

June 5, 2006

MEMORANDUM TO: Evangelos Marinos
Plant Licensing Branch 2-1
Division of Operating Reactor Licensing

FROM: Robert E. Martin **/RA/**
Plant Licensing Branch 2-1
Division of Operating Reactor Licensing

SUBJECT: FORTHCOMING MEETING WITH SOUTH CAROLINA ELECTRIC &
GAS COMPANY

DATE & TIME: Monday, June 19, 2006
Time: 1:00 p.m. - 4:00 p.m.

LOCATION: U.S. Nuclear Regulatory Commission
One White Flint North
11555 Rockville Pike, Room O 4 B 4
Rockville, Maryland

PURPOSE: To discuss concerns, identified in the enclosure, with the licensee's
application of February 6, 2006, to implement online monitoring of
instrument channel performance at the V. C. Summer Nuclear Station.

CATEGORY 1: * This is a Category 1 Meeting. The public is invited to observe this
meeting and will have one or more opportunities to communicate with the
NRC after the business portion, but before the meeting is adjourned.

PARTICIPANTS: Participants from the NRC include members of the Office of Nuclear
Reactor Regulation (NRR).

<u>NRC</u>	<u>South Carolina Electric & Gas</u>
A. Howe, NRR	R. Sweet, et al
P. Rebstock, NRR	
E. Marinos, NRR	
R. Martin, NRR	

MEETING CONTACTS: R. Martin, NRR S. Monarque, NRR
301-415-1493 301-415-1544

Docket No. 50-395

Enclosure: Agenda Discussion Topics

cc w/encl: See next page

* Commission's Policy Statement on "Enhancing Public Participation in NRC Meetings"
(67 FR 36920), May 28, 2002

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NRC-001

OFFICE	NRR/LPL2-1/PM	NRR/LPL2-1/LA	NRR/LPL2-1/BC
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DATE	6/5/06	6/05/06	6/05/06

OFFICIAL RECORD

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AGENDA DISCUSSION TOPICS FOR APPLICATION REGARDING
ONLINE MONITORING (OLM) OF INSTRUMENT CHANNEL PERFORMANCE
VIRGIL C. SUMMER NUCLEAR STATION (VCSNS)

The licensee's application of February 6, 2006, is an incomplete submittal and is, therefore, unacceptable for review. The application does not include adequate VCSNS-specific information to support an evaluation of the particular approach to OLM and the accommodation of OLM in the VCSNS Technical Specifications (TS). The NRC staff views OLM as a viable concept as reflected in Reference 1.

In particular, the application does not include: (a) an adequate description of the particular OLM modeling methodology and algorithms to be implemented at VCSNS, (b) analyses showing that the planned implementation is appropriate for VCSNS, (c) analyses of the uncertainties introduced by the use of OLM and the incorporation of those uncertainties into the individual channel uncertainty calculations and the associated TS limits for VCSNS.

Some examples of the NRC staff's concerns are provided below. This is not a comprehensive listing, but rather a selection of examples gleaned from the NRC staff's pre-acceptance review of the application. Resolution of these comments alone may not be sufficient to ensure the acceptability of a future re-application.

1. The application should include an overall description of the particular software to be used in support of OLM, including description of both the data algorithms and the operator interfaces and related capabilities. The software specification and verification and validation (V&V) process should also be described, to show that the proposed software will perform its intended function.
2. Model training and the elimination of "bad" data from the training sets, as specifically implemented for VCSNS, is not adequately addressed.
3. The licensee's application dated February 6, 2006, appears to indicate that the software to be implemented has the capability for the use of multiple algorithms with provisions for the analyst to apply whatever algorithm is desired at any time. Unless there are adequate controls to ensure that only specifically-predesignated algorithms are available for use, it would be necessary to show that all available algorithms are suitable for all applications. If different algorithms are to be applied to different measured process variables, then it will be necessary to show that the selected algorithm is suitable for each variable and that adequate controls are in place to prevent the application of algorithms not shown to be suitable.
4. The licensee included two Electric Power Research Institute (EPRI) reports with the application package. These reports appear to supplement the EPRI Technical Report TR-104965, that was accepted by the NRC staff in a Safety Evaluation provided to EPRI by letter dated July 24, 2000 (Reference 1). These two additional reports have not previously been presented to NRC. The licensee relies on these two additional reports almost exclusively for responding to the 14 items identified in Reference 1 as applicable

to plant-specific applications. Although the two additional reports may be based largely upon VCSNS experience, they are not written as being specific to VCSNS. They do not provide any specific information as to how OLM will be implemented at VCSNS and they do not explicitly support the proposed VCSNS TS changes.

Also, if the NRC staff were to accept the application on the basis of the EPRI reports, then the NRC staff would need to review those reports in detail. Depending upon how the reports are constructed, it may be necessary for that review to encompass matters not directly related to the VCSNS application, and it may also be necessary to review additional material referenced in those reports. The NRC staff recommends that the licensee reconsider the extent that they wish to cite unreviewed materials, rather than incorporating the necessary details directly into the license amendment application package.

5. There are several statements in the application to the effect that "the analysis is based upon the approach explained in," but neither the reference nor any further explanation is provided. The NRC staff therefore can address neither the referenced material nor the degree of conformance of the proposed design to it, and can, therefore, not assess the adequacy of the statement. The application should present the specific analyses and processes applicable to the license amendment application for VCSNS.
6. The application asserts that no setpoint-related TS limit will need to change as a result of OLM, but it provides no analysis in support of this claim. However, there are indications that the associated uncertainty analyses have yet to be completed, so it is not clear how the results of those analyses can already be known. The licensee should provide explicit justification for each TS setpoint limit related to a channel affected by OLM, whether the limit is to be changed or not. The OLM process introduces uncertainties that do not otherwise exist and that must be accounted for in the TS setpoint limits. It is possible that OLM, in the specific implementation prepared for VCSNS, also reduces other uncertainties enough to compensate for the added uncertainties and results in no net change or even a net reduction in uncertainty for some channels, but that is by no means assured and it has not been demonstrated.

References

1. Letter, S. A. Richards, NRC, to G. L. Vine, EPRI, dated July 24, 2000, "EPRI Topical Report 104965, "Online Monitoring of Instrument Channel Performance," Final Report, November 1998, TAC No. M93653," Agency Documents Access and Management System Accession (ADAMS) No. ML003734509.
2. Letter, J. Archie, SCE&G, to NRC, dated February 6, 2006, "License Amendment Request - LAR 05-0677, On-Line Monitoring of Instrument Channel Performance," ADAMS No. ML060400220.

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