
Socioeconomic Impacts of Nuclear Generating Stations

Nine Mile Point and Fitzpatrick Case Study

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Prepared for
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Commission

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ABSTRACT

This report documents a case study of the socioeconomic impacts of the construction and operation of the Nine Mile Point and Fitzpatrick nuclear power stations. It is part of a major post-licensing study of the socioeconomic impacts at twelve nuclear power stations. The case study covers the period beginning with the announcement of plans to construct the reactor and ending in the period, 1980-81. The case study deals with changes in the economy, population, settlement patterns and housing, local government and public services, social structure, and public response in the study area during the construction/ operation of the reactor.

A regional modeling approach is used to trace the impact of construction/operation on the local economy, labor market, and housing market. Emphasis in the study is on the attribution of socioeconomic impacts to the reactor or other causal factors. As part of the study of local public response to the construction/operation of the reactor, the effects of the Three Mile Island accident are examined.

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NRC POST-LICENSING STUDY

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CHAPTER 1: INTRODUCTION

1.1 The NRC Post-Licensing Studies

This report—the case study of the Nine Mile Point Unit 1, Nine Mile Point Unit 2, and James A. FitzPatrick nuclear plants, located in Oswego County, New York—is one of a series of reports that are being prepared as part of the NRC Post-Licensing Studies. The purpose of this chapter is to describe the objectives of the NRC Post-Licensing Studies, the major components of the studies, the relationship of research concerning Three Mile Island to the overall study plan, and the organization of this case study report.

1.1.1 Objectives of the Post-Licensing Studies

The Post-Licensing Studies have four main objectives: to determine the socioeconomic effects of nuclear power stations; to ascertain the significance of these effects to individuals and groups affected; to identify the determinants of the effects and their significance; and to determine whether currently available assessment methodology could have been used to anticipate the most significant of these effects.

Each of the latter three objectives depends upon clear identification of the effects of the nuclear station—the difference in the socioeconomic conditions as they occurred with the station and those that would have prevailed had the station not been built. Once the effects have been identified and their incidence among groups established, they must be placed in the context of the values of the individuals affected by them to determine their significance. The explication of the effects, the evaluation of those effects, and their significance to local residents permits an analytic consideration of the overall evaluation and the response of local residents to the presence of the nuclear facility in or near their communities.

After determining the patterns of effects caused by the facilities and the meaning of the effects to local residents across sites, the Post-Licensing Studies will turn to an examination of the causes of the documented effects. It is necessary to know what combination of site, project, or other circumstantial determinants appears to be responsible for the effects that ensued and for the levels of significance attached to them by local residents. In short, some plausible explanation for the consequences of constructing and operating the stations must be developed.

The final objective of the Post-Licensing Studies is somewhat different from the preceding three in that it is directly concerned with the methodology of the socioeconomic-assessment process. The central question is whether there are assessment methods currently available that could have been used to foresee the most significant of the socioeconomic effects associated with the nuclear plant. Based on the answer to this question, recommendations will be developed with respect to the assessment methods that can most appropriately be applied to anticipate the effects of the construction and operation of nuclear generating stations.

