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US NRC

NG-97-1213
July 3, 1997

Mr. David L. Meyer
Chief, Rules and Directives Branch
Division of Administrative Services
Office of Administration
U. S. Nuclear Regulatory Commission
Washington, DC 20555-0001

Subject: Duane Arnold Energy Center
Docket No: 50-331
Op. License No: DPR-49
Comments on NUREG 1606: Proposed Regulatory Guidance Related to
Implementation of 10 CFR 50.59 (Changes, Tests, or Experiments)

- References:
- 1) Letter from S. Frantz (MLB) to Chief, Rules and Directives Branch (NRC), "Comments on NUREG 1606, Proposed Regulatory Guidance Related to Implementation of 10 CFR 50.59 (Changes, Tests, or Experiments)," July 1, 1997
 - 2) Letter from A. Pietrangelo (NEI) to D. Meyer (NRC), "Industry Comments on NUREG 1606, 'Proposed Regulatory Guidance Related to Implementation of 10 CFR 50.59 (Changes, Tests, or Experiments),' (62 Fed. Reg. 24997 - May 7, 1997)," July 7, 1997

File: A-100, A-119

Dear Mr. Meyer:

In a Federal Register Notice on May 7, 1997 (62 Fed. Reg. 24997), the NRC requested comments by July 7, 1997 on NUREG 1606: Proposed Regulatory Guidance Related to Implementation of 10 CFR 50.59 (Changes, Tests, or Experiments). In addition to Reference 1, submitted on our behalf by Morgan, Lewis & Bockius, and the Reference 2 comments submitted by the Nuclear Energy Institute (NEI), which we also endorse, IES Utilities submits the following public comments on NUREG 1606.

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We would like to begin by pointing out the significant positive effect the changes to facilities performed under §50.59 have had on nuclear safety. This rule allows licensees to make timely improvements to their facilities. Our concern is that with the lower threshold for defining an Unreviewed Safety Question (USQ) if NUREG-1606 is implemented, many of these safety enhancements will either be significantly delayed due to the protracted review process for a license amendment or not be made at all due to the additional expense of the preparation and approval of the license amendment. It is imperative that this significant benefit of the rule is not adversely affected by any future rulemaking or modifications to the implementation guidance.

While not a direct comment on a specific area of NUREG-1606, we would like to emphasize that the purpose of 10 CFR 50.59 is not to judge whether a proposed activity is "nuclear safe," but solely a legal test to determine whether the licensee may implement the proposed activity without prior NRC review and approval. All too often this perspective is lost in discussions between the licensee and the Staff on plant-specific issues. The emphasis in the term "unreviewed safety question" is often placed upon the word "safety," not on the word "unreviewed," where it belongs. We hope through this comment process that the original intent of the regulation is not lost.

With the above perspective in mind, we would also like to comment on the applicability of §50.59 to Emergency Operating Procedures (EOP) discussed in Section III.C.4 of NUREG 1606. Because the EOPs are "symptom-based" and the accidents as described in the Safety Analysis Report (SAR) are "event-based," it is extremely difficult to differentiate whether a specific EOP-directed operator action is within or outside the design basis. This will become even more difficult upon implementation of the new Severe Accident Management Guidelines being developed by the industry. While the Staff recognizes the impracticality of trying to apply the §50.59 process to EOPs, (*"In practice, the operator actions in the EOP for design basis accidents and for severe accidents are interwoven and therefore it would be very difficult to change EOPs only with respect to the portions described in the SAR."*), EOPs are not clearly excluded from the scope of §50.59. This issue has been previously addressed by the Staff and the BWR Owners' Group (BWROG) in the resolution of the Safety Evaluation Report (SER) to Revision 4 to the BWROG Emergency Procedure Guidelines (EPGs). The industry position is that except where a plant takes a technical deviation from the EPGs, EOPs developed in accordance with the Staff's SER should be exempted from "procedures as described in the SAR" for the purposes of §50.59.

