NOVEMBER 1 4 1978

Docket Nos. 50-10, 50-29, 50-155, 50-206, 50-213, 50-219, 50-237, 50-244, 50-245, 50-255 and 50-409

MEMORANDUM_FOR: D. L. Ziemann, Chief, Operating Reactors Branch #2, DOR

FROM:

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D. K. Davis, Chief, Systematic Evaluation Program Branch, DOR

SUBJECT: SEP SAFETY ASSESSMENT INPUTS - DRESDEN L, YANKEE ROWE, BIG ROCK POINT, SAN ONOFRE, HADDAM NECK, OYSTER CREEK, DRESDEN R, GINNA, MILLSTONE 1, PALISADES AND LACROSSE

Attached for the dockets identified above are the draft evaluations for the following topic:

Topic VIII-3.A Station Battery Test Requirements

These evaluations are to be included in the Safety Assessment for the plants identified above at the completion of the Systematic Evaluation Program.

Please forward these initial evaluations to the licensees with a request that they examine the facts upon which the staff has based its conclusions. The licensees should respond either that the facts describing the plant test requirements are correct or in error. Additionally, the licensees should be encouraged to supply any other material that might affect the staff's evaluation.

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Original Signed by Bon K. Davis

Don K. Davis, Chief Systematic Evaluation Program Branch Division of Toperating Reactors

Contact: F. Ashe X27276 D. McDonald X28414

cc w/attachments:

Attachments: As stated

V. Stello D. Eisenhut DISTRIBUTION — Dockets NRC PDRs DMcDonald DDavis SEPB Reading OCB=2 PM75

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OF SEP	Members	DOR SEPRARP	DOR: SPREVC		
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UNITED STATES NUCLEAR REGULATORY COMMISSION WASHINGTON, D. C. 20555

November 14, 1978

Docket Nos. 50-10, 50-29, 50-155, 50-206, 50-213, 50-219, 50-237, 50-244, 50-245, 50-255 and 50-409

MEMORANDUM FOR: D. L. Ziemann, Chief, Operating Reactors Branch #2, DOR

FROM:

D. K. Davis, Chief, Systematic Evaluation Program Branch, DOR

SUBJECT: SEP SAFETY ASSESSMENT INPUTS - DRESDEN 1, YANKEE ROWE, BIG ROCK POINT, SAN ONOFRE, HADDAM NECK, OYSTER CREEK, DRESDEN 2, GINNA, MILLSTONE 1, PALISADES AND LACROSSE

Attached for the dockets identified above are the draft evaluations for the following topic:

Topic VIII-3.A Station Battery Test Requirements

These evaluations are to be included in the Safety Assessment for the plants identified above at the completion of the Systematic Evaluation Program.

Please forward these initial evaluations to the licensees with a request that they examine the facts upon which the staff has based its conclusions. The licensees should respond either that the facts describing the plant test requirements are correct or in error. Additionally, the licensees should be encouraged to supply any other material that might affect the staff's evaluation.

Don K. Davis, Chief Systematic Evaluation Program Branch Division of Operating Reactors

Contact: F. Ashe X27276 D. McDonald X28414

Attachments: As stated

cc w/attachments:

V. Stello

D. Eisenhut

D. McDonald

F. Ashe (2)

SEPB Members

BATTERY CAPACITY TESTS

DRESDEN UNIT 1

DOCKET NO: 50-10

Topic VIII-3.A Station Battery Test Requirements

The objective of this review is to assure that the onsite Class IE battery capacity to supply all safety related D-C loads is verified by periodic testing.

The testing should be in accordance with IEEE Standard 450-1975, IEEE Standard 308-1974, BTP EICSB 6 and the "Standard Technical Specifications for General Electric Boiling Water Reactors" (NUREG-0123). The required tests are as follows:

- 1. At least once per 18 months, during shutdown, a <u>battery service test</u> should be performed to verify that the battery capacity is adequate to supply and maintain in operable status all of the actual emergency loads for 2 hours.
- 2. At least once per 60 months, during shutdown, a <u>battery discharge test</u> should be performed to verify that the battery capacity is at least 80% of the manufacturer's rating.

