NORTHEAST UTILITIES
NU
THE CONNECTICUT LIGHT AND POWER COMPANY
THE HARTFORD ELECTRIC LIGHT COMPANY
WESTERN MASSACHUSETTS ELECTRIC COMPANY
HOLYOKE WATER POWER COMPANY
NORTHEAST UTILITIES SERVICE COMPANY
NORTHEAST NUCLEAR ENERGY COMPANY

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July 29, 1981

Docket Nos. 50-213
50-245
A01842

Mr. Darrell G. Eisenhut, Director
Division of Licensing
Office of Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission
Washington, D.C. 20555

References: (1) D. G. Eisenhut letter to All SEP Licensees, dated July 7, 1981.
(2) W. G. Counsil letter to D. G. Eisenhut, dated February 27, 1981.
(3) W. G. Counsil letter to D. M. Crutchfield, dated June 11, 1981.
(4) W. G. Counsil letter to H. R. Denton, dated July 16, 1981.

Gentlemen:

Haddam Neck Plant
Millstone Nuclear Power Station, Unit No. 1
Systematic Evaluation Program Redirection

In accordance with the Reference (1) request, Connecticut Yankee Atomic Power Company (CYAPCO) and Northeast Nuclear Energy Company (NNECO) representatives were present during the July 15, 1981 meeting held in Washington, D.C. During that meeting, the Staff requested the SEP licensees to commit sufficient resources to support the redirection approach and to complete the remaining SEP topic assessment on a schedule compatible with the conduct of the integrated assessment phase. In order to appropriately characterize our commitment, the following information is provided.

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By Reference (1), the Staff expressed its judgment that during the trial period, the SEP licensees had not met their commitments to perform acceptable topic safety assessments and to alleviate the backlog of topic safety evaluations. The Staff verbally supplemented Reference (1) during the July 15, 1981 meeting, by indicating that since Reference (1) was prepared, the quantity and quality of topic safety assessment had improved significantly. By the conclusion of the meeting, our representatives believed that the Staff had a more accurate perspective on the progress of the SEP licensees. To ensure this understanding is correct, a brief summary of the redirection approach is provided.

By Reference (2), CYAPCO and NNECO supplemented the original SEP redirection commitments by identifying those topics that were candidates for completion by April 30, 1981, and June 30, 1981 for the Haddam Neck Plant and Millstone Unit No. 1. Collectively, it was indicated that safety assessments would be submitted for 31 SEP topics. Although the Staff apparently counted a different number, by our count a total of 36 safety assessments were provided. There were four SEP topics included in Reference (2) for which safety assessments were not provided. In two cases the NRC completed the topic evaluation by determining that a previously issued license amendment resolved the topic. In the third instance, CYAPCO was informed that a topic was being evaluated by an NRC contractor. For the fourth topic, CYAPCO intends to provide the assessment by September 30, 1981. Despite having three candidate topics eliminated, our commitment was exceeded by some five topics, and the target for 60% completion was achieved according to Staff-provided statistics. The above summary constitutes the basis for our position that the Reference (1) characterization of our efforts is not accurate.

As the Staff is aware from previous meetings and correspondence, resources allocated towards completion of the SEP have been extensive. On seismic issues related to SEP Topic III-6, CYAPCO and NNECO have invested over $1.8 million in meeting analysis requirements on a plant specific basis. CYAPCO and NNECO have participated in several Owners Group activities including the seismic qualification of cable trays and raceway systems and the seismic qualification of electrical equipment. It is projected that over $1 million will be spent in these generic efforts merely to establish some ground rules and criteria for addressing components on a plant-specific basis. CYAPCO and NNECO have also expended approximately 5000 man-hours toward resolution of this SEP Topic. It is estimated that future expenditures will be comparable to that already expended.

Significant resources have also been expended relating to environmental qualification, originally an SEP topic. Prior to the issuance of I&E Bulletin 79-01B, some $4 million was expended on the replacement of all safety-related electrical penetrations of the Haddam Neck Plant. Additional resources were also expended in replacement of the Raychem sleeves at Millstone Unit No. 1 and terminal blocks at the Haddam Neck Plant. Additional information concerning resource expenditures related to environmental qualification can be found in Reference (4).