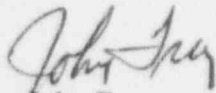
Another area of concern with NUREG-1606 is in Section III.D.4 regarding the definition of test or experiment under §50.59. The Staff position in Section III.D.4 has created a great deal of confusion, specifically by the addition of the first example, *i.e.*, "if a test previously described in the SAR will be done in a different way from that described in the SAR." Without further clarification as to what constitutes "in a

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different way," the interpretation has been made that any change to a previously-approved test, including Technical Specification Surveillance Testing, constitutes a test or experiment under §50.59, requiring a full safety evaluation. This interpretation is a dramatic shift in the previously published guidance. As the attached summary documents, changes to surveillance testing has been historically viewed as a "change to a procedure described in the SAR," regardless of whether or not the details of the surveillance test are contained in the text of the SAR. This new interpretation of surveillances as a "test" will significantly increase the burden on licensees in making changes to plant procedures that, heretofore, could be revised without full safety evaluations under §50.59.

We appreciate the opportunity to comment on the proposed guidance in NUREG 1606.

Sincerely,



John Franz

Vice President, Nuclear

Attachment : 10 CFR 50.59 - Test or Experiment

cc: L. Root
D. Wilson
G. Kelly (NRC-NRR)
A. B. Beach (Region III)
NRC Resident Office
DOCU

10 CFR 50.59 - Test or Experiment

The origin of the regulation (27 FR 5491, 6/9/62), as it relates to this issue, is from the Operating License for the GE Vallecitos reactor (DPR-1), which was not a "power reactor," per se, but an actual testing facility, designed and operated for the sole purpose of gathering data to validate GE's proposed designs for various reactor systems and components, particularly fuel designs, reactivity controls and nuclear instrumentation. With this as background to the regulation, the intent of §50.59 was to allow GE to conduct such tests or experiments without having to re-apply for a license amendment every time a new test/experiment was performed, as long as they stayed within the bounds of the original hazards summary report (*i.e.*, FSAR). The idea here is that just because a detail of a previously-approved test/experiment has been modified, does not automatically mean that such a change would constitute a *new* test/experiment, *i.e.*, one not previously described in the FSAR. The effect of the change must also be considered and a determination made of whether the change causes the system, structure or component (SSC) to be operated in a new or different way from that previously evaluated. On this last point, both the industry, via NSAC-125/NEI 96-07, and the NRC, via the I&E Manual (Part 9800, "CFR Discussions - Changes to Facilities, Procedures and Tests (or Experiments)," 1/1/84), have similar interpretations as to what constitutes "tests or experiments not described in the SAR."

There are two ideas that will be discussed. First, that "tests or experiments" under 50.59 are expected to be non-routine tests involving unusual modes of operation; and, second, that routine surveillances and plant operation of SSCs is covered under "procedures as described in the SAR," whether described in detail or not.

The I&E Manual Part 9800 says for tests or experiments:

"This pertains to the performance of an operation not described in the SAR *which could have an adverse effect on safety-related systems.*" (emphasis added)

It also goes on to give examples of tests/experiments that would and would not require §50.59 safety evaluations. In those examples the position is stated that tests/experiments do not require safety evaluations if "... the test does not involve an abnormal mode of operation.", "... even if such a test was not delineated in the SAR...".

In I&E Manual Inspection Procedure 37001, ("10 CFR 50.59 Safety Evaluation Program," 12/29/92), in describing how the inspector should conduct the inspection of the licensee's 50.59 program in the area of tests and experiments states:

Tests or experiments not described in the safety analysis report. Focus on Section 50.59 safety evaluations for tests performed since the last NRC

inspection of the licensee's test and experiments program (or equivalently, the licensee's Section 50.59 program), but also review approved safety evaluations of tests planned for the future. *Since tests requiring a Section 50.59 safety evaluation occur infrequently*, most, if not all, of the Section 50.59 safety evaluations for tests prepared since the last NRC inspection of the test and experiments program can usually be reviewed during the inspection. (emphasis added)

This IP goes on to state:

Because precise meanings of the USQ criteria are not provided in Section 50.59, the thresholds for USQ involvement will be interpreted differently from licensee to licensee. The inspector must review the licensee's guidance for interpreting the USQ criteria and decide if it satisfies the intent of Section 50.59, which is to limit CTEs *{sic, Changes, Tests or Experiments}* not requiring prior NRC approval to *those that do not exceed the bounds of the licensing and design basis of the facility as described in the FSAR*. (emphasis added)

I&E Manual Inspection Procedure 37001 contains a cross-reference to Inspection Procedure 37703 ("Tests and Experiments Program," 4/14/92) for further guidance on safety evaluations of tests and experiments.