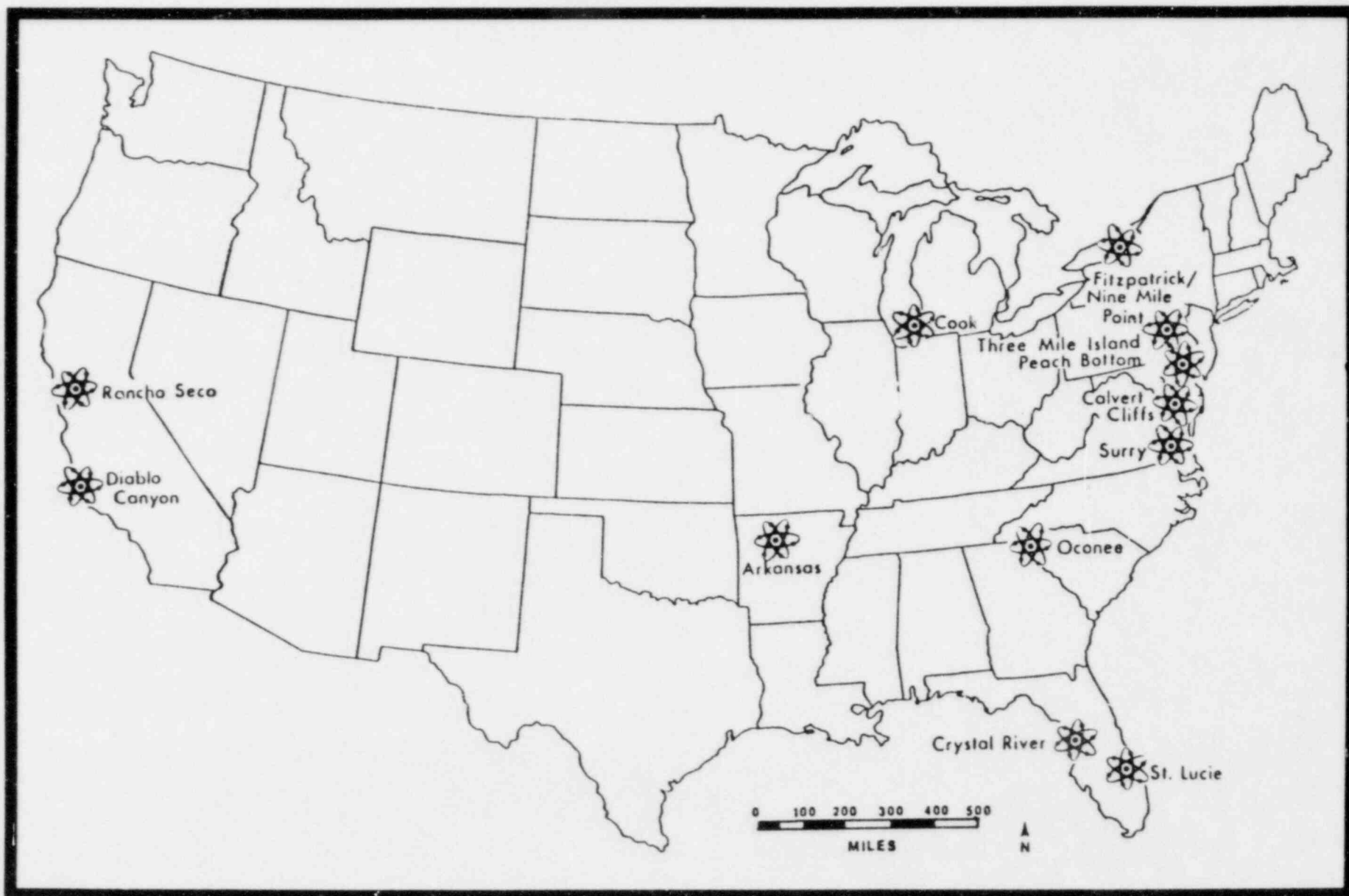
1.1.2 Components of the Post-Licensing Studies

The Post-Licensing Studies have three distinct components: the individual case studies, the cross-site analysis, and the methodological recommendations. The individual case studies are being conducted at twelve sites, as listed in Figure 1-1. The twelve case study reports will meet the first two objectives of the study. They will establish the social and economic effects of the nuclear station, and they will determine the significance of the effects for those persons affected by them.

Once the twelve case studies have been completed, work will begin on the part of the study referred to as the cross-site analysis. The results from all twelve case studies will be utilized to identify more specifically the causal mechanisms responsible for the effects that occurred. Of particular importance will be the establishment of the relative roles of site characteristics, project characteristics, and external forces in determining the consequences of constructing and operating a nuclear plant. The objective is to understand why effects occurred as they did and what was responsible for the significance they assumed. It must be remembered that twelve case studies is a very small sample and will not support rigorous statistical analysis of postulated causal relationships. At the same time, twelve comparable observations are more than have heretofore been available, and it is anticipated that the cross-site analysis will contribute substantially toward an understanding of why the socioeconomic effects occurred as they did and what determined the significance of the effects for the individuals affected by them.

