and Gas Company (the licensee) provided its response to the bulletin for the Virgil C. Summer Nuclear Station, Unit 1 (VCSNS), by letters dated June 9 and July 11, 2011 (ADAMS Accession Nos. ML11161A167 and ML11194A025 respectively). By letter dated November 15, 2011 (ADAMS Accession No. ML11313A219), the NRC staff sent the licensee a request for additional information (RAI) on its July 11, 2011, response. The licensee responded to the RAI by letter dated December 15, 2011 (ADAMS Accession No. ML11354A247).

The NRC staff has reviewed the information submitted by the licensee, and concludes that its response to the bulletin is acceptable. As summarized in the enclosure, the staff verified that the licensee provided the information requested in the bulletin. We find that no further information or actions under the bulletin are requested.

Sincerely,

A handwritten signature in cursive script that reads "Robert E. Martin".

Robert E. Martin, Senior Project Manager
Plant Licensing Branch II-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-395

Enclosure: Summary of Bulletin

cc w/encl: Distribution via Listserv

SUMMARY OF NRC BULLETIN 2011-01,

"MITIGATING STRATEGIES" RESPONSE REVIEW

VIRGIL C. SUMMER NUCLEAR STATION, UNIT 1

DOCKET NO. 50-395

On May 11, 2011, the U.S. Nuclear Regulatory Commission (NRC) issued Bulletin 2011-01, "Mitigating Strategies," (Agencywide Documents Access and Management System (ADAMS) Accession No. ML11250360) to all holders of operating licenses for nuclear power reactors, except those that have permanently ceased operation and have certified that fuel has been removed from the reactor vessel. The bulletin required two sets of responses pursuant to the provisions of Title 10 of the *Code of Federal Regulations* (10 CFR), Section 50.54(f). The first responses were due 30 days after issuance of the bulletin. By letter dated June 9, 2011 (ADAMS Accession No. ML11161A167), Virgil C. Summer Nuclear Station, Unit 1, (VCSNS) provided its response to this first set of questions (first response). The second responses were due 60 days after issuance of the bulletin. By letter dated July 11, 2011 (ADAMS Accession No. ML11194A025), VCSNS provided its response to this second set of questions (second response). By letter dated November 15, 2011 (ADAMS Accession No. ML11313A219), the NRC sent a request for additional information (RAI) on the second response. VCSNS responded to the RAI by letter dated December 15, 2011 (ADAMS Accession No. ML11354A247). As summarized below, the NRC staff has verified that VCSNS provided the information requested in the bulletin.

1.0 BACKGROUND

On February 25, 2002, the NRC issued EA-02-026, "Order for Interim Safeguards and Security Compensatory Measures" (ICM Order). Section B.5.b of the ICM Order required licensees to develop specific guidance and strategies to maintain or restore core cooling, containment, and spent fuel pool cooling capabilities using readily available resources (equipment and personnel) that can be effectively implemented under the circumstances associated with the loss of large areas of the plant due to explosions or fire.

By letter dated August 23, 2007 (ADAMS Accession No. ML072320005), the NRC staff issued its Safety Evaluation (SE) to document the final disposition of information submitted by VCSNS regarding Section B.5.b of the ICM Order. Along with the SE, the staff issued a conforming license condition to incorporate the B.5.b mitigating strategies into the licensing basis. On March 27, 2009, the NRC issued 10 CFR 50.54(hh)(2) as a new rule, in order to capture the B.5.b mitigating strategies and related license conditions as regulatory requirements for both current and future licensees. At that time, licensee compliance with the conforming license conditions was sufficient to demonstrate compliance with 10 CFR 50.54(hh)(2) (74 FR 13926) so no further actions were required on the part of current licensees.

