



**CONNECTICUT YANKEE ATOMIC POWER COMPANY**

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June 30, 1981

Docket No. 50-213  
A01452



Director of Nuclear Reactor Regulation  
Attn: Mr. Dennis M. Crutchfield, Chief  
Operating Reactors Branch #5  
U. S. Nuclear Regulatory Commission  
Washington, D.C. 20555

- References: (1) D. G. Eisenhut letter to SEP Plant Licensees, dated  
January 14, 1981.  
(2) W. G. Council letter to D. G. Eisenhut, dated  
February 27, 1981.

Gentlemen:

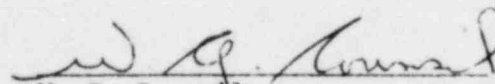
Haddam Neck Plant  
SEP Topic II-1.C, Potential Hazards or Changes in Potential  
Hazards Due to Transportation, Institutional, Industrial,  
and Military Facilities

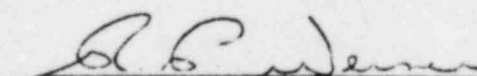
As part of the redirection of the Systematic Evaluation Program, Reference (1), Connecticut Yankee Atomic Power Company (CYAPCO) committed to develop Safety Assessment Reports (SAR's) for certain SEP topics which would be submitted for Staff review. CYAPCO detailed this commitment and provided a schedule for submittal of SAR's in Reference (2). In accordance with this commitment, CYAPCO hereby provides the Safety Assessment Report for SEP Topic II-1.C, Potential Hazards or Changes in Potential Hazards Due to Transportation, Institutional, Industrial, and Military Facilities, which is included as Attachment 1.

We trust the Staff will appropriately use this information to develop a Safety Evaluation Report for this SEP topic.

Very truly yours,

CONNECTICUT YANKEE ATOMIC POWER COMPANY

  
W. G. Council  
Senior Vice President

  
By: R. P. Werner  
Vice President Generation  
Engineering and Construction

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Attachment 1

Safety Assessment Report

SEP Topic II-1.C, Potential Hazards or Changes in  
Potential Hazards Due to Transportation,  
Institutional, Industrial, and  
Military Facilities

June, 1981

## HADDAM NECK PLANT

### SEP Safety Assessment Report

#### Topic II-1.c - Potential Hazards of Changes in Potential Hazards Due to Transportation, Institutional, Industrial and Military Facilities

##### 1.0 Introduction

The objective of this topic is to assure that the Haddam Neck Plant is adequately protected and can be operated with an acceptable degree of safety with regard to potential accidents which may occur as the result of activities at nearby industrial, transportation, and military facilities.

##### 2.0 Criteria

Standard Review Plan Section 2.2.1 states:

All identified facilities and activities within eight kilometers (5 miles ) of the plant should be reviewed. Facilities and activities at greater distances should be considered if they otherwise have the potential for affecting safety related features.

##### 3.0 Discussion

The Haddam Neck Plant site is located in the Town of Haddam, Connecticut on the east bank of the Connecticut River at a point 21 miles south-southeast of the Hartford, Connecticut and 25 miles northeast of New Haven, Connecticut. The site consists of approximately 525 acres. The minimum distance from the reactor containment to the site boundary is 1,740 feet and the distance to the nearest residence is over 2,000 feet. The largest nearby city is Middletown, Connecticut, which is approximately 9.5 miles from the Haddam Neck Plant site. The adequacy of the population center distance will be determined as part of SEP topic II-1.B, Population Distribution.

The largest industrial complex within 10 miles of the Haddam Neck Plant site is the Pratt and Whitney Plant in the Maromas section in Middletown, which is about 6 miles northwest of the Haddam Neck Plant on the west side of the Connecticut River. Approximately 3,600 people are employed at the Pratt and Whitney facility. CYAPCO has determined that the Pratt and Whitney plant has no effect on the safe operation of the Haddam Neck Plant and does not pose any potential hazard. Other industries located within 10 miles of the site which employ 250 or more people are as follows;

<u>Business</u>	<u>Location</u>	<u>Distance</u>	<u>Employees</u>
North & Judd Co.	Middletown	10	250 - 500
Raymond Engineering Laboratories	Middletown	10	250 - 500
EIS Automotive Corp.	Middletown	10	250 - 500
UARCO, Inc.	Deep River	7	380
Middlesex Memorial Hospital	Middletown	10	1,400

CYAPCO has concluded that because of the nature of these industries and the distance from the Haddam Neck site, these facilities do not pose a potential hazard to the Haddam Neck Plant.

