

Arizona Public Service Company

September 25, 1984
ANPP-30640-EEVBJr/TJB

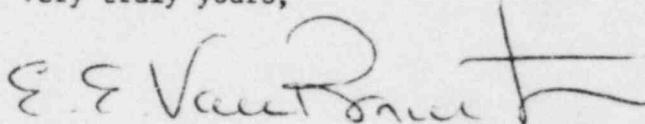
U. S. Nuclear Regulatory Commission
Region V
1450 Maria Lane, Suite 210
Walnut Creek, CA 94596-5368

Attention: Mr. J. B. Martin
Regional Administrator, Region V

Subject: NRC IE Bulletin 84-02: Failures of General Electric Type HFA
Relays in use in Class IE Safety Systems
File: 84-055-026; D.4.01.1

This letter refers to the request for information, as identified in the subject Bulletin, that was received by APS on March 22, 1984. Attached please find the responses to only those specific questions directed to Plants Under Construction.

Very truly yours,



E. E. Van Brunt, Jr.
APS Vice President
Nuclear Production
ANPP Project Director

EEVBJr/TJB/dlm

Attachment

cc: R. P. Zimmerman (w/attach)
E. A. Licitra "
A. C. Gehr "
U. S. Nuclear Regulatory Commission (Original) (w/attach)
Document Control Desk
Washington, D.C. 20555

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STATE OF ARIZONA)
) ss.
COUNTY OF MARICOPA)

I, Edwin E. Van Brunt, Jr., represent that I am Vice President, Nuclear Production, of Arizona Public Service Company, that the foregoing document has been signed by me on behalf of Arizona Public Service Company with full authority to do so, that I have read such document and know its contents, and that to the best of my knowledge and belief, the statements made therein are true.

Edwin E. Van Brunt, Jr.

Edwin E. Van Brunt, Jr.

Sworn to before me this 25th day of September, 1984.

Barbara L. Helweg

Notary Public

My Commission Expires:

09-05-87

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NRC Question

Actions for All Holders of Operating Licenses or Construction Permits:

Since GE asserts that the new Century Series HFA relay has been successfully tested to the environmental and seismic requirements specified in IEEE-323-1974 and IEEE-344-1975 Standards, this relay, or one of equal qualification, may be an acceptable replacement for Lexan/Nylon HFA relay now in service at many nuclear power plants. However, the licensee is responsible for determining that all safety grade equipment in the plant, including relays, is qualified for its intended service. That is, the licensee must establish and document that the service life and reliability of the relay is acceptable, and that the relays have been qualified for the environmental and seismic conditions that this equipment may encounter at its installed location in the plant.

PVNGS Response

Palo Verde has identified that the new Century Series HFA relays are only installed in areas considered as "Mild Environment". Since the main difference between the originally installed HFA relays and the Century Series HFA relays is the new tefzel composition of the coil spool, the relays can be considered seismically qualified from the fact that tefzel displays superior aging characteristics as compared to the original nylon or lexan composition. Palo Verde is currently in the process of documenting that the relays have been qualified for the conditions that they may encounter in their installed locations. This effort is expected to be completed by October 15, 1984.

NRC Question

2. Plants Under Construction

- a. Provide plans and schedules for replacing both normally energized and normally de-energized HFA relays as specified by this bulletin in item 1a which are used in safety-related systems at your facility(ies). Your schedule shall ensure that these relays are replaced before the scheduled date for OL issuance or within two years from the date of this bulletin, whichever is longer. If these relays are not planned to be replaced before OL issuance, item 1b shall be implemented at the time of license issuance and a response to item 1c is required.

PVNGS Response

In response to previously issued NRC IE Information Notice 82-13, a Design Change Package (DCP-OE-PB-015) was issued to replace all class 1E (safety-related) HFA relays with nylon or lexan coil spools and to test and replace as necessary all non-class 1E HFA relays with nylon or lexan spools. To date, the DCP is complete for Unit 1 and all of the HFA relays in question have been removed from the class 1E switchgear and replaced with the new "Century Series" HFA relay. Additionally, all of the non-class 1E relays have been tested as recommended by the GE Service Advice and have been found to be acceptable. For Units 2 and 3, both the normally energized and normally de-energized nylon or lexan HFA relays installed in safety related systems will be replaced prior to each unit's respective fuel load date, currently scheduled for September, 1986 and January, 1987.

