

## **2.2 POPULATION AND LAND USE**

### **2.2.1 GENERAL**

This section of the report presents the results of a population and land-use study. References 1 through 14 used for this study include United States Census data for Maryland, Virginia, Delaware, and Washington, DC; planning reports for various areas of Maryland; maps and aerial photographs of the site and surrounding area; and discussions with various individuals (References 15 through 18). A list of references is presented in Section 2.2.7.

### **2.2.2 LOCATION**

The site is located in Calvert County, MD, on the west bank of the Chesapeake Bay, approximately 10-1/2 miles southeast of Prince Frederick, MD. It originally covered an area of approximately 1135 acres and was owned by Baltimore Gas and Electric Company (BGE). The site boundary is posted and a fence has been erected around the immediate plant area.

This site originally included Camp Conoy, a summer camp previously operated by the Baltimore YMCA. The camp was operated through December 1971, at which time it was abandoned. The camp was used by BGE for various recreational purposes.

Camp Bay Breeze, also a summer camp, is two miles to the southeast and has a seasonal population of approximately 140. Nearby communities include: Calvert Beach and Long Beach, approximately 3 miles to the northwest; Cove Point, approximately 4-1/2 miles to the southeast; Chesapeake Ranch Estates, approximately 6 miles to the south-southwest; and the Patuxent Naval Air Test Center (NATC), approximately 10 miles to the south. Cultural features in the region and area are shown on Figures 2.2-1 and 2.2-2, Regional Map and Site Vicinity Map, respectively. The low population zone as defined in 10 CFR 100.2(b) is shown on Figure 2.2-13.

The metropolitan centers closest to the site are: Washington, DC, approximately 45 miles to the northwest; Baltimore, MD, approximately 60 miles to the north; Richmond, VA, approximately 80 miles to the southwest; and Norfolk, VA, approximately 110 miles to the south.

### **2.2.3 PRESENT POPULATION**

The estimated 1970 population density is shown on Figure 2.2-3, Regional Map, Showing Present and Future Population Density 0-50 Miles, and on Figure 2.2-4, Site Vicinity Map, Showing Present and Future Population Density 0-10 Miles. Estimated 1970 population distribution is shown on Figure 2.2-5, Regional Map, Showing Present and Future Population Distribution 0-50 Miles, and on Figure 2.2-6, Site Vicinity Map, Showing Present and Future Population Distribution 0-10 Miles.

The 1970 population estimates are predicated upon 1970 census data and extrapolation of past population trends for cities, towns, election districts, and minor civil divisions. The population within each of these various political subdivisions is assumed to be uniformly distributed. All estimates include both seasonal and permanent population. (Seasonal population estimates are based on housing data from the United States Census of Housing and on residence classification data.) Population estimates within a five-mile radius of the site are based on a count for houses shown on the 1959 Calvert County General Highway Map, assuming four people per house. The estimates were extrapolated to 1970, based on the growth history of the area. House counts have been confirmed by recent aerial photographs for the immediate vicinity of the site.

The population estimates indicate that the site and surrounding area are sparsely populated with the exception of localized areas along the coast of Chesapeake Bay which attract many summer residents. The summer seasonal residents account for approximately 20% of the total population within 10 miles of the site. The region surrounding the site is predominantly rural in character. Table 2-1 lists the communities within 30 miles of the site with 1970 populations greater than 1,000.

The total 1970 population, including seasonal residents, within 10 miles of the site was estimated to be 16,827. The population is distributed throughout the area and includes many small communities with population less than 1,000. The County Seat, Prince Frederick, is located 10-1/2 miles northwest of the site and has a total population of about 605. The population of the larger communities located within 10 miles of the site is presented in Table 2-2.

A new community, known as Chesapeake Ranch Estates, is located 6 miles south-southeast of the site. The present (1970) permanent population of this development is approximately 180. In the summer, the population is approximately 1,000 during the week, and reaches a maximum of approximately 2,000 on weekends.

All of the above populations are included in the data presented on Figures 2.2-3 through 2.2-6.

The character of the area begins to change from rural to suburban as the major population center of metropolitan Washington, DC, is approached. As indicated in Table 2-3, Accumulative Population Summary - 1970, the rate of change is greatest within 10 to 20 miles of Washington, DC, more than 30 miles from the site.

The sector containing the maximum 1970 population is bounded by the west and northwest radial lines as shown on Figure 2.2-5. The estimated population of this sector, out to 50 miles from the site, is approximately 1,160,000. The data show that 96.6% of the present population in this sector is located more than 30 miles from the site. The population estimates also indicate that 97% of the 2010 population in this sector will be located more than 30 miles from the site.

#### **2.2.4 FUTURE POPULATION**

Estimates of population density and distribution for the year 2010 are presented on Figures 2.2-3 through 2.2-6. The population estimates are based on an extrapolation of the past growth history of the region and on future population estimates made by the Maryland State Planning Department.