It is estimated that as the Haddam Neck Plant and Millstone Unit No. 1 begins the integrated assessment phase of the SEP and the level of work directed to SEP will increase. Until all the deviations and proposed modifications are identified, it is impossible to accurately quantify the resource levels which will be required to complete the SEP, however, CYAPCO and NNECO conservatively expect a three-fold increase in capital and manpower requirements.

Having established the pertinent background information, CYAPCO and NNECO hereby document their intention to allocate sufficient resources to complete the balance of the SEP on a schedule compatible with the scheduled start of the integrated assessment phase. To ensure a thorough and accurate understanding, the status of each SEP topic is provided on the attached tables. Topics are listed as either:

1. Generic
2. Deleted
3. Completed (Status 4b or above)
4. Lead Plant Topics
5. Topic Assessments to be prepared by CYAPCO/NNECO - schedule included
6. Topic Assessments to be prepared by NRC and/or its contractors

The following clarifying notes are provided:

1. The schedule for drafting topic assessments reflects the Staff preference as specified in Enclosure (2) to Reference (1) to the extent practical. In general, dates were relaxed where the impact was judged to be minimal based upon the current schedule for the integrated assessment phase.

2. In general, CYAPCO and NNECO intend to respond to Staff-prepared assessments within 30 days of receipt.

3. The attached schedules may slip if the Staff fails to provide topic assessments for the lead plant in a timely fashion.

4. We suggest that any attempt to accelerate the start of the integrated assessment phase in advance of the dates specified in Enclosure (1) to Reference (1) would be ill-advised based upon our current projections for completing critical SEP topics.

5. The attached schedules represent a reasonable projection but do not assume the imposition of any new substantial NRC requirements during the interval between now and the start of integrated assessment. Should this not be the case, and should the NRC require significant manpower expenditures to be spent on other, currently unknown issues to sustain plant operation, such activity will adversely affect the SEP schedule. Every reasonable effort will be made to maintain the attached schedules.

We encourage the Staff to provide continued feedback on our topic assessments, and believe the periodic (monthly) meetings suggested by the Staff will serve our mutual interests. Prompt identification of any deficiencies in our submittals and an awareness of the conduct of the integrated assessment phase for other facilities will serve to enhance our ability to derive the maximum benefit from participation in the SEP.

Very truly yours,

CONNECTICUT YANKEE ATOMIC POWER COMPANY
NORTHEAST NUCLEAR ENERGY COMPANY

W. G. Counsil

W. G. Counsil
Senior Vice President

Docket No. 50-213

Attachment 1

Haddam Neck Plant

Systematic Evaluation Program

Topic Status Summary

July, 1981

HADDAM NECK PLANT

Generic Topics

Topic No.	Title
III-8.A	Loose Parts Monitoring and Core Barrel Vibration Monitoring
V-1	Compliance with Codes and Standards
V-7	Reactor Coolant Pump Overspeed
VI-6	Containment Leak Testing
VI-7.D	Long Term Cooling - Passive Failures
VII-1.B	Trip Uncertainty and Setpoint Analysis Review of Operating Data Base
VII-6	Frequency Decay
VIII-1.A	Potential Equipment Failures Associated with Degraded Grid Voltage
IX-6	Fire Protection
XI-1	Appendix I
XI-2	Radiological (Effluent and Process) Monitoring Systems
XIII-2	Safeguards/Industrial Security
XVII	Operational QA Program
III-4.B	Turbine Missiles

