



CONNECTICUT YANKEE ATOMIC POWER COMPANY

TELEPHONE
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BERLIN, CONNECTICUT
P.O. BOX 270 HARTFORD, CONNECTICUT 06141-0270

July 1, 1985

Docket No. 50-213
B11599

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

Gentlemen:

Haddam Neck Plant
SEP Topic II-3.B, Flooding Potential and Protection Requirements

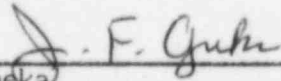
On May 30, 1985, the Staff requested that Connecticut Yankee Atomic Power Company (CYAPCO) provide a rating curve of river elevation vs. flow for the United States Geological Survey (USGS) gage on the Connecticut River at Bodkin Rock. On June 5, 1985 we advised the Staff that this information had been requested from the USGS and would be forwarded to the Staff upon receipt.

Attached is a copy of the information received from the USGS. Note that USGS has indicated that the stage elevation is affected by the tidal effects up to elevation 8.0 feet Mean Sea Level (MSL).

We trust the Staff will find this information satisfactory. If you have additional questions, please contact us.

Very truly yours,

CONNECTICUT YANKEE ATOMIC POWER COMPANY



J. F. Opeka
Senior Vice President

cc: Mr. Don Chery, USNRC

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PDR ADOCK 05000213
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Attachment

SEP Topic II-3.B, Flooding Potential
and Protection Requirements

Connecticut River Rating Table for Bodkin Rock

June, 1985

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY (WATER RESOURCES DIVISION)

Washington 1/19/30
Field

STAGE AFFECTED BY
TIDE UP TO 8.0 FT M.S.L.

Rating table for Connecticut River near Middletown, Conn.

(Datum is mean sea level)