The final component of the study will develop recommendations for methods to be applied in assessing the social and economic effects of proposed projects. The recommendations will be based on an evaluation of the relative success that various assessment methods would have had in anticipating the most significant effects of the twelve

**FIGURE 1-1. UNITED STATES NUCLEAR REGULATORY COMMISSION
POST LICENSING STUDY
CASE STUDY SITES**



nuclear stations. Based on these results, methodological recommendations will be made, with an attempt to indicate the relative strengths and weaknesses of the alternatives.

1.1.3 Three Mile Island

Since Three Mile Island was one of the case-study sites, the scope of the Post-Licensing Studies was expanded to include an analysis of the social and economic effects of the accident on the residents of south-central Pennsylvania. Because a reliable data base was necessary to support this effort, the NRC Telephone Survey of 1,500 households was conducted in late July (Flynn, 1979). Since that time, an additional report was prepared. This report described the social and economic consequences of the accident during the six-month period from the end of March through September (Flynn and Chalmers, 1980).

Because of the unique circumstances surrounding the accident, the research at Three Mile Island will culminate in an individual report with two major parts. Part I will describe the pre-construction, construction, and operating experience of the station from late 1966 through 27 March 1979. This part will be based on the same methodology being used at the other eleven nuclear station sites and will be directly comparable to those case study reports. Part II will describe the emergency and the post-emergency periods covering the period from 28 March through the summer of 1981.

In addition to the expanded effort at the Three Mile Island site itself, the accident will affect the Post-Licensing Studies in one other way. Each of the case study sites will be examined for consequences of the Three Mile Island accident. There are two possibilities: the accident may have directly affected social or economic conditions at other sites, or the accident may have caused recognized effects to be evaluated in a different way and, therefore, to assume increased significance in the eyes of local residents. Both possibilities will be investigated.

1.2 Overview of the Case Study Organization

As was explained above, the purposes of the individual case study reports are to describe the socioeconomic effects of the construction and operation of the nuclear station that were experienced by residents of the area being studied and to indicate the significance of those effects to the individuals and groups affected. Each report contains ten chapters, the contents of which are summarized in Figure 1-2.