Enclosure

2.0 30-DAY REQUEST

In order to confirm continued compliance with 10 CFR 50.54(hh)(2), the bulletin requested that licensees address the following two questions within 30 days of issuing the bulletin:

1. Is the equipment necessary to execute the mitigating strategies, as described in your submittals to the NRC, available and capable of performing its intended function?
2. Are the guidance and strategies implemented capable of being executed considering the current configuration of your facility and current staffing and skill levels of the staff?

The NRC staff reviewed VCSNS's first response to determine if it had adequately addressed these questions.

2.1 Question 1: Availability and Capability of Equipment

In its first response, VCSNS confirmed that equipment it needs to execute the 10 CFR 50.54(hh)(2) mitigating strategies is available and capable of performing its intended function. The NRC staff verified that this confirmation covered equipment needed for each of the three phases of B.5.b mitigation strategies. Therefore, the NRC staff finds that VCSNS has adequately responded to Question 1.

2.2 Question 2: Guidance and Strategies Can Be Executed

In its first response, VCSNS confirmed that the guidance and strategies it has implemented for 10 CFR 50.54(hh)(2) are capable of being executed considering the current facility configuration, staffing levels, and staff's skills. Since VCSNS has considered its current facility configuration, staffing levels, and staff's skills, and confirmed that it can execute its implemented guidance and strategies, the NRC staff finds that VCSNS has adequately responded to Question 2.

3.0 60-DAY REQUEST

The bulletin required a response to the following five questions within 60 days of issuing the bulletin:

1. Describe in detail the maintenance of equipment procured to support the strategies and guidance required by 10 CFR 50.54(hh)(2) in order to ensure that it is functional when needed.
2. Describe in detail the testing of equipment procured to support the strategies and guidance required by 10 CFR 50.54(hh)(2) in order to ensure that it will function when needed.

3. Describe in detail the controls for ensuring that the equipment is available when needed.
4. Describe in detail how configuration and guidance management is ensured so that strategies remain feasible.
5. Describe in detail how you ensure availability of offsite support.

The NRC staff reviewed VCSNS's submittals to determine if it had adequately addressed these questions. This was accomplished by verifying that the submittals listed equipment, training, and offsite resources which were relied upon to make conclusions in the August 23, 2007, SE or are commonly needed to implement the mitigating strategies.

3.1 Questions 1 and 2: Maintenance and Testing of Equipment

Questions 1 and 2 of the 60-day request required licensees to describe in detail the maintenance and testing of equipment procured to support the strategies and guidance required by 10 CFR 50.54(hh)(2) in order to ensure that it is functional when needed. In its second response, VCSNS listed the equipment used to support the 10 CFR 50.54(hh)(2) mitigating strategies which receives maintenance or testing. For each item, VCSNS described the maintenance and testing performed, including the frequency and basis for the maintenance or testing activity.

The NRC staff verified that VCSNS listed equipment that typically requires maintenance or testing which was relied upon to make conclusions in the SE or commonly needed to implement the mitigating strategies. In its second response, VCSNS stated that the fire pumper truck, portable power supply, portable air compressor, and hoses receive maintenance or testing. The second response did not identify any maintenance or testing of nozzles. In its RAI response, VCSNS stated that it has taken action to establish a periodic maintenance or testing task for portable monitor appliances and master stream spray nozzles. The NRC staff noted (RAI) that VCSNS did not describe any maintenance, testing, or controls on communications equipment in its second response. In its RAI response, VCSNS described the testing and inventory requirements for communications equipment. In its RAI response, VCSNS described how it ensures sufficient fuel for the fire pumper truck. VCSNS also identified other items that support the mitigating strategies that receive maintenance or testing.

The NRC staff verified that VCSNS described the process used for corrective actions and listed the testing performed to ensure that the strategies were initially feasible. VCSNS stated in its second response that its 10 CFR Part 50, Appendix B, corrective action program is used to document equipment failure, establish priorities, and perform trending.

Based upon the information above, the NRC staff finds that VCSNS has provided the information requested by Questions 1 and 2.