from Jan. 1, 1947 to 1948, from 1947 to 1948, and on stages and computed

Gage height		Discharge		Diff. since		Gage height		Discharge		Diff. since		Gage height		Discharge		Diff. since		Gage height		Discharge		Diff. since		Gage height		Discharge		Diff. since																																													
Feet	Cfs	Feet	Cfs	Cfs	Feet	Feet	Cfs	Feet	Cfs	Cfs	Feet	Feet	Cfs	Feet	Cfs	Cfs	Feet	Feet	Cfs	Feet	Cfs	Cfs	Feet	Feet	Cfs	Feet	Cfs	Cfs																																													
0		2	42500	600	6	54500	600	8	68000	700	10	82000	800	12	98000	800	14	82000	800	16	83600	800	18	84400	800	20	85200	800	22	86000	800	24	86800	800	26	87600	800	28	88400	800	30	89200	800	32	90000	800	34	90800	800	36	91600	800	38	92400	800	40	93200	800	42	94000	800	44	94800	800	46	95600	800	48	96400	800	50	97200	800
1		3	43100	600	10	55100	600	10	68700	700	10	82800	800	10	98800	800	10	82800	800	10	83600	800	10	84400	800	10	85200	800	10	86000	800	10	86800	800	10	87600	800	10	88400	800	10	89200	800	10	90000	800	10	90800	800	10	91600	800	10	92400	800	10	93200	800	10	94000	800	10	94800	800	10	95600	800	10	96400	800	10	97200	800
2		4	43700	600	20	55700	600	20	69400	700	20	83600	800	20	99600	800	20	83600	800	20	84400	800	20	85200	800	20	86000	800	20	86800	800	20	87600	800	20	88400	800	20	89200	800	20	90000	800	20	90800	800	20	91600	800	20	92400	800	20	93200	800	20	94000	800	20	94800	800	20	95600	800	20	96400	800	20	97200	800			
3		5	44300	600	30	56300	600	30	70100	700	30	84400	800	30	100400	800	30	84400	800	30	85200	800	30	86000	800	30	86800	800	30	87600	800	30	88400	800	30	89200	800	30	90000	800	30	90800	800	30	91600	800	30	92400	800	30	93200	800	30	94000	800	30	94800	800	30	95600	800	30	96400	800	30	97200	800						
4		6	44900	600	40	56900	600	40	70800	700	40	85200	800	40	101200	800	40	85200	800	40	86000	800	40	86800	800	40	87600	800	40	88400	800	40	89200	800	40	90000	800	40	90800	800	40	91600	800	40	92400	800	40	93200	800	40	94000	800	40	94800	800	40	95600	800	40	96400	800	40	97200	800									
5		7	45500	600	50	57500	700	50	71500	700	50	86000	800	50	102000	800	50	86000	800	50	86800	800	50	87600	800	50	88400	800	50	89200	800	50	90000	800	50	90800	800	50	91600	800	50	92400	800	50	93200	800	50	94000	800	50	94800	800	50	95600	800	50	96400	800	50	97200	800												
6		8	46100	600	60	58200	700	60	72200	700	60	86800	800	60	102800	800	60	86800	800	60	87600	800	60	88400	800	60	89200	800	60	90000	800	60	90800	800	60	91600	800	60	92400	800	60	93200	800	60	94000	800	60	94800	800	60	95600	800	60	96400	800	60	97200	800															
7		9	46700	600	70	58900	700	70	72900	700	70	87600	800	70	103600	800	70	87600	800	70	88400	800	70	89200	800	70	90000	800	70	90800	800	70	91600	800	70	92400	800	70	93200	800	70	94000	800	70	94800	800	70	95600	800	70	96400	800	70	97200	800																		
8		10	47300	600	80	59600	700	80	73600	700	80	88400	800	80	104400	800	80	88400	800	80	89200	800	80	90000	800	80	90800	800	80	91600	800	80	92400	800	80	93200	800	80	94000	800	80	94800	800	80	95600	800	80	96400	800	80	97200	800																					
9		11	47900	600	90	60300	700	90	74300	700	90	89200	800	90	105200	800	90	89200	800	90	90000	800	90	90800	800	90	91600	800	90	92400	800	90	93200	800	90	94000	800	90	94800	800	90	95600	800	90	96400	800	90	97200	800																								
10		12	48500	600	100	61000	700	100	75000	700	100	90000	800	100	106000	800	100	90000	800	100	90800	800	100	91600	800	100	92400	800	100	93200	800	100	94000	800	100	94800	800	100	95600	800	100	96400	800	100	97200	800																											
11		13	49100	600	110	61700	700	110	75700	700	110	90800	800	110	106800	800	110	90800	800	110	91600	800	110	92400	800	110	93200	800	110	94000	800	110	94800	800	110	95600	800	110	96400	800	110	97200	800																														
12		14	49700	600	120	62400	700	120	76400	700	120	91600	800	120	107600	800	120	91600	800	120	92400	800	120	93200	800	120	94000	800	120	94800	800	120	95600	800	120	96400	800	120	97200	800																																	
13		15	50300	600	130	63100	700	130	77100	700	130	92400	800	130	108400	800	130	92400	800	130	93200	800	130	94000	800	130	94800	800	130	95600	800	130	96400	800	130	97200	800																																				
14		16	50900	600	140	63800	700	140	77800	700	140	93200	800	140	109200	800	140	93200	800	140	94000	800	140	94800	800	140	95600	800	140	96400	800	140	97200	800																																							
15		17	51500	600	150	64500	700	150	78500	700	150	94000	800	150	110000	800	150	94000	800	150	94800	800	150	95600	800	150	96400	800	150	97200	800																																										
16		18	52100	600	160	65200	700	160	79200	700	160	94800	800	160	110900	800	160	94800	800	160	95600	800	160	96400	800	160	97200	800																																													
17		19	52700	600	170	65900	700	170	79900	700	170	95600	800	170	111800	800	170	95600	800	170	96400	800	170	97200	800																																																
18		20	53300	600	180	66600	700	180	80600	700	180	96400	800	180	112700	800	180	96400	800	180	97200	800																																																			
19		21	53900	600	190	67300	700	190	81300	700	190	97200	800	190	113600	800	190	97200	800																																																						

This table is applicable for open-channel conditions. It is based on discharges for flood peaks of 1927, 1936 and 1938 and fairly well defined to maximum probable peak discharge of U.S.A.E. discharge measurements made during 1947-50, and on stages and computed well defined between 60,000 cfs and 130,000 cfs. Comply B.L.B. date

Ckd by date

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY (WATER RESOURCES DIVISION)Washington 1/1/30
File No. _____
Field _____

Rating table for

Connecticut River near Middletown, Conn.

(Datum is mean sea level)

