



ALLIANT ENERGY

November 10, 1999
NG-99-1338

Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
Mail Station 0-P1-17
Washington, DC 20555-0001

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Subject: Duane Arnold Energy Center
Docket No: 50-331
Op. License No: DPR-49
Response to Generic Letter 99-02, "Laboratory Testing of Nuclear-Grade Activated Charcoal" and Technical Specification Change Request (TSCR-027): "Revision to Ventilation Filter Testing Program"
File: A-117

Dear Sir(s):

Generic Letter (GL) 99-02, "Laboratory Testing of Nuclear-Grade Activated Charcoal" Requested Action 1 requires that within 180 days of the date of the GL each licensee submit a written response describing its current Technical Specification (TS) requirements for the laboratory testing of charcoal samples for each engineered safety feature (ESF) ventilation system including the specific test protocol, temperature, relative humidity (RH), charcoal bed thickness, total residence time per bed depth, and penetration at which the TS requires the test to be performed.

The Duane Arnold Energy Center's (DAEC's) two ESF ventilation systems are the Standby Gas Treatment (SBGT) system and the Standby Filter Unit (SFU) system. The current TS requirements for charcoal testing are based on ASTM D3803-1979; however, the surveillance test procedure has called for withdrawing two samples and testing to both the 1979 and 1989 revisions of ASTM D3803 since 1991. The following table delineates the TS requirements for each system:

	Standby Gas Treatment	Standby Filter Unit
Temperature, °F	≥ 150	≥ 125
RH, %	≥ 70 ¹	≥ 95
Penetration, %	< 1	< 10

The TS does not specify bed thickness or total residence time.

¹ The Standby Gas Treatment system is equipped with humidity controls.

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In accordance with the Code of Federal Regulations, Title 10, Sections 50.59 and 50.90, Alliant Energy hereby requests revision to the Technical Specifications for DAEC.

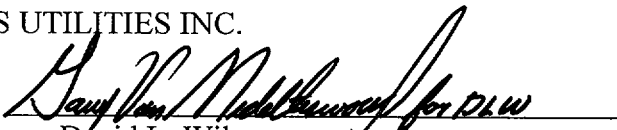
Per Requested Action 2 of Generic Letter 99-02, "Laboratory Testing of Nuclear-Grade Activated Charcoal", Alliant Energy proposes to revise the Ventilation Filter Testing Program, DAEC TS requirement 5.5.7.c, to commit to the ASTM D3803-1989 test protocol. The proposed changes are consistent with Attachment 2, Sample Technical Specifications, in the GL. Because the current TS penetration limits do not reflect a safety factor in excess of that assumed in the dose calculations of the DAEC accident analysis, the enclosed Technical Specification Change Request also proposes to halve the current allowable penetration values to correspond to a safety factor of 2. The next tests are scheduled to be completed no later than March 31, 2000.

This application has been reviewed by the DAEC Operations Committee and the Safety Committee. A copy of this submittal, along with the 10CFR50.92 evaluation of No Significant Hazards Consideration, is being forwarded to our appointed state official pursuant to 10 CFR Section 50.91.

This letter is true and accurate to the best of my knowledge and belief.

IES UTILITIES INC.

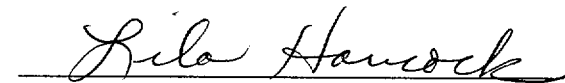
By


David L. Wilson
Vice President, Nuclear

State of Iowa
(County) of Linn

Signed and sworn to before me on this 10th day of November 1999,

by Gary Van Middlesworth


Notary Public in and for the State of Iowa



5-14-2002
Commission Expires

- Attachments: 1) EVALUATION OF CHANGE PURSUANT TO 10 CFR
SECTION 50.92
2) PROPOSED CHANGE TSCR-027 TO THE DUANE ARNOLD
ENERGY CENTER TECHNICAL SPECIFICATIONS
3) SAFETY ASSESSMENT
4) ENVIRONMENTAL CONSIDERATION
5) TSCR-027 MARKED UP AND CLEAN TYPED PAGES

cc: L. Sueper
E. Protsch
B. Mozafari (NRC-NRR)
J. Dyer (Region III)
D. McGhee (State of Iowa)
NRC Resident Office
Docu

EVALUATION OF CHANGE PURSUANT TO 10 CFR SECTION 50.92Background:

Generic Letter 99-02 alerted licensees that the NRC has determined that testing nuclear-grade activated charcoal to standards other than American Society for Testing and Materials (ASTM) D3803-1989 does not provide adequate assurance for complying with the current licensing basis as it relates to the dose limits of General Design Criterion (GDC) 19 of Appendix A to Part 50 of Title 10 of the Code of Federal Regulations (10CFR) and subpart A of 10CFR Part 100. The NRC requested that licensees amend their TS to reference ASTM D3803-1989 or propose an alternative test protocol.