In accordance with 10 CFR 50.59, the holder of an operating license may conduct tests and experiments not described in the FSAR, provided such tests and experiments do not involve a change to the TS or an unreviewed safety question. The licensee should have a system along with assigned responsibilities to assure that all proposed *safety-related* tests and experiments will be checked *to determine whether they are beyond the operations described in the FSAR*. (emphasis added)

The inference here is clear, a "test or experiment" under 50.59 is expected to be an infrequent/non-routine activity that is outside the previously analyzed operating envelope for SSCs described in the SAR. Hence a full safety evaluation should be prepared to determine whether there is an USQ.

These same I&E Procedures discuss normal maintenance and surveillance testing procedures in the context of "procedures as described in the SAR." In I&E Manual Inspection Procedure 37001, the inspector is told to sample from both the 50.59s and applicability screenings for procedure changes.

Changes in procedures as described in the safety analysis report. As a rule of thumb, the number of Section 50.59 safety evaluations for procedure changes that the inspector should review is about 5 percent of the number of procedure changes the licensee last reported to the NRC as required by 10 CFR

50.59(b)(2). Focus on significant changes to procedures implemented since the last NRC inspection of the licensee's Section 50.59 program, but also select approved procedure changes awaiting implementation. Choose a variety of safety evaluations for *changes in procedure* from categories such as *operations*, *engineering*, *maintenance*, *emergency operations*, *physics startup tests*, *surveillance tests*, *administrative controls*, and *health physics*. (emphasis added)

Further evidence of that maintenance and surveillance tests are covered in this 50.59 category is under "Changes in the facility or procedures" in IP 37001 in the discussion of temporary modifications.

Temporary modifications (e.g., jumper and lifted leads) of SSCs that are described in the FSAR that are *routinely implemented by periodic maintenance or surveillance procedures* do not need to be evaluated in accordance with Section 50.59 each time the procedure is performed. *The original Section 50.59 safety evaluation for the procedure should remain valid as long as the precautions and limitations of the procedure are observed.*

Under tests or experiments, IP 37001 makes it clear that if a previously evaluated test is changed a new safety evaluation must be performed. "If a test described in the SAR will be done in a different way, then a Section 50.59 safety evaluation is required." Although no further guidance is provided as to what constitutes "in a different way," it is clear that changes to a previously described surveillance procedure in the SAR do not constitute a "test" if the plant remains bounded by the previously evaluated conditions. The same IP under changes to procedures, uses the example that "changing a procedure just listed in the updated FSAR would not require a Section 50.59 safety evaluation." Thus, if the Staff intended that if "changing a procedure in the SAR" to be "done in a different way," constituted a new "test" per the above statement requiring a full safety evaluation, then they wouldn't exclude them just because they were merely listed in the SAR.

This is in recognition that such activities are not considered to be "tests or experiments," but fall within the scope of 50.59 for "changes to procedures as described in the SAR," whether such activities are described in detail or not.

The industry's position is very similar - NSAC-125/NEI 96-07 states:

Written Safety Evaluations are required for test or experiments not described in the SAR. The intent of the 50.59 criterion is to require Safety Evaluations of tests and experiments that might affect safe operation of the plant but were not anticipated by the SAR. By regulatory definition, these are tests and experiments which could degrade the margins of safety during normal operations or anticipated transients or degrade the adequacy of SSCs to prevent accidents or mitigate accident conditions. Thus, previously evaluated

tests do not require written Safety Evaluations under 50.59. For example, for preoperational tests, surveillance tests, functional tests and startup tests that are performed monthly, quarterly or on a refueling outage basis, Safety Evaluations are not required every time a test is performed. However, *one-of-a-kind tests used to measure the effectiveness of new techniques or a new system configuration that can affect systems important to safety will require Safety Evaluations before being conducted.* Post-modification testing should be considered *if an abnormal mode of operation is required* and may be included in the modification safety analysis. (emphasis added)

Thus, it is apparent that routine surveillance tests, whether described in detail in the FSAR or not, are not considered "tests or experiments" under this regulation, as long as they are bounded by the normal operating modes and conditions described in the FSAR.