The Dresden Unit 1 Nuclear Station battery surveillance requirements are included in Section 4.9 of the station technical specifications. These specifications require a battery rated load discharge test at each refueling outage; however, they do not require a battery service test. Therefore, the Dresden Unit 1 Nuclear Station deviates from current licensing requirements in that its technical specifications do not require a battery service test and these specifications do not indicate that the battery rated load discharge test verifies that the battery capacity is at least 80% of the manufacturers rating.

- 1. "Dresden Unit 1 Technical Specifications", Commonwealth Edison Company.
- 2. Standard Review Plan, Appendix 7-A, BTP EICSB 6, "Capacity Test Requirements of Station Batteries - Technical Specifications", U. S. Nuclear Regulatory Commission.
- 3. "IEEE Standard Criteria for Class IE Power Systems for Nuclear Power Generating Stations", Std. No. 308-1974, The Institute of Electrical and Electronics Engineers, Inc.
- 4. "IEEE Recommended Practice for Maintenance, Testing and Replacement of Large Lead Storage Batteries for Std. No. 450-1975, The Institute of Electrical and Electronics Engineers, Inc.
- 5. "Standard Technical Specifications for General Electric Boiling Water Reactors", NUREG-0123, U. S. Nuclear Regulatory Commission.

BATTERY CAPACITY TESTS

YANKEE ROWE

DOCKET NO: 50-29

Topic VIII-3.A Station Battery Test Requirements

The objective of this review is to assure that the onsite Class IE battery capacity to supply all safety related D-C loads is verified by periodic testing.

The testing should be in accordance with IEEE Standard 450-1975, IEEE Standard 308-1974, BTP EICSB 6 and the "Standard Technical Specifications for Westinghouse Pressurized Water Reactors" (NUREG-0452). The required tests are as follows:

- 1. At least once per 18 months, during shutdown, a <u>battery service test</u> should be performed to verify that the battery capacity is adequate to supply and maintain in operable status all of the actual emergency loads for 2 hours.
- 2. At least once per 60 months, during shutdown, a <u>battery discharge test</u> should be performed to verify that the battery capacity is at least 80% of the manufacturer's rating.

The technical specifications for the Yankee Rowe Nuclear Station include in Section 4.8.2.3.2 the periodic battery service and discharge tests. Therefore, the Yankee Rowe Nuclear Station complies with current licensing requirements for station battery capacity tests. No additional SEP action is necessary.

- 1. "Yankee Nuclear Power Station Technical Specifications, Appendix A, License No. DPR-3", Yankee Atomic Electric Company.
- Standard Review Plan, Appendix 7-A, BTP EICSB 6, "Capacity Test Requirements of Station Batteries - Technical Specifications", U. S. Nuclear Regulatory Commission.
- 3. "IEEE Standard Criteria for Class IE Power Systems for Nuclear Power Generating Stations", Std. No. 308-1974, The Institute of Electrical and Electronics Engineers, Inc.
- 4. "IEEE Recommended Practice for Maintenance, Testing and Replacement of Large Lead Storage Batteries for Std. No. 450-1975, The Institute of Electrical and Electronics Engineers, Inc.
- 5. "Standard Technical Specifications for Westinghouse Pressurized Water Reactors", NUREG-0452, U. S. Nuclear Regulatory Commission.

BATTERY CAPACITY TESTS

BIG ROCK POINT

DOCKET NO: 50-155

Topic VIII-3.A Station Battery Test Requirements

The objective of this review is to assure that the onsite Class IE battery capacity to supply all safety related D-C loads is verified by periodic testing.

The testing should be in accordance with IEEE Standard 450-1975, IEEE Standard 308-1974, BTP EICSB 6 and the "Standard Technical Specifications for General Electric Boiling Water Reactors" (NUREG-0123). The required tests are as follows:

- 1. At least once per 18 months, during shutdown, a <u>battery service test</u> should be performed to verify that the battery capacity is adequate to supply and maintain in operable status all of the actual emergency loads for 2 hours.
- 2. At least once per 60 months, during shutdown, a <u>battery discharge test</u> should be performed to verify that the battery capacity is at least 80% of the manufacturer's rating.

The technical specifications for the Big Rock Point Nuclear Station include in Section 11.4.5.3 the required battery service and discharge tests at the required intervals. Therefore, the Big Rock Point Nuclear Station battery tests comply with current licensing requirements. No additional SEP action is necessary.