HADDAM NECK PLANT

Deleted Topics

Topic No.	Title
II-2.B	Onsite Meteorological Measurements Program
II-2.D	Availability of Meteorological Data in the Control Room
II-4.E	Dam Integrity
III-7.A	Inservice Inspection, Including Prestressed Concrete Containments with Either Grouted or Ungrouted Tendons
III-7.C	Delamination of Prestressed Concrete Containment Structures
III-8.B	Control Rod Drive Mechanism Integrity
III-8.D	Core Supports and Fuel Integrity
III-9	Support Integrity
III-10.C	Surveillance Requirements on BWR Recirculation Pumps and Discharge Valves
III-11	Component Integrity
III-12	Environmental Qualification of Safety-Related Equipment
IV-3	BWR Jet Pump Operating Indications
V-2	Applicable Code Cases
V-3	Overpressurization Protection
V-4	Piping and Safe End Integrity
V-8	Steam Generator Integrity
V-9	Reactor Core Isolation Cooling System
V-12.A	Water Purity of BWR Primary Coolant
V-13	Water Hammer
VI-2.A	Pressure-Suppression Type BWR Containments
VI-2.B	Subcompartment Analysis
VI-2.C	Ice Condenser Containment
VI-5	Combustible Gas Control
VI-7.A.2	Upper Plenum Injection
VI-7.A.4	Core Spray Nozzle Effectiveness
VI-7.E	ECCS Sump Design and Test For Recirculation Mode Effectiveness

HADDAM NECK PLANT

Deleted Topics Cont'd

Topic No.	Title
VI-7.F	Accumulator Isolation Valves Power and Control System Design
VI-8	Control Room Habitability
VI-9	Main Steam Line Isolation Seal System
VI-10.B	Shared Engineered Safety Features, On-Site Emergency Power, and Service Systems for Multiple Unit Facilities
VII-4	Effects of Failure in Non-Safety Related Systems on Selected Engineered Safety Features
VII-5	Instruments for Monitoring Radiation and Process Variables During Accidents
VII-7	Acceptability of Swing Bus Design on BWR-4 Plants
IX-2	Overhead Handling Systems - Cranes
XIII-1	Conduct of Operations
XV-11	Inadvertent Loading and Operation of a Fuel Assembly in an Improper Position
XV-13	Spectrum of Rod Drop Accidents
XV-18	Radiological Consequences of Main Steam Line Failure Outside Containment
XV-21	Spent Fuel Cask Drop Accidents
XV-22	Anticipated Transients Without SCRAM
XV-23	Multiple Tube Failures in Steam Generators
XV-24	Loss of All A-C Power
XVI	Technical Specifications
X	Auxiliary Feedwater System

HADDAM NECK PLANT

Completed Topics (Status 4b or above)

Topic No.	Title
II-1.A	Exclusion Area Authority and Control
II.1.C	Potential Hazards or Changes in Potential Hazards Due to Transportation, Institutional, Industrial, and Military Facilities
II-2.A	Severe Weather Phenomena
II-2.C	Atmospheric Transport and Diffusion Characteristics for Accident Analysis
II-4	Geology and Siesmology
II-4.A	Tectonic Province
II.4.B	Proximity of Capable Tectonic Structures in Plant Vicinity
II-4.C	Historical Seismicity Within 200 Miles of Plant
II-4.F	Settlement of Foundations and Buried Equipment
III-4.D	Site Proximity Missiles
III-7.B	Containment Structural Integrity Tests
III-8.C	Irradiation Damage, Use of Sensitized Stainless Steel, and Fatigue Resistance
III-10.A	Thermal Overload Protection for Motors of Motor Operated Valves
III-10.B	Pump Flywheel Integrity
IV-1.A	Operation With Less than All Loops in Service
IV-2	Reactivity Control Systems Including Functional Design and Protection Against Single Failures
V-5	Reactor Coolant Pressure Boundary Leakage Detection
V-6	Reactor Vessel Integrity
V-10.A	RHR Heat Exchanger Tube Failures
V-10.B	RHR Reliability
V-11.A	Requirements for Isolation of High and Low Pressure Systems
V-11.B	RHR Interlock Requirements
VI-7.A.1	ECCS Re-evaluation to Account for Increased Vessel Head Temperature

HADDAM NECK PLANT

Completed Topics (Status 4b or above) Cont'd

Topic No.	Title
VI-7.B	ESF Switchover from Injection to Recirculation Mode
VI-7.C	ECCS Single Failure Criterion
VI-7.C.1	Appendix K - EI & C Re-reviews
VI-7.C.2	Failure Mode Analysis - ECCS
VII-3	Systems Required for Safe Shutdown
VIII-2	Onsite Emergency Power Systems - Diesel Generators
VIII-3.A	Station Battery Capacity Test Requirements
VIII-3.B	DC Power System Bus Voltage Monitoring and Annunciation
XV-16	Radiological Consequences of Failure of Small Lines Carrying Primary Coolant Outside Containment
XV-20	Radiological Consquences of Fuel Damaging Accidents