from Jan. 1, 1947, to _____, 1949, from _____, 1947, to _____, 1949

Gage height Feet	Discharge		Differ- ence	Discharge		Differ- ence	Gage height		Differ- ence	Discharge		Differ- ence	Gage height		Differ- ence	Discharge		Differ- ence	Gage height		Differ- ence	Discharge		Differ- ence	Gage height		Differ- ence	Discharge		Differ- ence
	Cfs	Cfs		Cfs	Cfs		Feet	Feet		Cfs	Cfs		Feet	Feet		Cfs	Cfs		Feet	Feet		Cfs	Cfs		Feet	Feet		Cfs	Cfs	
14.00	114500	900	900	132500	900	900	16.00	18.00	1000	152000	1000	1000	20.00	22.00	1100	172500	1100	1100	22.00	24.00	1100	195000	1100	1100	24.00	26.00	1100	215000	1100	1100
.10	115400	900	900	133400	900	900	.10	.10	1000	153000	1000	1000	.10	.10	1000	173600	1100	1100	.10	.10	1000	195600	1100	1100	.10	.10	1000	215600	1100	1100
.20	116300	900	900	134300	900	900	.20	.20	1000	154000	1000	1000	.20	.20	1000	174700	1100	1100	.20	.20	1000	196700	1100	1100	.20	.20	1000	216700	1100	1100
.30	117200	900	900	135200	900	900	.30	.30	1000	155000	1000	1000	.30	.30	1000	175800	1100	1100	.30	.30	1000	197800	1100	1100	.30	.30	1000	217800	1100	1100
.40	118100	900	900	136100	900	900	.40	.40	1000	156000	1000	1000	.40	.40	1000	176900	1100	1100	.40	.40	1000	198900	1100	1100	.40	.40	1000	218900	1100	1100
.50	119000	900	900	137000	1000	1000	.50	.50	1000	157000	1000	1000	.50	.50	1000	178000	1000	1000	.50	.50	1000	200000	1000	1000	.50	.50	1000	220000	1000	1000
.60	119900	900	900	138000	1000	1000	.60	.60	1000	158000	1000	1000	.60	.60	1000	179100	1000	1000	.60	.60	1000	201100	1000	1000	.60	.60	1000	221100	1000	1000
.70	120800	900	900	139000	1000	1000	.70	.70	1000	159000	1000	1000	.70	.70	1000	180200	1000	1000	.70	.70	1000	202200	1000	1000	.70	.70	1000	222200	1000	1000
.80	121700	900	900	140000	1000	1000	.80	.80	1000	160000	1000	1000	.80	.80	1000	181300	1000	1000	.80	.80	1000	203300	1000	1000	.80	.80	1000	223300	1000	1000
.90	122600	900	900	141000	1000	1000	.90	.90	1000	161000	1000	1000	.90	.90	1000	182400	1000	1000	.90	.90	1000	204400	1000	1000	.90	.90	1000	224400	1000	1000
15.00	123500	900	900	142000	1000	1000	17.00	19.00	1000	162000	1000	1000	21.00	23.00	1100	183500	1100	1100	23.00	25.00	1100	205500	1100	1100	25.00	27.00	1100	225500	1100	1100
.10	124400	900	900	143000	1000	1000	.10	.10	1000	163000	1000	1000	.10	.10	1000	184600	1100	1100	.10	.10	1000	206600	1100	1100	.10	.10	1000	226600	1100	1100
.20	125300	900	900	144000	1000	1000	.20	.20	1000	164000	1000	1000	.20	.20	1000	185700	1100	1100	.20	.20	1000	207700	1100	1100	.20	.20	1000	227700	1100	1100
.30	126200	900	900	145000	1000	1000	.30	.30	1000	165000	1000	1000	.30	.30	1000	186800	1100	1100	.30	.30	1000	208800	1100	1100	.30	.30	1000	228800	1100	1100
.40	127100	900	900	146000	1000	1000	.40	.40	1000	166000	1000	1000	.40	.40	1000	187900	1100	1100	.40	.40	1000	209900	1100	1100	.40	.40	1000	229900	1100	1100
.50	128000	900	900	147000	1000	1000	.50	.50	1000	167000	1100	1100	.50	.50	1000	189000	1100	1100	.50	.50	1000	211000	1100	1100	.50	.50	1000	231000	1100	1100
.60	128900	900	900	148000	1000	1000	.60	.60	1000	168100	1100	1100	.60	.60	1000	190100	1100	1100	.60	.60	1000	212100	1100	1100	.60	.60	1000	232100	1100	1100
.70	129800	900	900	149000	1000	1000	.70	.70	1000	169200	1100	1100	.70	.70	1000	191200	1100	1100	.70	.70	1000	213200	1100	1100	.70	.70	1000	233200	1100	1100
.80	130700	900	900	150000	1000	1000	.80	.80	1000	170300	1100	1100	.80	.80	1000	192300	1100	1100	.80	.80	1000	214300	1100	1100	.80	.80	1000	234300	1100	1100
.90	131600	900	900	151000	1000	1000	.90	.90	1000	171400	1100	1100	.90	.90	1000	193400	1100	1100	.90	.90	1000	215400	1100	1100	.90	.90	1000	235400	1100	1100

This table is applicable for open-channel conditions. It is based on

discharge measurements made during

and is

cfs and

cfs.

Comply with BLB date

Ckd by

date

May 17, 1949.

Table No.