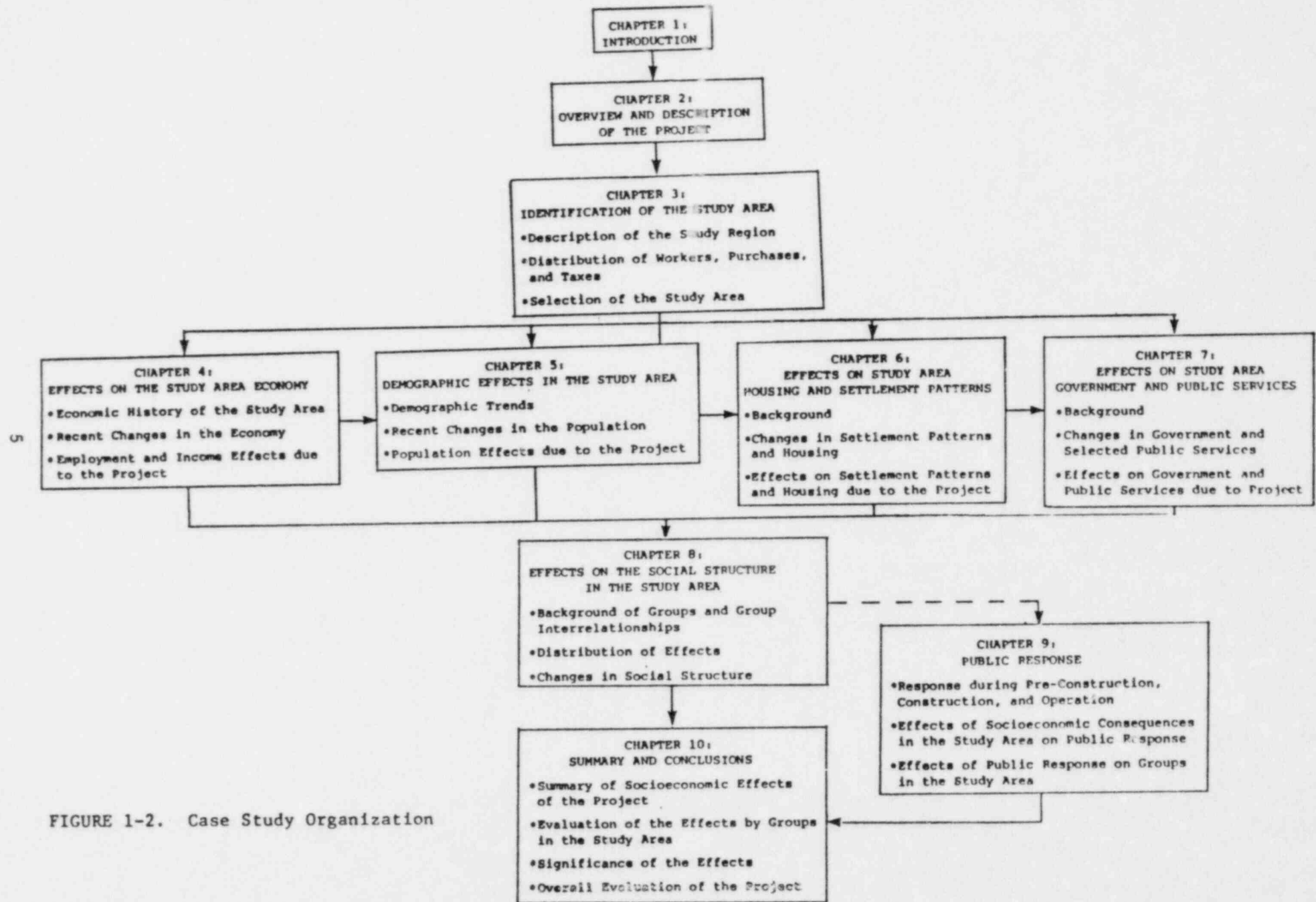


FIGURE 1-2. Case Study Organization

Following this introduction, Chapter 2 describes the project with emphasis on those project characteristics that are important determinants of socioeconomic effects. Chapter 3 then provides a general description of the region in which the project is located, both as an orientation and as a prelude to selecting the smaller study area that will be intensively analyzed in the remainder of the case study. Actual selection of the study area relies on the spatial distribution of project consequences and on the geographic extent of the major social, economic, and political systems that function in the vicinity of the plant. The consequences of the project that are examined in this context are the spatial distribution of the persons directly employed in constructing or operating the nuclear station, the distribution of direct purchases of goods or services made by the utility in order to build or operate the facility, and the spatial distribution, by jurisdiction, of the tax payments from the utility due to the nuclear station. The study area is then defined with reference both to the spatial distributions of these major consequences of the project and to the spatial distribution of the functional, social, economic, and political systems that operate in the vicinity of the station.

The next four chapters trace the effects of the plant on the study area economy, on the size and composition of the area's population, on housing and settlement patterns in the study area, and on government and the provision of public services in the study area. There are several organizing principles used to present this information. First, an attempt is made to describe conditions as they existed in the study area prior to the start of construction and as they changed from that time to the present. An explicit attempt is then made to identify that part of the change, or lack of change, due to construction and operation of the nuclear station. The temporal focus of the attribution of changes to the nuclear facility is on two points in time: the peak year of construction and a recent year during which the station was in full operation.

The second major organizing principle concerns the way in which effects are attributed to the nuclear station. There are two basic approaches to this problem. The first is to identify and control the effects of all other exogenous forces acting on the study area and, after their effects have been isolated, to attribute remaining effects to the nuclear station. The second approach is to make explicit causal arguments that directly tie postulated effects back to some known aspect of the construction or operation of the station. Both approaches require use and acceptance of the same kinds of behavioral hypotheses. Using the first approach, it is necessary to define the direct and indirect effects of other exogenous forces acting on the study area so that the effects

due to the station can be determined as a residual. Using the second approach, the same kinds of hypotheses and behavioral relationships are used to directly argue the nature and extent of socioeconomic effects stemming from the construction and operation of the station. The most convincing case for attributing effects to the nuclear station results from use of both approaches—control of other exogenous influences and identification of direct causal links to the plant. Where possible, both approaches are pursued in the case studies. In general, however, the social and economic changes that have taken place in the areas examined in this study over the ten- to fifteen-year period of investigation are so complex that the second general approach is relied upon more heavily than the first.