Haddam Neck Plant

Lead Plant Topics

Topic No.	Title
III-3.B	Structural and Other Consequences of Failure of Underdrain Systems

HADDAM NECK PLANT

Topic Assessments to be Prepared by CYAPCO

Topic No.	Title	Scheduled Submittal
II-1.B	Population Distribution	8/31/81
II-3.A	Hydrologic Description	12/15/81
II.3.B	Flooding Potential and Protection Requirements	12/15/81
II-3.B.1	Capability To Cope with Design Basis Flood	12/15/81
II-3.C	Ultimate Heat Sink	12/15/81
II-4.D	Stability of Slopes	8/31/81
III-2	Wind and Tornado Loadings	12/31/81
III-3.A	Effects of High Water Level on Structures	12/31/81
III-3.C	ISI of Water Control Structures	8/31/81
III-4.A	Tornado Missiles	8/31/81
III-4.C	Internally Generated Missiles	9/30/81
III.5.A	HELB Inside Containment	9/30/81
III-5.B	HELB Outside Containment	8/31/81
III-6	Seismic Design Considerations	*
VI-1	Organic Material and Post Accident Chemistry	1/31/82
VI-10.A	Testing of RTS and FSF, Including Response Time Testing	8/31/81
IX-1	Fuel Storage	8/31/81
IX-3	Station Service and Cooling Water Systems	10/30/81
IX-4	Boron Addition System	9/30/81
IX-5	Ventilation System	10/30/81
XV	Design Basis Events	9/30/81

*Schedule discussed in Reference (3).

HADDAM NECK PLANT

SFP Topics to be completed by NRC/contractor

Topic No.	Title
III-1	Classification of Structures, Components, and Systems
III-3.B	Consequences of Failure of Underdrain Systems
III-7.B	Design Codes, Design Criteria, Load Combinations, and Reactor Cavity Design Criteria
VI-2.D	Mass and Energy Release for Pipe Break Inside Containment
VI-3	Containment Pressure and Heat Removal Capability
VI-4	Containment Isolation System
VI-7.A.3	ECCS Actuation System
VI-7.C.3	Effect of Loop Isolation Valve Closure on ECCS Performance
VII-1.A	Isolation of Reactor Protection System from Non-safety Systems
VII-2	ESF Control Logic and Design
VIII-4	Electrical Penetrations

Docket No. 50-245

Attachment 2

Millstone Nuclear Power Station Unit No. 1

Systematic Evaluation Program

Topic Status Summary

July, 1981

Millstone Unit No. 1

Generic Topics

Topic No.	Title
III-8.A	Loose Parts Monitoring and Core Barrel Vibration Monitoring
III-8.B	Control Rod Drive Mechanism Integrity
IV-3	BWR Jet Pump Operating Indications
V-1	Compliance with Codes and Standards
VI-6	Containment Leak Testing
VI-7.A.4	Core Spray Nozzle Effectiveness
VI-7.D	Long Term Cooling - Passive Failures
VII-1.B	Trip Uncertainty and Setpoint Analysis Review of Operating Data Base
VII-6	Frequency Decay
VIII-1.A	Potential Equipment Failures Associated with Degraded Grid Voltage
IX-5	Fire Protection
XI-1	Appendix I
XI-2	Radiolgical (Effluent and Process) Monitoring Systems
XIII-2	Safeguards/Industrial Security
XVII	Operational QA Program