The published future population estimates extend through 1985. These were extrapolated to 2010 for purposes of this study. In areas where the present population was less than 50, estimates of the 2010 population are based on an anticipated population density of 250 persons per square mile. This method of computation was necessary only for certain areas within 10 miles of the site. Estimates of the future development of Chesapeake Ranch Estates indicate a maximum future population of 28,000. This estimate is included in the data presented on Figures 2.2-3 through 2.2-6.

With continued growth of the Washington, DC metropolitan area, moderate population gains can be expected in the outlying regions, including portions of northern Calvert County and eastern Charles County which are within 15 to 25 miles of the site. Considerable population gains are expected in the area near Washington and Baltimore as part of the growth of the Boston to Washington "megalopolis." Table 2-4 presents the accumulative 2010 population within various distances from the site.

### **2.2.5 LAND USE**

In 1959, 85,400 acres (61%) of the land in Calvert County was devoted to farms, 51,200 acres (36.5%) to forests, and 3,500 acres (2.5%) to other uses. Of the 3,500 acres not used for farms or occupied by forests, 79% was residential; 5% was commercial; 3% was industrial; and 13% was devoted to public and semi-public use.

Dairy farming is of minor importance in Calvert County. In 1959, there were five dairy farms in the county and in 1964 the number decreased to one. There is, however, no dairy farm within a 5 mile radius of the plant.

As stated previously, approximately 61% of the land in Calvert County was devoted to farms in 1959. In 1964, it declined to approximately 53%. The amount of harvested cropland declined slightly over this period, from 16,800 acres to 16,100 acres. The majority of the harvested cropland was used for growing tobacco, corn, and hay, as shown in Table 2-5, Agricultural Land Use - 1959 and 1964.

Within 25 miles of the site, over 90% of the land area is located in Calvert, Charles, Dorchester, and St. Mary's Counties. In 1959, approximately 512,700 acres (49%) of the land in these counties was devoted to farms. In 1964, it declined to approximately 45%. The amount of harvested cropland declined over this period from 180,000 acres to 170,500 acres. The major crops grown in the four-county area are shown in Table 2-6, Agricultural Land Use - 1959 and 1964.

With continued population growth, it is anticipated that the percentage of land devoted to farms will continue to decline and will be accompanied by increased residential and commercial use. However, the overall character of the area is expected to remain essentially rural.

The waters adjacent to the site are used for commercial fishing, primarily for shellfish, such as clams, oysters, and crabs. Calvert County accounted for approximately 2% of the State's total fish catch in 1963.

## **SECURITY RELATED INFORMATION WITHHELD UNDER 10 CFR 2.390**

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## **2.2.6 SUMMARY**

The site is located in an undeveloped, sparsely populated area. The present population within 30 miles of the site is small. However, moderate increases, on the order of 1.5%/year, are estimated over the next 40 years. At present, more than 90% of the

population within 50 miles of the site is located at distances greater than 30 miles. This trend is expected to continue for the expected life of the CCNPP.

At the present time, the major portion of the land in the area surrounding the site is devoted to agricultural and forest uses. Although the amount of land devoted to farming is declining, agriculture should continue to be a primary land use during the life of the proposed nuclear plant. Small increases in the amount of land devoted to residential and commercial use will occur with increased population growth.

The waters of the Chesapeake Bay are now and should remain a source of sea food, primarily clams, oysters, and crabs.

From a population and land-use standpoint, the site is suitable for the location of a nuclear power plant.

### **2.2.7 REFERENCES**

1. Gladstone, Robert & Associates, Washington, DC, April 1965 - The Economy and Population of Southern Maryland, prepared for the Maryland State Planning Department
2. Maryland State Planning Department, April 1967 - Proposed Comprehensive Plan, Calvert County
3. Maryland State Planning Department Newsletter, July 1967, Volume XX, No. 4
4. Maryland State Roads Commission, General Highway Map, Calvert County, Maryland, 1959
5. Regional Planning Council, Baltimore, Maryland, October 1964 - Regional Data Book, Publication 2
6. Regional Planning Council, Baltimore, Maryland, September 1965 - Regional Plan Alternatives, Publication 5
7. United States Bureau of the Census, 1964 Census of Agriculture, Statistics for the State and Counties, Maryland, Volume 1, Part 23, United States Government Printing Office, Washington, DC
8. United States Bureau of the Census, 1950 Census of Housing, Volume 1 General Characteristics, Parts 2, 3, and 6, United States Government Printing Office, Washington, DC
9. United States Bureau of the Census, 1970 Census of Housing, Volume 1 States and Small Areas, Parts 3, 4, and 8, United States Government Printing Office, Washington, DC
10. United States Bureau of the Census, 1970 Census of Population, Volume 1, Characteristics of the Population, Parts 9,10, 22, and 46, United States Government Printing Office, Washington, DC
11. United States Bureau of the Census, U.S. Census of Population: 1970, Number of Inhabitants -- Delaware, 1971
12. United States Bureau of the Census, U.S. Census of Population: 1970, Number of Inhabitants -- Maryland, 1971
13. United States Bureau of the Census, U.S. Census of Population: 1970, Number of Inhabitants -- Virginia, 1971
14. United States Department of Commerce, Bureau of the Census, Election Districts, 1960 Minor Civil Division Maps for the States of Delaware, Maryland and Virginia

