

NORTHEAST UTILITIES



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

General Offices • Selden Street, Berlin, Connecticut

P.O. BOX 270
HARTFORD, CONNECTICUT 06141-0270
(203) 665-5000

January 29, 1986

Docket Nos. 50-213

50-336

50-423

B11965

Office of Nuclear Reactor Regulation

Attn: Mr. Christopher I. Grimes, Director
Integrated Safety Assessment Project Directorate
Mr. Ashok C. Thadani, Director
PWR Project Directorate #8
Mr. Vincent S. Noonan, Director
PWR Project Directorate #5

U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Gentlemen:

Haddam Neck Plant
Millstone Nuclear Power Station, Units 2 and 3
Reload Nuclear Design Methodology

The purpose of this letter is to summarize Northeast Utilities Service Company's (NUSCO's) plans to perform reload nuclear designs in-house for our PWR's and to request a meeting with the NRC Staff to discuss our plans for the first application of this effort for Cycle 15 of the Haddam Neck Plant.

Background

By letter dated August 27, 1984⁽¹⁾ Northeast Utilities (NU) submitted a topical report on reload nuclear design methodology for the Haddam Neck Plant. The methodology chosen at that time was based primarily upon the EPRI Reactor Analysis Support Package and would have been utilized by NUSCO reactor engineering personnel to perform core reloads.

Subsequent to the letter, NUSCO has decided that it is more desirable to employ a single nuclear design methodology for all NU's PWRs (Haddam Neck, Millstone Unit No. 2 and Millstone Unit No. 3). NUSCO informed the NRC Staff on September 13, 1985⁽²⁾ that we will be using Westinghouse codes, methodology and training to perform reload engineering core design calculations for NU's PWRs. The Westinghouse methodology was chosen based upon manpower and schedular requirements as well as its applicability to the three PWRs for which it will be

-
- (1) W.G. Counsil Letter to W.A. Paulson, dated August 27, 1984; Subject: Haddam Neck Plant, Nuclear Design Reload Methods.
 - (2) Telephone conversation between F.A. Akstulewicz, G.P. vanNoordennen and J.R. Guerri on September 13, 1985.

8602190156 860129
PDR ADOCK 05000213
P PDR

Adol
1/10

used. At present, reloads for both Millstone Unit Nos. 2 and 3 are designed and analyzed by Westinghouse. The Haddam Neck Plant is a Westinghouse PWR with another vendor fuel design that is very compatible with the Westinghouse reload methodology. Cycle 15 of the Haddam Neck Plant has been selected as the first application of the Westinghouse reload methodology.

NUSCO requested to meet with the NRC Staff in November 1985 to present our plans and schedules in this area. The NRC Staff requested NUSCO to delay the presentation until December 1985 or January 1986 due to the pending reorganization of NRR. In January 1986, a further delay was requested due to the on-going NRC Staff's review of the Cycle 14 Haddam Neck Plant reload license amendment.

Discussion

NUSCO has entered into a technology exchange program with Westinghouse. The major features of this program are: (1) The codes and methodologies used have previously been approved by the NRC, (2) the modelling procedures employed will utilize the standard Westinghouse approach and, (3) an intensive eighteen (18) month training program has been set up. This program began in September of 1985 and involved training at Westinghouse's Nuclear Fuel Division offices in Monroeville, Pennsylvania and at NUSCO's engineering offices at Berlin, Connecticut. As you are aware, NUSCO has had many man years of nuclear analyses experience in the evaluation of core follow and design models using the EPRI code package.

NUSCO's first application of the Westinghouse nuclear design technology will be for the Haddam Neck Plant. Core models will be established and independently reviewed by Westinghouse. The Cycle 15 design will be performed by NUSCO and independently reviewed by Westinghouse. All design calculations/analyses will use the standard Westinghouse methodology, including neutronics methods and uncertainties.

A topical report will be submitted to the NRC in September, 1986. This report will demonstrate NUSCO's qualifications to perform reload design analyses for NU's PWRs using Westinghouse Methodology. Data comparisons from the Haddam Neck Plant will be used for the qualification program. Since all the methodology used is the standard Westinghouse approach, a plant specific uncertainty analysis is unnecessary. The topical report will include a description of the methods used, the Haddam Neck specific models, and a data comparison involving two cycles of power distribution comparisons and three cycles of startup data comparisons.

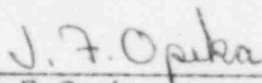
Summary

NUSCO would like to discuss our plans and schedules for this effort with the NRC Staff. In particular, we would like to present detailed schedules for the Cycle 15

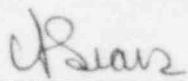
reload of the Haddam Neck Plant and obtain your concurrence in supporting our schedule. We are willing to meet with the NRC Staff at your earliest convenience.

Very truly yours,

CONNECTICUT YANKEE ATOMIC POWER COMPANY
NORTHEAST NUCLEAR ENERGY COMPANY



J. F. Opeka
Senior Vice President



By: C. F. Sears
Vice President