Millstone Unit No. 1

Deleted Topics

Topic No.	Title
II-2.B	Onsite Meteorological Measurements Program
II-2.D	Availability of Meteorological Data in the Control Room
II-4.2	Dam Integrity
III-3.B	Structural and Other Consequences of Failure of Underdrain Systems
III-7.A	Inservice Inspection, Including Prestressed Concrete Containments with Either Grouted or Ungrouted Tendons
III-7.C	Delamination of Prestressed Concrete Containment Structures
III-8.D	Core Supports and Fuel Integrity
III-9	Support Integrity
III-10.B	Pump Flywheel Integrity
III-11	Component Integrity
III-12	Environmental Qualification of Safety-Related Equipment
V-2	Applicable Code Casses
V-3	Overpressurization Protection
V-4	Piping and Safe End Integrity
V-7	Reactor Coolant Pump Overspeed
V-8	Steam Generator Integrity
V-9	Reactor Core Isolation Cooling System
V-13	Water Hammer
VI-2.A	Pressure-Suppression Type BWR Containments
VI-2.B	Subcompartment Analysis
VI-2.C	Ice Condenser Containment
VI-5	Combustible Gas Control
VI-7.A.1	ECCS Revaluation to Account for Increased Vessel Head Temperature
VI-7.A.2	Upper Plenum Injection
VI-7.B	ESF Switchover from Injection to Recirculation Mode
VI-7.C.3	Effect of PWR Loop Isolation Valve Closure During a LOCA on ECCS Performance

Millstone Unit No. 1 - Deleted Topics (cont'd.)

Topic No.	Title
VI-7.E	ECCS Sump Design and Test for Recirculation Mode Effectiveness
VI-7.F	Accumulator Isolation Valves Power and Control System Design
VI-8	Control Room Habitability
VI-9	Main Steam Line Isolation Seal System
VII-4	Effects of Failure in Non-Safety Related Systems on Selected Engineered Safety Features
VII-5	Instruments for Monitoring Radiation and Process Variables During Accidents
VII-7	Acceptability of Swing Bus Design on BWR-4 Plants
IX-2	Overhead Handling Systems - Cranes
IX-4	Boron Addition System
X	Auxiliary Feedwater System
XIII-1	Conduct of Operations
XV-2	Spectrum of Steam System Piping Failures Inside and Outside of Containment
XV-6	Feedwater System Pipe Breaks Inside and Outside Containment
XV-10	Chemical and Volume Control System Malfunction That Results in a Decrease in the Boron Concentration ir the Reactor Coolant
XV-1?	Spectrum of Rod Ejection Accidents
XV-17	Radiological Consequences of Steam Generator Tube Failure
XV-21	Spent Fuel Cask Drop Accidents
XV-22	Anticipated Transients Without Scram
XV-23	Multiple Tube Failures in Steam Generators
XV-24	Loss of All A-C Power
XVI	Technical Specificiations

Millstone Unit No. 1

Completed Topics (Status 4b or above)

Topic No.	Title
II-1.A	Exclusion Area Authority and Control Population
II-1.B	Population Distribution
II-1.C	Potential Hazards or Changes in Potential Hazards Due to Transportation, Institutional, Industrial, and Military Facilities
II-2.A	Severe Weather Phenomena
II-2.C	Atmospheric Transport and Diffusion Characteristics for Accident Analysis
II-3.A	Hydrologic Description
II-3.B	Flooding Potential and Protection Requirements
II-3.B.1	Capability of Operating Plant to Cope with Design Basis Flooding Conditions
II-3.C	Safety Related Water Supply
II-4	Geology and Seismology
II-4.A	Tectonic Province
II-4.B	Proximity of Capable Tectonic Structures in Plant Vicinity
II-4.C	Historical Seismicity within 200 Miles of Plant
II-4.F	Settlement of Foundations and Buried Equipment
III-3.A	Effects of High Water Level on Structures
III-4.D	Site Proximity Missiles
III-6	Seismic Design Considerations
III-7.D	Containment Structural Integrity Tests
III-8.C	Irradiation Damage, Use of Sensitized Stainless Steel, and Fatgue Resistance
III-10.A	Thermal Overload Protection for Motors of Motor Operated Valves
III-10.C	Surveillance Requirements on BWR Recirculation Pumps and Discharge Valves
IV-1.A	Operation with Less than All Loops in Service
V-5	Reactor Coolant Pressure Boundary Leakage Detection
V-6	Reactor Vessel Integrity