15. Chesapeake Ranch Club; Lusby, MD; Mr. Jetmore
16. Girl Scouts Council of the Nations Capital; Arlington, VA; Mr. Slover
17. Patuxent NATC; Lexington Park, MD; Housing Personnel
18. Young Men's Christian Association; Baltimore, MD; Mr. Moss
19. Final Environmental Impact Statement, Increased Flight and Related Operations in the Patuxent River Complex, Patuxent River, Maryland: Department of the Navy, Naval Air Warfare Center Aircraft Division, December 1998
20. Letter from Ms. D. M. Skay (NRC) to Mr. C. H. Cruse (CCNPP), dated August 29, 2001, Calvert Cliffs Nuclear Power Plant, Unit Nos. 1 and 2 - Issuance of Amendment Re: Aircraft Hazards Analysis (TAC Nos. MA7229 and MA7230)

**TABLE 2-1**  
**COMMUNITIES WITHIN 30 MILES OF THE SITE WITH POPULATION OF 1,000 OR**  
**GREATER**  
**POPULATION<sup>(a)</sup>**

<u>COMMUNITY</u>	<u>1940</u>	<u>1950</u>	<u>1960</u>	<u>1970</u>	<u>DISTANCE AND</u> <u>DIRECTION</u> <u>FROM SITE</u> <u>(miles)</u>
Patuxent NATC	(c)	(c)	1,900 <sup>(b)</sup>	2,100 <sup>(b)</sup>	10-S
Lexington Park	(c)	(c)	7,039	9,136	12-S
Leonardtown	668	1,017	1,281	1,406	14-SW
Cambridge	10,102	10,351	12,239	11,600	21-ENE
St. Michaels	1,309	1,470	1,484	1,456	26-NNE
Waldorf	(c)	(c)	1,048	7,368	27-WNW
Easton	4,428	4,836	6,337	6,809	30-NE
La Plata	488	780	1,214	1,561	30-WNW

<sup>(a)</sup> Based on United States Census Bureau Statistics.

<sup>(b)</sup> Estimated.

<sup>(c)</sup> Population less than 1,000. Exact number not available.

**TABLE 2-2  
POPULATION OF COMMUNITIES NEAR THE SITE**

<b><u>COMMUNITY</u></b>	<b><u>ESTIMATED 1970 POPULATION</u></b>	<b><u>DISTANCE AND DIRECTION FROM SITE</u></b>
Calvert Beach and Long Beach	935	3 NW
Cove Point	385	4-1/2 SE
Kenwood	275	5-1/2 NW
Scientists Cliffs	660	7 NNW
Solomons	350	8 S
Dares Beach	825	10 NNW
Prince Frederick	605	10-1/2 NW



**TABLE 2-3**  
**ACCUMULATIVE POPULATION SUMMARY - 1970**

<b><u>RADIAL DISTANCE FROM SITE</u></b> <b>(miles)</b>	<b><u>ACCUMULATIVE POPULATION</u></b>
5	3,425
10	16,827
20	83,495
30	188,755
40	518,825
50	2,305,635

**TABLE 2-4**

**ACCUMULATIVE POPULATION SUMMARY - 2010**

<b><u>RADIAL DISTANCE FROM SITE</u></b> <b>(miles)</b>	<b><u>ACCUMULATIVE POPULATION</u></b>
5	11,253
10	59,750
20	187,470
30	379,830
40	1,040,750
50	4,757,810

**TABLE 2-5**  
**AGRICULTURAL LAND USE - 1959 AND 1964**  
**(Calvert County)**

<b><u>CROP</u></b>	<b><u>PERCENT OF HARVESTED CROPLAND</u></b>	
	<b><u>1959</u></b>	<b><u>1964</u></b>
Tobacco	42	44
Corn	27	27
Hay	16	15
Small Grains	8	8
Other	7	6

**TABLE 2-6**  
**AGRICULTURAL LAND USE – 1959 AND 1964**  
**(Calvert, Charles, Dorchester, and St. Mary's Counties)**

<b><u>CROP</u></b>	<b><u>PERCENT OF HARVESTED CROPLAND</u></b>	
	<b><u>1959</u></b>	<b><u>1964</u></b>
Corn	28	30
Soybeans	25	22
Small Grains	17	17
Tobacco	12	12
Hay	10	8
Other	8	10

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