

APPENDIX E  
EMERGENCY PLANNING ZONE  
EVACUATION TIME STUDY

Seabrook Nuclear Power Station  
Seabrook, New Hampshire

Prepared By  
Costello, Lomasney & deNapoli, Inc.  
in association with C. E. Maguire, Inc.  
for  
New Hampshire Civil Defense Agency  
July 1983

INFORMATION

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EMERGENCY PLANNING ZONE  
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SEABROOK NUCLEAR POWER STATION  
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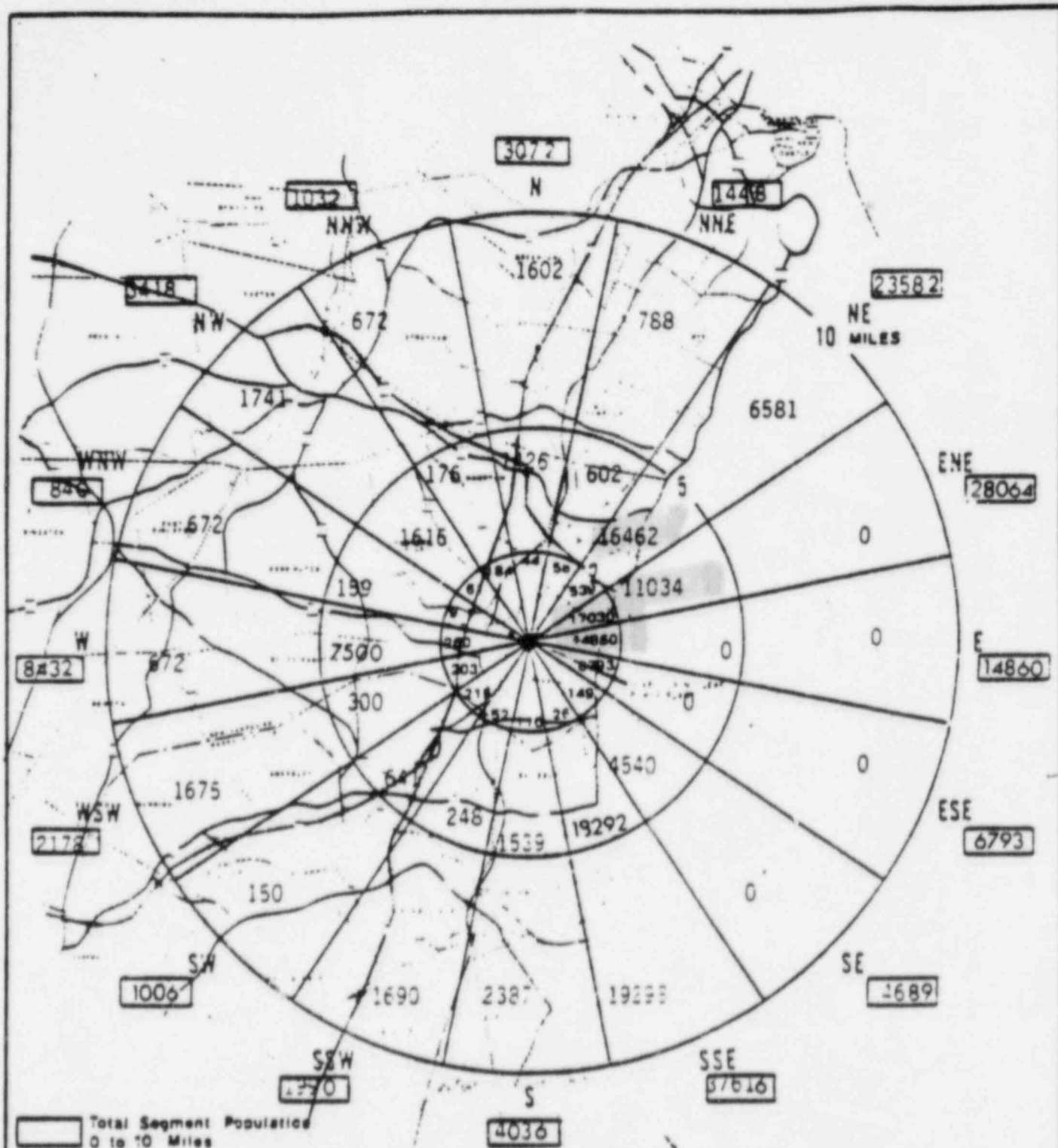
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MARCH 1984