- 1. "Big Rock Point Technical Specifications", Consumers Power Company.
- Standard Review Plan, Appendix 7-A, BTP EICSB 6, "Capacity Test Requirements of Station Batteries - Technical Specifications", U. S. Nuclear Regulatory Commission.
- 3. "IEEE Standard Criteria for Class IE Power Systems for Nuclear Power Generating Stations", Std. No. 308-1974, The Institute of Electrical and Electronics Engineers, Inc.
- 4. "IEEE Recommended Practice for Maintenance, Testing and Replacement of Large Lead Storage Batteries for Std. No. 450-1975, The Institute of Electrical and Electronics Engineers, Inc.
- 5. "Standard Technical Specifications for General Electric Boiling Water Reactors", NUREG-0123, U. S. Nuclear Regulatory Commission.

BATTERY CAPACITY TESTS

SAN ONOFRE

DOCKET NO: 50-206

Topic VIII-3.A Station Battery Test Requirements

The objective of this review is to assure that the onsite Class IE battery capacity to supply all safety related D-C loads is verified by periodic testing.

The testing should be in accordance with IEEE Standard 450-1975, IEEE Standard 308-1974, BTP EICSB 6 and the "Standard Technical Specifications for Westinghouse Pressurized Water Reactors" (NUREG-0452). The required tests are as follows:

- 1. At least once per 18 months, during shutdown, a <u>battery service test</u> should be performed to verify that the battery capacity is adequate to supply and maintain in operable status all of the actual emergency loads for 2 hours.
- 2. At least once per 60 months, during shutdown, a <u>battery discharge test</u> should be performed to verify that the battery capacity is at least 80% of the manufacturer's rating.

The technical specifications for the San Onofre Nuclear Station include in Section 4.4 D the required battery service and discharge tests at the required intervals. Therefore, the San Onofre Nuclear Station battery tests comply with current licensing requirements. No additional SEP action is necessary.

- 1. "San Onofre Technical Specifications", Southern California Edison Company.
- Standard Review Plan, Appendix 7-A, BTP EICSB 6, "Capacity Test Requirements of Station Batteries - Technical Specifications", U. S. Nuclear Regulatory Commission.
- 3. "IEEE Standard Criteria for Class IE Power Systems for Nuclear Power Generating Stations", Std. No. 308-1974, The Institute of Electrical and Electronics Engineers, Inc.
- 4. "IEEE Recommended Practice for Maintenance, Testing and Replacement of Large Lead Storage Batteries for Std. No. 450-1975, The Institute of Electrical and Electronics Engineers, Inc.
- 5. "Standard Technical Specifications for Westinghouse Pressurized Water Reactors", NUREG-0452, U. S. Nuclear Regulatory Commission.

BATTERY CAPACITY TESTS

HADDAM NECK

DOCKET NO: 50-213

Topic VIII-3.A Station Battery Test Requirements

The objective of this review is to assure that the onsite Class IE battery capacity to supply all safety related D-C loads is verified by periodic testing.

The testing should be in accordance with IEEE Standard 450-1975, IEEE Standard 308-1974, BTP EICSB 6 and the "Standard Technical Specifications for Westinghouse Pressurized Water Reactors" (NUREG-0452). The required tests are as follows:

- 1. At least once per 18 months, during shutdown, a <u>battery service test</u> should be performed to verify that the battery capacity is adequate to supply and maintain in operable status all of the actual emergency loads for 2 hours.
- 2. At least once per 60 months, during shutdown, a <u>battery discharge test</u> should be performed to verify that the battery capacity is at least 80% of the manufacturer's rating.

The technical specifications for the Haddam Neck Nuclear Station do not include any requirements for station battery tests. Therefore, the Haddam Neck Nuclear Station does not comply with current licensing requirements for station battery tests.