IES Utilities Inc., Docket No. 50-331Duane Arnold Energy Center, Linn County, IowaDate of Amendment Request: November 10, 1999Description of Amendment Request:

Section 5.5.7.c shall be revised to the following:

Demonstrate for each of the ESF systems that a laboratory test of a sample of the charcoal adsorber, when obtained as described in Regulatory Guide 1.52 Revision 2, shows the methyl iodide penetration less than the value specified below when tested in accordance with ASTM D3803-1989 at a temperature of 30°C and the relative humidity specified below:

ESF Ventilation System	Penetration	Relative Humidity
SGBT System	< 0.5%	≥ 70%
SFU System	< 5.0%	≥ 95%

Basis for proposed No Significant Hazards Consideration:

The Commission has provided standards (10 CFR Section 50.92(c)) for determining whether a significant hazards consideration exists. A proposed amendment to an operating license for a facility involves no significant hazards consideration if operation of the facility in accordance with the proposed amendment would not (1) involve a significant increase in the probability or consequences of an accident previously evaluated; (2) create the possibility of a new or different kind of accident from any accident previously evaluated; or (3) involve a significant reduction in a margin of safety.

After reviewing this proposed amendment, we have concluded:

1. The proposed amendment will not involve a significant increase in the probability or consequences of an accident previously evaluated.

The ESF ventilation systems are not initiators of any accident previously evaluated and the change in testing protocol to ASTM D3803-1989 as requested by the NRC will be more accurate and realistic and provide greater assurance of consistency. The acceptance criteria will be more conservative than those currently used in TS 5.5.7.c.

2. The proposed amendment will not create the possibility of a new or different kind of accident from any accident previously evaluated.

No new types of accidents are being introduced because no modifications or changes in operations are being proposed for the ESF ventilation systems. The proposed changes to TS 5.5.7.c impact acceptance criteria and test protocols only.

3. The proposed amendment will not involve a significant reduction in a margin of safety.

The margin of safety is not reduced. The proposed change in ESF ventilation testing protocol includes a safety factor of two (2) for the penetration limit in excess of that assumed in the dose calculations of the DAEC accident analysis.

Based upon the above, we have determined that the proposed amendment will not involve a significant hazards consideration.

Local Public Document Room Location: Cedar Rapids Public Library, 500 First Street SE, Cedar Rapids, Iowa 52401

Attorney for Licensee: Al Gutterman; Morgan, Lewis & Bockius, 1800 M Street NW, Washington, D.C. 20036-5869

PROPOSED CHANGE TSCR-027 TO THE DUANE ARNOLD ENERGY CENTER
TECHNICAL SPECIFICATIONS

The holders of license DPR-49 for the Duane Arnold Energy Center propose to amend the Technical Specifications by deleting page 5.0-13 and replacing it with the enclosed new page.

SUMMARY OF CHANGES:

<u>Page</u>	<u>Description of Changes</u>
5.0-13	Revises TS 5.5.7.c. to adopt ASTM D3803-1989 as the testing standard for charcoal samples obtained as described in Regulatory Guide 1.52 Revision 2. The penetration limit is being changed to 0.5% for the SBT System and 5.0% for the SFU System to reflect a safety factor of 2.0.

SAFETY ASSESSMENT

1. Introduction:

By letter dated November 10, 1999, Alliant Energy submitted a request for revision of the Technical Specifications (TS) for the Duane Arnold Energy Center (DAEC). The proposed amendment would revise TS 5.5.7.c to change the laboratory test protocol for Engineered Safety Feature (ESF) charcoal adsorbers. The proposed change would specify that adsorbers be tested in accordance with ASTM D3803-1989 at a temperature of 30°C and a relative humidity of at least 70% for the Standby Gas Treatment (SBGT) System and at least 95% for the Standby Filter Unit (SFU) System. The testing will demonstrate a methyl iodide penetration less than 0.5% for the SBGT system and less than 5.0% for the SFU system. These limits represent a safety factor of 2 over the design bases limit.

2. Evaluation:

The amendment would revise TS 5.5.7.c. to adopt ASTM D3803-1989 as the testing standard for charcoal samples obtained as described in Regulatory Guide 1.52 Revision 2. The penetration limit is being changed to 0.5% for the SBGT System and 5.0% for the SFU System to reflect a safety factor of 2.0. The NRC, in Generic Letter 99-02, "Laboratory Testing of Nuclear-Grade Activated Charcoal", has determined that testing to standards other than ASTM D3803-1989 does not provide adequate assurance for complying with the current licensing basis as it relates to the acceptance criteria of General Design Criteria 19.