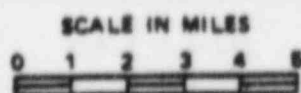
INFORMATION



POPULATION TOTALS			
RING MILES	RING POPULATION	TOTAL MILES	CUMULATIVE POPULATION
0-2	40593	0-2	40593
2-5	64533	0-5	105128
5-10	37928	0-10	143056

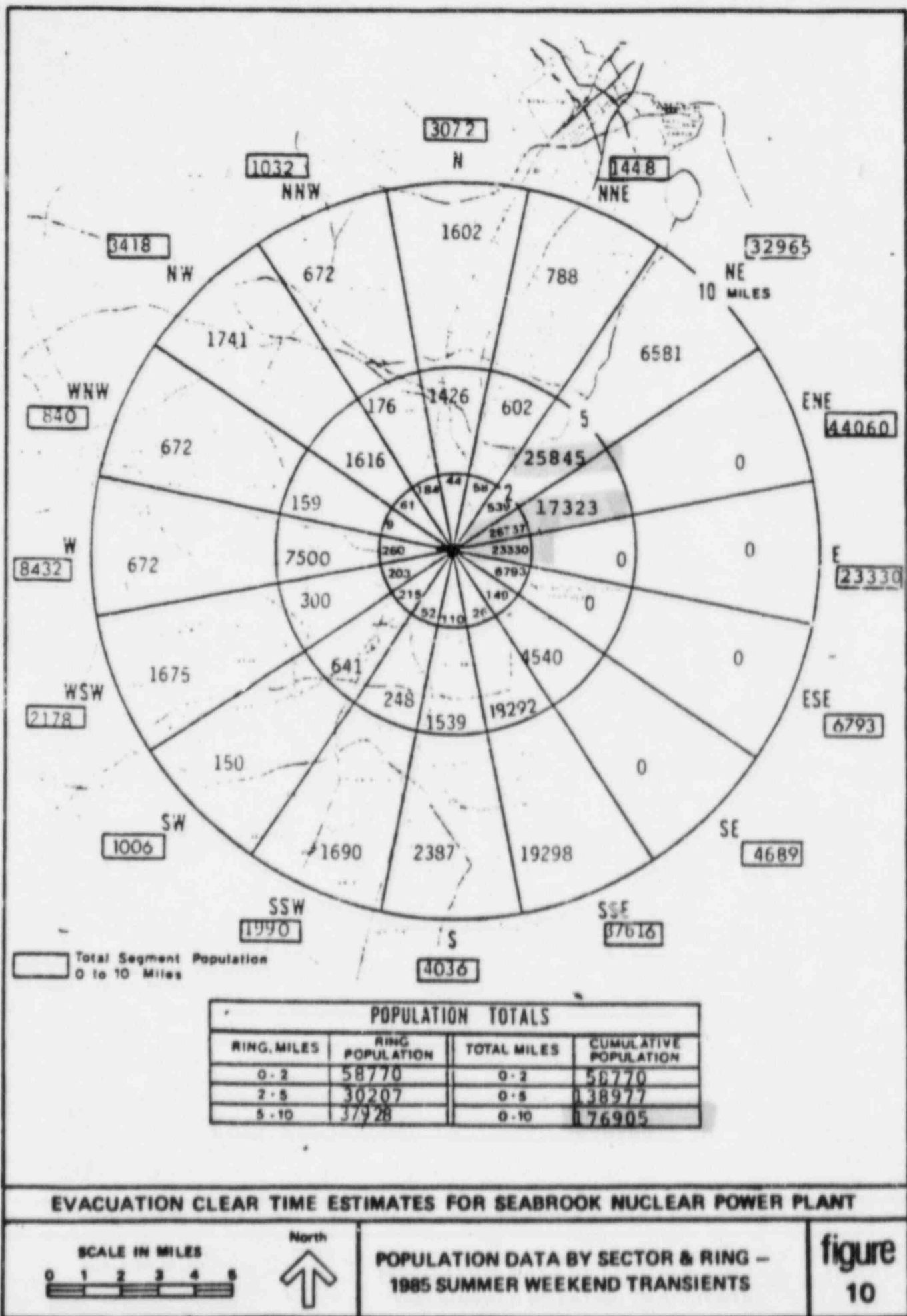
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# EVACUATION CLEAR TIME ESTIMATES FOR SEABROOK NUCLEAR POWER PLANT



POPULATION DATA BY SECTOR & RING -  
1985 SUMMER WEEKEND TRANSIENTS

figure  
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separate population segments that make up the summer transient population.