Millstone Unit No. 1
Completed Topics (Status 4b or above) Cont'd

Topic No.	Title
V-10.A	RHR Heat Exchanger Tube Failures
V-10.B	RHR Reliability
V-11.A	Requirements for Isolation of Highland Low Pressure Systems
V-12.A	Water Purity of BWR Primary Coolant
VI-7.A.3	ECCS Actuation System
VI-7.C	ECCS Single Failure Criterion
VI-7.C.1	Appendix K - EI&C Re-reviews
VI-7.C.2	Failure Mode Analysis - ECCS
VI-10.A	Testing of Reactor Trip System and Engineered Safety Features, Including Response Time Testing
VI-10.B	Shared ESF's, On-Site Emergency Power, and Service Systems for Multiple Unit Facilities
VII-1.A	Isolation of Reactor Protection System from Non-Safety Systems
VIII-2	Onsite Emergency Power Systems - Diesel Generator
VIII-3.A	Station Battery Capacity Test Requirements
VIII-3.B	DC Power System Bus Voltage Monitoring and Annunciation
VIII-4	Electrical Penetrations of Reactor Containment
XV-1	Decrease in Feedwater Temperature, Increase in Feedwater Flow, Increase in Steam Flow, and Indvertent Opening of a Steam Generator Relief or Safety Valve
XV-3	Loss of External Load, Turbine Trip, Loss of Condenser Vacuum, Closure of MSIV, and Steam Pressure Regulatory Failure
XV-4	Loss of Non-Emergency AC Power to Station Auxiliaries
XV-5	Loss of Normal Feedwater Flow
XV-7	Reactor Coolant Pump Rotor Seizure and Reactor Coolant Pump Shaft Break
XV-8	Control Rod Misoperation
XV-9	Startup of an Inactive Loop or Recirculation Loop At An Incorrect Temperature, and Flow Controller Malfunction Causing an Increase in BWR Core Flow Rate

Millstone Unit No. 1
Completed Topics (Status 4b or above) Cont'd

Topic No.	Title
XV-11	Inadvertent Loading and Operation of a Fuel Assembly in an Improper Position
XV-13	Spectrum of Rod Drop Accidents
XV-14	Inadvertent Operation of ECCs and Chemcial and Volume Control System Malfunction that increases Reactor Coolant Inventory
XV-15	Inadvertent Opening of a PWR Pressurizer Safety-Relief Valve or a BWR Safety-Relief Valve
XV-16	Radiological Consequences of Failure of Small Lines Carrying Primary Coolant Outside Containment
XV-18	Radiological Consquences of Mair Steam Line Failure Outside Containment
XV-19	Loss of Coolant Accidents Resulting from Spectrum of Postulated Piping Breaks Within the Reactor Collant Pressure Boundary
XV-20	Radiological Consequences of Fuel Damaging Accidents

Millstone Unit No. 1

Lead Plant Topics

Topic No.	Title
III-3.A	Effects of High Water Level on Structures

MILLSTONE NUCLEAR POWER STATION
UNIT NO. 1

Topic Assessments to be Prepared by NNECO

Topic No.	Title	Scheduled Submittal
II-4.D	Stability of Slopes	8/31/81
III-3.C	ISI of Water Control Structures	8/31/81
III-4.A	Tornado Missiles	8/31/81
III-4.B	Turbine Missiles	9/30/81
III-4.C	Internally Generated Missiles	9/30/81
III-5.A	HELB Inside Containment	9/30/81
III-5.B	HELB Outside Containment	8/31/81
IV-2	Reactivity Control Systems	9/30/81
VI-1	Organic Materials and Post Accident Chemistry	10/30/81
IX-1	Fuel Storage	8/31/81
IX-3	Station Service and Cooling Water Systems	9/30/81
IX-5	Ventilation Systems	9/30/81

MILLSTONE NUCLEAR POWER STATION
UNIT NO. 1

SEP Topics to be completed by NRC/contractor

Topic No.	Title
III-1	Classification of Structures, Components and Systems
III-2	Wind and Tornado Loadings
III-3.A	Effects of High Water Level on Structures
III-7.B	Design Coades, Design Criteria, Load Combinations, and Reactor Cavity Design Criteria
V-11.B	RHR Interlock Requirements
VI-2.D	Mass and Energy Release for Pipe Break Inside Containment
VI-3	Containment Pressure and Heat Removal Capability
VI-4	Containment Isolation System
VII-2	ESF Control Logic and Design
VII-3	System Required for Safe Shutdown