3.2 Question 3: Controls on Equipment

Question 3 of the 60-day request required licensees to describe in detail the controls on equipment, such as inventory requirements, to ensure that the equipment is available when needed. A list of inventory deficiencies and associated corrective actions to prevent loss was also requested.

The NRC staff verified that VCSNS described its process for ensuring that B.5.b equipment will be available when needed. In its second response, VCSNS identified equipment included in its inventory, the inventory frequency, storage requirements, and items verified. Items verified include proper quantity and location of equipment; calibrations; and equipment shelf lives. VCSNS states that at the time of its second response there were no outstanding inventory deficiencies that would render the strategies not viable. VCSNS also identified several enhancements to its inventory controls that it was considering.

The NRC staff verified that VCSNS inventoried equipment which was relied upon to make conclusions in the SE or commonly needed to implement the mitigating strategies. In its second response, VCSNS stated that procured non-permanently installed B.5.b equipment is inventoried at least quarterly in accordance with station procedures. The second response specifically states that the following items are included in the inventory: fire truck; portable power supply; portable air compressor; hoses; spray nozzles; connectors; tools; and instruments. VCSNS also identified other items that support the mitigating strategies that are inventoried.

Based upon the information above, the NRC staff finds that VCSNS has provided the information requested by Question 3.

3.3 Question 4: Configuration and Guidance Management

Question 4 of the 60-day request required licensees to describe in detail how configuration and guidance management is assured so that the strategies remain feasible.

The NRC staff verified that VCSNS described its measures to evaluate plant configuration changes for their effects on the mitigating strategies and to ensure its procedures are current. In its second response, VCSNS stated that plant configuration changes are procedurally evaluated against the licensing basis, which includes the B.5.b mitigating strategies. VCSNS states that the design change process requires a review of affected procedures.

The NRC staff verified that VCSNS described measures it has taken to validate the procedures or guidelines developed to support the mitigating strategies. In its second response, VCSNS identified testing in response to Question 2 that demonstrated the ability to execute some strategies. VCSNS also states that "initially, mitigating strategies were validated by walkdowns and self assessment" and they were similarly revalidated in 2011.

The NRC staff verified that VCSNS described the training program implemented in support of the mitigating strategies and how its effectiveness is evaluated. In its second response, VCSNS

identified the training provided to its operations personnel; emergency response organization, including key decision makers; security personnel; fire brigade; and other personnel. VCSNS also identified the frequency with which each type of training is provided and the methods for training evaluating.

Based upon the information above, the NRC staff finds that VCSNS has provided the information requested by Question 4.

3.4 Question 5: Offsite Support

Question 5 of the 60-day request required licensees to describe in detail how offsite support availability is assured.

The NRC staff verified that VCSNS listed the offsite organizations it relies upon for emergency response, including a description of agreements and related training. The NRC staff compared the list of offsite organizations that VCSNS provided in its second response with the information relied upon to make conclusions in the SE. VCSNS stated that it maintains memorandum of understanding or letters of agreements with these offsite organizations, which are reviewed annually, and that these agreements were revalidated in 2011. VCSNS also described the training and site familiarization it provides to these offsite organizations. VCSNS stated that it did not identify any lapsed agreements related to offsite support for B.5.b events.

Based upon the information above, the NRC staff finds that VCSNS has provided the information requested by Question 5.

4.0 CONCLUSION

As described above, the NRC staff has verified that VCSNS has provided the information requested in Bulletin 2011-01. Specifically, VCSNS responded to each of the questions in the bulletin as requested. The NRC staff concludes that VCSNS has completed all of the requirements of the bulletin and no further information or actions under the bulletin are needed.

Principal Contributor: B. Purnell

Date: June 26, 2012

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Sincerely,
/RA/

Robert E. Martin, Senior Project Manager
Plant Licensing Branch II-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

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ADAMS Accession No. ML12171A333

* By memo dated

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