These occupancy rates ranged from 2.4 for overnight accommodations to 4.0 for seasonal dwellings with beach visitors averaging 3.3 persons per vehicle.<sup>1</sup>

Winter weeknight transients were given a much lower occupancy rate of 1.0 persons per vehicle, an estimate representative of traveling business people staying overnight in some of the area's hotels or motels.

Table 5 summarizes the number of winter night transients in the EPZ for 1980, 1985, 2000, and 2030. Table 6 summarizes the summer weekend transients summer scenario test case for 1980, and the three target years.

<sup>1</sup> Occupancy rate information was gathered from the Southeastern New Hampshire Regional Planning Commission, NH Department of Resources and Economic Development, Merrimack Valley Planning Commission, and public surveys.

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bureaus, planning agencies, and a variety of other sources. The general consensus of these sources was that any increase in the number of overnight accommodations, campgrounds, seasonal dwellings, or use of the beach facilities between 1985 and 2030 would be very modest. This is due primarily to the existing highly-saturated state of the summer tourism and vacation trade in the study area, along with beaches presently being utilized at near capacity.<sup>1</sup> Winter-transient growth was also believed to be low during the planning period. To account for any expansion by existing facilities and/or construction of new facilities that might occur during the planning period, a projection rate of 1% growth per year for the first 5 years, 0.5% growth per year for the next 15 years, and 0.25% growth per year for the final 30 years was used.

Different criteria were applied to the model regarding vehicle-occupancy rates and mobilization time for transients under the different scenarios. These occupancy rates ranged from 2.4 persons/vehicle for overnight accommodations to 4.0

<sup>1</sup> Developed from discussions with the Merrimack Valley Planning Commission, the New England Innkeepers Association, the Campground Owners Association, and the NH Department of Resources and Economic Development.

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persons/vehicle for seasonal dwellings with beach visitors averaging 5.5 persons per vehicle.<sup>1</sup>

Winter weeknight transients were given a much lower occupancy rate of 1.0 person per vehicle, an estimate representative of traveling business people staying overnight in some of the area's hotels or motels.

Table 5 summarizes the number of winter night transients in the EPZ for 1980, 1985, 2000, and 2030. Table 6 summarizes the summer weekend transients for the 1980 summer scenario test case and the three target years.

<sup>1</sup> Occupancy rate information was gathered from the Southeastern New Hampshire Regional Planning Commission, NH Department of Resources and Economic Development, Merrimack Valley Planning Commission, and public surveys.

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CLEAR TIME ESTIMATES<sup>1</sup> FOR SEABROOK EPZ  
(calculated to the nearest 10 minutes)

SCENARIO	SUB-AREAS (see Figure 3)	1985	2000	2030
<u>10-Mile EPZ</u>				
Winter Night	All	2:50	2:50	4:00
Winter Day <sup>2</sup>	All	3:00	3:10	4:10
Northeast Quad	A, D, G	2:20	--	--
Northwest Quad	A, C, F	2:20	--	--
Southwest Quad	A, B, E	2:40	--	--
Winter Weekend	All	2:50	2:50	4:00
Summer Night	All	3:00	3:10	4:20
Summer Day	All	4:30	4:30	5:20
Summer Weekend <sup>3</sup>	All	5:50	5:10	5:50
Northeast Quad	A, D, G	5:10	--	--
Northwest Quad	A, C, F	5:00	--	--
Southwest Quad	A, B, E	5:40	--	--
<u>5-Mile EPZ<sup>2</sup></u>				
Winter Day	A, B, C, D	2:50	--	--
Northeast Quad	A, D	2:20	--	--
Northwest Quad	A, C	2:10	--	--
Southwest Quad	A, B	2:10	--	--
Summer Weekend	A, B, C, D	5:50	--	--
Northeast Quad	A, D	5:00	--	--
Northwest Quad	A, C	4:50	--	--
Southwest Quad	A, B	5:30	--	--
<u>2-Mile EPZ<sup>2</sup></u>				
Winter Day	A	2:20	--	--
Summer Weekend <sup>3</sup>	A	5:40	--	--
<u>Adverse Conditions Test Case - 10-Mile EPZ</u>				
Winter Day (snow)	All	5:30	--	--
Summer Weekend (rain & fog)	All	7:40	--	--
<u>Immediate Response - 1980 - 10-Mile EPZ</u>				
Winter Day	All	2:40	--	--

<sup>1</sup> A notification time of 15 minutes should be added to the clear time estimates for each scenario to determine the total evacuation time. Clear time estimates include mobilization time.

<sup>2</sup> Winter day scenarios represent low population under normal weather conditions.

<sup>3</sup> Summer weekend scenarios represent high population under normal weekend conditions unless noted otherwise.

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