- 1. "Haddam Neck Technical Specifications", Connecticut Yankee Atomic Power Company.
- Standard Review Plan, Appendix 7-A, BTP EICSB 6, "Capacity Test Requirements of Station Batteries - Technical Specifications", U. S. Nuclear Regulatory Commission.
- 3. "IEEE Standard Criteria for Class IE Power Systems for Nuclear Power Generating Stations", Std. No. 308-1974, The Institute of Electrical and Electronics Engineers, Inc.
- 4. "IEEE Recommended Practice for Maintenance, Testing and Replacement of Large Lead Storage Batteries for Std. No. 450-1975, The Institute of Electrical and Electronics Engineers, Inc.
- 5. "Standard Technical Specifications for Westinghouse Pressurized Water Reactors", NUREG-0452, U. S. Nuclear Regulatory Commission.

BATTERY CAPACITY TESTS

OYSTER CREEK

DOCKET NO: 50-219

Topic VIII-3.A Station Battery Test Requirements

The objective of this review is to assure that the onsite Class IE battery capacity to supply all safety related D-C loads is verified by periodic testing.

The testing should be in accordance with IEEE Standard 450-1975, IEEE Standard 308-1974, BTP EICSB 6 and the "Standard Technical Specifications for General Electric Boiling Water Reactors" (NUREG-0123). The required tests are as follows:

- 1. At least once per 18 months, during shutdown, a <u>battery service test</u> should be performed to verify that the battery capacity is adequate to supply and maintain in operable status all of the actual emergency loads for 2 hours.
- 2. At least once per 60 months, during shutdown, a <u>battery discharge test</u> should be performed to verify that the battery capacity is at least 80% of the manufacturer's rating.

The technical specifications for the Oyster Creek Nuclear Station do not include the required periodic battery service and discharge tests. There fore, the Oyster Creek Nuclear Station does not comply with current licensing requirements for station battery tests.

- "Oyster Creek Technical Specifications", Jersey Central Power & Light Company.
- Standard Review Plan, Appendix 7-A, BTP EICSB 6, "Capacity Test Requirements of Station Batteries - Technical Specifications", U. S. Nuclear Regulatory Commission.
- 3.- "IEEE Standard Criteria for Class IE Power Systems for Nuclear Power Generating Stations", Std. No. 308-1974, The Institute of Electrical and Electronics Engineers, Inc.
- 4. "IEEE Recommended Practice for Maintenance, Testing and Replacement of Large Lead Storage Batteries for Std. No. 450-1975, The Institute of Electrical and Electronics Engineers, Inc.
- 5. "Standard Technical Specifications for General Electric Boiling Water Reactors", NUREG-0123, U. S. Nuclear Regulatory Commission.

BATTERY CAPACITY TESTS

DRESDEN UNIT 2

DOCKET NO: 50-237

Topic VIII-3.A Station Battery Test Requirements

The objective of this review is to assure that the onsite Class IE battery capacity to supply all safety related D-C loads is verified by periodic testing.

The testing should be in accordance with IEEE Standard 450-1975, IEEE Standard 308-1974, BTP EICSB 6 and the "Standard Technical Specifications for General Electric Boiling Water Reactors" (NUREG-0123). The required tests are as follows:

- 1. At least once per 18 months, during shutdown, a <u>battery service test</u> should be performed to verify that the battery capacity is adequate to supply and maintain in operable status all of the actual emergency loads for 2 hours.
- 2. At least once per 60 months, during shutdown, a <u>battery discharge test</u> should be performed to verify that the battery capacity is at least 80% of the manufacturer's rating.

The Dresden Unit 2 Nuclear Station battery surveillance requirements are included in Section 4.9 of the station technical specifications. These specifications require a battery rated load discharge test at each refueling outage; however, they do not require a battery service test. Therefore, the Dresden Unit 2 Nuclear Station deviates from current licensing requirements in that its technical specifications do not require a battery service test and these specifications do not indicate that the battery rated load discharge test verifies that the battery capacity is at least 80% of the manufacturers rating.

- 1. "Dresden Unit 2 Technical Specifications", Commonwealth Edison Company.
- Standard Review Plan, Appendix 7-A, BTP EICSB 6, "Capacity Test Requirements of Station Batteries - Technical Specifications", U. S. Nuclear Regulatory Commission.
- 3. "IEEE Standard Criteria for Class IE Power Systems for Nuclear Power Generating Stations", Std. No. 308-1974, The Institute of Electrical and Electronics Engineers, Inc.
- 4. "IEEE Recommended Practice for Maintenance, Testing and Replacement of Large Lead Storage Batteries for Std. No. 450-1975, The Institute of Electrical and Electronics Engineers, Inc.
- 5. "Standard Technical Specifications for General Electric Boiling Water Reactors", NUREG-0123, U. S. Nuclear Regulatory Commission.