The amendment will also change the acceptance criteria to reflect a safety factor of two (2) as requested in Generic Letter 99-02.

Therefore, we conclude that the proposed revision to the DAEC TS is acceptable.

ENVIRONMENTAL CONSIDERATION

10 CFR Section 51.22(c)(9) identifies certain licensing and regulatory actions that are eligible for categorical exclusion from the requirement to perform an environmental assessment. A proposed amendment to an operating license for a facility requires no environmental assessment if operation of the facility in accordance with the proposed amendment would not: (1) involve a significant hazards consideration; (2) result in a significant change in the types or significant increase in the amounts of any effluents that may be released offsite; and (3) result in a significant increase in individual or cumulative occupational radiation exposure. Alliant Energy has reviewed this request and determined that the proposed amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR Section 51.22(c)(9). Pursuant to 10 CFR Section 51.22(b), no environmental impact statement or environmental assessment needs to be prepared in connection with the issuance of the amendment. The basis for this determination follows:

Basis

The change meets the eligibility criteria for categorical exclusion set forth in 10 CFR Section 51.22(c)(9) for the following reasons:

1. As demonstrated in Attachment 1 to this letter, the proposed amendment does not involve a significant hazards consideration.
2. There is no significant change in the types or significant increase in the amounts of any effluents that may be released offsite. The change in commitment to the ASTM D3803-1989 protocol for testing the SBT system charcoal adsorbers provides increased assurance that the adsorbers will meet Part 100 dose limits for offsite releases.
3. There is no increase in individual or cumulative occupational radiation exposure. The change in commitment to the ASTM D3803-1989 protocol for testing the SFU System charcoal adsorbers provides increased assurance that the adsorbers will meet Part 20 dose limits for the Control Room Operators and General Design Criterion 19, "Control Room".

TSCR-027 MARKED UP AND CLEAN TYPED PAGES

5.5 Programs and Manuals

5.5.7 Ventilation Filter Testing Program (VFTP) (continued)

- b. Demonstrate for each of the ESF systems that an in-place test of the charcoal adsorber shows a penetration and system bypass at the value specified and at the system flowrate specified below:

ESF Ventilation System	Penetration and System Bypass (%)	Flowrate (cfm)
SBG T System	< 0.1	3600 - 4400
SFU System	< 1.0	900 - 1100

- c. *When obtained as described in Regulatory Guide 1.52 Revision 2*
 Demonstrate for each of the ESF systems that a laboratory test of a sample of the charcoal adsorber, shows the methyl iodide penetration less than the value specified below and at the conditions specified below:

When tested in accordance with ASTM D3893-1989 at a temperature of 30°C and the relative humidity specified below:

	ESF Ventilation System	
	SBG T System	SFU System
Penetration	< 1.0%	< 10%
Methyl iodide concentration (mg/m ³)	0.5 to 1.5	0.05 to 0.15
Face velocity (fpm)	36 to 44	36 to 44
Temperature (degrees F)	≥ 150	≥ 125
Relative Humidity (%)	≥ 70	≥ 95

- d. Demonstrate for each of the ESF systems that the pressure drop across the combined HEPA filters, the prefilters (SBG T System only), and the charcoal adsorbers is less than the value specified below and at the system flowrate specified as follows:

ESF Ventilation System	Penetration	Relative Humidity
SBG T System	< 0.5%	≥ 70°
SFU System	< 5.0%	≥ 95°

(continued)

5.5 Programs and Manuals

5.5.7 Ventilation Filter Testing Program (VFTP) (continued)

- b. Demonstrate for each of the ESF systems that an inplace test of the charcoal adsorber shows a penetration and system bypass at the value specified and at the system flowrate specified below:

ESF Ventilation System	Penetration and System Bypass (%)	Flowrate (cfm)
SBGT System	< 0.1	3600 - 4400
SFU System	< 1.0	900 - 1100

- c. Demonstrate for each of the ESF systems that a laboratory test of a sample of the charcoal adsorber, when obtained as described in Regulatory Guide 1.52 Revision 2, shows the methyl iodide penetration less than the value specified below when tested in accordance with ASTM D3803-1989 at a temperature of 30°C and the relative humidity specified below:

ESF Ventilation System	Penetration	Relative Humidity
SBGT System	< 0.5%	≥ 70%
SFU System	< 5.0%	≥ 95%

- d. Demonstrate for each of the ESF systems that the pressure drop across the combined HEPA filters, the prefilters (SBGT System only), and the charcoal adsorbers is less than the value specified below and at the system flowrate specified as follows:

(continued)