A review of the Haddam Neck Plant site and surrounding area was performed to determine the types and quantities of hazardous chemicals stored on site or within a five mile radius of the site. In accordance with the requirements of Regulatory Guide 1.78, sulfuric acid was determined to be the only chemical stored on site in sufficient quantity to warrant further consideration. The potential for a sulfuric acid release which might endanger the safe operation of the plant will be determined in the evaluation for TMI Action Plan Item III. D.3.4, Control Room Habitability. No significant quantities of hazardous chemicals have been identified in the five mile radius area surrounding the site.

The nearest major highway which would be used for frequent transportation of hazardous materials is State Route 9, which is located at a distance of about 4 miles from the Haddam Neck Plant site. CYAPCO has determined that this separation distance exceeds the minimum distance criteria given in Regulatory Guide 1.91, Revision 1, and therefore provides assurance that any transportation accidents resulting in explosions of truck size shipments of hazardous materials will not have an adverse effect on the safe operation of the plant. This separation distance should also eliminate the possibility of a toxic gas release adversely affecting the safe operation of the plant; however, this will be verified as part of Action Plan Item III.D.3.4, Control Room Habitability.

There are no railroad lines within 5 miles of the Haddam Neck Plant which are used to ship hazardous materials, therefore, rail transportation does not pose a hazard to the safe operation of the plant. In addition, there are no pipelines or military facilities within 5 miles of the site which present any credible hazard.

There is one airport within 5 miles of the Haddam Neck Plant site. Goodspeed Airport in East Haddam, Connecticut, is a general aviation facility with one runway located approximately three miles from the plant. The airport is used primarily for light single engine aircraft activities such as business and pleasure flying. The location of the airport physically prohibits significant expansion. It was determined in the assessment of SEP Topic III-4.D, Site Proximity Missiles, that due to the size and nature of traffic, operation of the airport does not constitute a hazard to the plant. This conclusion

was documented in Reference (5).

The U. S. Coast Guard was contacted to obtain information as to hazardous material shipping on the Connecticut River in the vicinity of the Haddam Neck Plant. The Coast Guard does not maintain records of hazardous chemical shipping, however, they did indicate that in their judgement no hazardous chemicals are shipped on the Connecticut River in the area of the plant on a regular basis. In addition, all shipping that is done on the river is monitored by the Coast Guard to ensure that shipping is done in accordance with the applicable Federal regulations which in themselves provide for protection of public health and safety. The potential for a hazardous chemical release on the river which would affect plant operation is being examined under TMI Action Plan Item III.D.3.4. Oil barges also travel on the Connecticut River within 1,000 feet of the site. Orientation and layout of the plant would inherently provide missile protection from this source. All plant components required for safe shutdown are located within plant structures and would be sufficiently protected as a result of the structural design criteria originally used. All safe shutdown required plant components located outside of plant structures are located to the east of the site and are protected from the river by surrounding structures. Therefore, given the orientation of plant structures and the low probability of a missile being generated by the explosion of an oil barge on the river in the vicinity of the site, CYAPCO concludes that transportation on the Connecticut River does not pose a hazard to the safe operation of the Haddam Neck Plant.

#### 4.0 Conclusions

CYAPCO has concluded that the Haddam Neck Plant is adequately protected and can be operated with an acceptable degree of safety with regard to industrial, transportation and military activities in the vicinity of the plant. The potential for a toxic gas release affecting plant operation will be examined as part of TMI Action Plan Item III.D.3.4, Control Room Habitability.

#### 5.0 References

1. Standard Review Plan Section 2.2.1-2.2.2, Identification of Potential Hazards in Site Vicinity
2. Regulatory Guide 1.91, Revision 1
3. D. L. Ziemann letter to D. Bixel, dated November 27, 1979
4. Regulatory Guide 1.78
5. W. G. Council letter to D. M. Crutchfield, dated June 25, 1981