BATTERY CAPACITY TESTS

R. E. GINNA

DOCKET NO: 50-244

Topic VIII-3.A Station Battery Test Requirements

The objective of this review is to assure that the onsite Class IE battery capacity to supply all safety related D-C loads is verified by periodic testing.

The testing should be in accordance with IEEE Standard 450-1975, IEEE Standard 308-1974, BTP EICSB 6 and the "Standard Technical Specifications for Westinghouse Pressurized Water Reactors" (NUREG-0452). The required tests are as follows:

- 1. At least once per 18 months, during shutdown, a <u>battery service test</u> should be performed to verify that the battery capacity is adequate to supply and maintain in operable status all of the actual emergency loads for 2 hours.
- 2. At least once per 60 months, during shutdown, a <u>battery discharge test</u> should be performed to verify that the battery capacity is at least 80% of the manufacturer's rating.

The R. E. Ginna Nuclear Station battery surveillance requirements are included in Section 4.6.3 of the station technical specifications. These specficiations require a battery load test at each refueling outage; however, they do not require a battery discharge test. Therefore, the R. E. Ginna Nuclear Station deviates from current licensing requirements in that its technical specifications do not require a battery discharge test and these specifications do not indicate that the battery load test verifies that the battery capacity is adequate to supply and maintain in operable status all of the actual emergency loads for 2 hours.

- 1. "Ginna Technical Specifications", Rochester Gas & Electric Company.
- Standard Review Plan, Appendix 7-A, BTP EICSB 6, "Capacity Test Requirements of Station Batteries - Technical Specifications", U. S. Nuclear Regulatory Commission.
- 3. "IEEE Standard Criteria for Class IE Power Systems for Nuclear Power Generating Stations", Std. No. 308-1974, The Institute of Electrical and Electronics Engineers, Inc.
- 4. "IEEE Recommended Practice for Maintenance, Testing and Replacement of Large Lead Storage Batteries for Std. No. 450-1975, The Institute of Electrical and Electronics Engineers, Inc.
- 5. "Standard Technical Specifications for Westinghouse Pressurized Water Reactors", NUREG-0452, U. S. Nuclear Regulatory Commission.

BATTERY CAPACITY TESTS

MILLSTONE 1

DOCKET NO: 50-245

Topic VIII-3.A Station Battery Test Requirements

The objective of this review is to assure that the onsite Class IE battery capacity to supply all safety related D-C loads is verified by periodic testing.

The testing should be in accordance with IEEE Standard 450-1975, IEEE Standard 308-1974, BTP EICSB 6 and the "Standard Technical Specifications for General Electric Boiling Water Reactors" (NUREG-0123). The required tests are as follows:

- 1. At least once per 18 months, during shutdown, a <u>battery service test</u> should be performed to verify that the battery capacity is adequate to supply and maintain in operable status all of the actual emergency loads for 2 hours.
- 2. At least once per 60 months, during shutdown, a <u>battery discharge test</u> should be performed to verify that the battery capacity is at least 80% of the manufacturer's rating.

The battery surveillance requirements for Millstone 1 Nuclear Station are included in Section 4.9B of the station technical specifications. The specifications require a battery discharge test at each refueling outage or at least every 18 months. The current licensing requirements for this test is 60 months. There is no battery service test required in the station technical specifications.

The battery discharge test is more stringent than the battery service test. However, the battery discharge test alone cannot replace the battery service test, since the battery discharge test may not verify that the battery capacity is adequate to supply and maintain in operable status all of the actual emergency loads for 2 hours. Therefore, the Millstone 1 Nuclear Station deviates from the current licensing requirements in that its technical specifications do not require a station battery service test.