NRC Question

4. If your plant uses or plans to continue to use the nylon or Lexan-type HFA relay in systems other than those safety-related applications defined in this bulletin, then the appropriate administrative controls dealing with maintenance, storage, and handling of spare parts at your facility must be revised to ensure that the older and problematic HFA relay coils are not inadvertently used as a replacement part in safety-related applications in future maintenance efforts at your facility(ies).

PVNGS Reponse

In mid May, 1984, APS Quality Assurance initiated a review of project procedures/programs concerning material control. The scope of this review included Construction, Startup, and Operations, emphasizing the interface controls established between organizations, as well as evaluating the effectiveness of the program from a project-wide viewpoint.

This review identified several areas where procedural enhancements are required to control materials at the interface junctures between organizations. A preliminary report was prepared in mid June, 1984, and organizations informally appraised of its contents. Based on this preliminary evaluation, APS QA convened project team meetings on July 11, 1984 and July 16, 1984 to address the material control issues on a project-wide basis and to establish a coordinated plan of action. A project team has been formed to provide the necessary procedural and programmatic enhancements.

The necessary enhancements required as a result of the effort described above have encompassed the concerns identified by item 4. above. Additionally, the Palo Verde Maintenance Department has determined that no HFA relays containing nylon or lexan coil spools currently exist as spare parts in the APS warehouse. These actions provide assurance that the problematic relays will not be inadvertently used as a replacement part in safety-related application in a future maintenance effort.

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NRC Question

Although the specific details involving the identified relay failures described above may not directly apply to your facility(ies), you are asked to review the general concerns expressed in the bulletin for applicability at your facility(ies). For example, if a different type of relay is used for the same safety functions described in this bulletin, or relays with similar materials are used for other safety-related functions, past operating history and the manufacturer's recommendations should be reviewed to determine if additional action is appropriate. Your response should describe the results of the review, and, if the general concerns apply, you should describe the short-term and long-term corrective actions to be taken and the schedules thereof.

PVNGS Response

APS has performed a review of the general concerns to the Bulletin and believes that the general concerns do not apply to PVNGS based on the fact that the following programs are in operation for the purpose of assuring that components, such as relays, are either preempted from or carefully monitored for manufacturing defects that would affect safety related performance.

Purchase orders for safety related components used at PVNGS specify that the vendor is subject to the requirements of 10 CFR Part 21. This ensures that any defects found in their components that may affect a safety related operation are identified and reported. The PVNGS Quality Assurance program ensures manufacturers' compliance with safety-related quality standards through pre-award vendor evaluations and post-award performance evaluations (surveillances, hold points, audits, source inspections, receiving inspections and receipt testing).

The Startup Test Program includes testing activities commencing with system transfer from construction and ending with the completion of the power ascension testing. This test program demonstrates that components and systems operate in accordance with design requirements and meet the requirements of 10 CFR 50, Appendix B, Criterion XI. The Startup Test Program results confirm that performance levels meet the operational safety requirements delineated in the FSAR, and verify the adequacy of component and system design and system operability over the operating range of the system.

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During the operational phase, surveillance testing is performed on a periodic basis. The successful implementation of the Surveillance Testing Program will ensure compliance with the surveillance requirements of the PVNGS Technical Specifications, thus ensuring OPERABILITY of safety-related structures, systems and components during the applicable OPERATIONAL MODE(s).

Finally, the Maintenance program will track failed components and their repair or replacement. Maintenance engineers use the tracking information to establish component failure trends and their source of failure. This data is discussed with the Equipment Qualification group of Nuclear Engineering for any additional input or recommendations concerning common mode failure implications to qualified life.

As noted in NRC IE Information Notice 84-20, the Agastat GP Series relay and the GTE Sylvania AC relay were identified as having problems similar to those discussed in NRC IE Bulletin 84-02. The general concerns associated with the HFA relay failures discussed in that Bulletin also apply to the above relays. Our A/E has performed a review of all safety-related systems for useage of the specified relays. It has been determined that neither of the questionable relays is utilized at PVNGS.

We feel that the preceeding information, in conjunction with the on-going reviews performed on NRC IE Bulletins, Notices and INPO material, provides APS with the necessary tools to keep abreast of important component failures and ensure that they do not adversely affect the safe operation of PVNGS.

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NRC Question

Although no specific request or requirement is intended, the following information would be helpful to the NRC in evaluating the cost of this bulletin:

1. Staff time to perform requested review.
2. Staff time to prepare requested documentation.

PVNGS Response

Based on the fact that a major portion of the HFA relay review was done prior to the issuance of Bulletin 84-02 and no records were kept concerning this effort, we feel that we cannot provide meaningful input to your request.