- 1. "Millstone 1 Technical Specifications", Northeast Nuclear Energy Company.
- Standard Review Plan, Appendix 7-A, BTP EICSB 6, "Capacity Test Requirements of Station Batteries - Technical Specifications", U. S. Nuclear Regulatory Commission.
- 3. "IEEE Standard Criteria for Class IE Power Systems for Nuclear Power Generating Stations", Std. No. 308-1974, The Institute of Electrical and Electronics Engineers, Inc.
- 4. "IEEE Recommended Practice for Maintenance, Testing and Replacement of Large Lead Storage Batteries for Std. No. 450-1975, The Institute of Electrical and Electronics Engineers, Inc.
- 5. "Standard Technical Specifications for General Electric Boiling Water Reactors", NUREG-0123, U. S. Nuclear Regulatory Commission.

BATTERY CAPACITY TESTS

PALISADES

DOCKET NO: 50-255

Topic VIII-3.A Station Battery Test Requirements

The objective of this review is to assure that the onsite Class IE battery capacity to supply all safety related D-C loads is verified by periodic testing.

The testing should be in accordance with IEEE Standard 450-1975, IEEE Standard 308-1974, BTP EICSB 6 and the "Standard Technical Specifications for Combustion Engineering Pressurized Water Reactors" (NUREG-0212). The required tests are as follows.

- 1. At least once per 18 months, during shutdown, a <u>battery service test</u> should be performed to verify that the battery capacity is adequate to supply and maintain in operable status all of the actual emergency loads for 2 hours.
- 2. At least once per 60 months, during shutdown, a <u>battery discharge test</u> should be performed to verify that the battery capacity is at least 80% of the manufacturer's rating.

The Palisades Nuclear Station battery surveillance requirements are included in Section 4.7.2 of the station technical specifications. There are no periodic battery service and discharge tests required. Therefore, the Palisades Nuclear Station does not comply with the current licensing requirements for station battery capacity tests.

- 1. "Palisades Technical Specifications", Consumers Power Company.
- Standard Review Plan, Appendix 7-A, BTP EICSB 6, "Capacity Test Requirements of Station Batteries - Technical Specifications", U. S. Nuclear Regulatory Commission.
- 3. "IEEE Standard Criteria for Class IE Power Systems for Nuclear Power Generating Stations", Std. No. 308-1974, The Institute of Electrical and Electronics Engineers, Inc.
- 4. "IEEE Recommended Practice for Maintenance, Testing and Replacement of Large Lead Storage Batteries for Std. No. 450-1975, The Institute of Electrical and Electronics Engineers, Inc.
- 5. "Standard Technical Specifications for Combustion Engineering Pressurized Water Reactors", NUREG-0212, U. S. Nuclear Regulatory Commission.

BATTERY CAPACITY TESTS

LACROSSE

DOCKET NO: 50-409

Topic VIII-3.A Station Battery Test Requirements

The objective of this review is to assure that the onsite Class IE battery capacity to supply all safety related D-C loads is verified by periodic testing.

The testing should be in accordance with IEEE Standard 450-1975, IEEE Standard 308-1974, BTP EICSB 6 and the "Standard Technical Specifications for General Electric Boiling Water Reactors" (NUREG-0123). The required tests are as follows:

- 1. At least once per 18 months, during shutdown, a <u>battery service test</u> should be performed to verify that the battery capacity is adequate to supply and maintain in operable status all of the actual emergency loads for 2 hours.
- 2. At least once per 60 months, during shutdown, a <u>battery discharge test</u> should be performed to verify that the battery capacity is at least 80% of the manufacturer's rating.

The technical specifications for the LaCrosse Nuclear Station do not include any requirements for station battery tests. Therefore, the LaCrosse Nuclear Nuclear Station does not comply with current licensing requirements for station battery tests.

- 1. "LaCrosse Technical Specifications", Dairyland Power Cooperative.
- Standard Review Plan, Appendix 7-A, BTP EICSB 6, "Capacity Test Requirements of Station Batteries - Technical Specifications", U. S. Nuclear Regulatory Commission.
- 3. "IEEE Standard Criteria for Class IE Power Systems for Nuclear Power Generating Stations", Std. No. 308-1974, The Institute of Electrical and Electronics Engineers, Inc.
- 4. "IEEE Recommended Practice for Maintenance, Testing and Replacement of Large Lead Storage Batteries for Std. No. 450-1975, The Institute of Electrical and Electronics Engineers, Inc.
- 5. "Standard Technical Specifications for General Electric Boiling Water Reactors", NUREG-0123, U. S. Nuclear Regulatory Commission.