Chapter 4 begins with a description of the jobs and income directly associated with the station and then establishes other employment, income, and labor force effects experienced in the study area. Chapter 5 works directly from these estimates of employment change to examine effects on the size and composition of the study area's population, both from the in-migration of workers and their families and from reduced out-migration of local persons induced to remain in the area due to opportunities offered by the construction or operation of the station. Once population change due to the station has been established in Chapter 5, Chapter 6 examines the effects of the combined economic and demographic changes on housing and settlement patterns in the study area. The emphasis is principally on changes in the number, type, and spatial distribution of residences, although, where relevant, effects on patterns of commercial and industrial activity are also described.

Chapter 7 summarizes the major consequences of the station and of its economic, demographic, and housing effects on the local government in the study area. It begins by examining the major local jurisdictions in the study area for evidence of change in organization or structure due to the station. The effects on the revenues of local jurisdictions are then described. Finally, there is a discussion of the combined influence of changed revenues and changed levels of demand for public services on the provision of services in the study area. It was decided that these effects could be shown most clearly by focusing on a smaller number of important services rather than by trying to examine the provision of all public services in the study area. The services chosen are education, transportation, public safety, and social services.

Chapters 4, 5, 6, and 7 proceed in sequence, therefore, to trace the economic, demographic, housing, and governmental implications of constructing and operating a

nuclear station. The geographic focus is the study area defined in Chapter 3. The temporal focus is on the change from pre-construction to the construction peak and on the change from pre-construction to a recent year of full operation. Finally, the attribution of the effects to the nuclear station is achieved primarily through the establishment of direct causal relationships that are linked to effects directly associated with the station.

Chapter 8 examines the social structure of the study area and the ways in which it has been affected by the construction and operation of the nuclear station. The social structure is defined by the groups that exist in the area, their principal characteristics, and their social, political, and economic interrelationships. The chapter begins by identifying a set of functional groups into which the study area population is divided. A profile of each group is then developed. Each group is characterized in terms of livelihood, size, outstanding demographic characteristics, location, property ownership, values and attitudes, and patterns of intragroup interaction. The economic, political, and social interrelationships of the groups are then identified and described. An appreciation of these group characteristics and interrelationships helps to understand the way in which the effects of the project were evaluated and to explain group response to these effects. In addition, the characterization of groups and their interrelationships prior to the project serves as the basis for assessing the degree to which groups and social structure were altered as a consequence of the project.

The final step in the analysis of social structure is to determine the distribution of the economic, demographic, housing, and governmental effects of the station. The distribution of effects across groups provides explanatory information concerning the changes in group structure and characteristics and provides data for interpreting and understanding the group evaluations of the project.

Chapter 8 is designed, therefore, to accomplish two very important objectives. First, it makes operational the concept of social structure so that its constituent parts can be described and so that the effects of the construction and operation of the plant on social structure can be assessed. Second, the approach permits the examination of the effects of the plant on each group. The information on group characteristics and on the project effects accruing to each group provides the basis for determining the project's impact on the groups, discussed in Chapter 10.

Chapter 9 provides another perspective on the socioeconomic effects of constructing and operating the nuclear station by examining the public response to the project. The emergence and expression of public concerns and the issues that arose over the plant during the three study periods—pre-construction, construction, and operations, including post-Three Mile Island—are described and assessed. The issues are described in terms of topic, time of occurrence, actors, positions, and resolution. Unlike the previous five chapters of the case study, which focused on the effects of the nuclear station within the study area defined in Chapter 3, the analysis of public response is regional in scope. The principal sources of information concerning public response are the local and regional press, transcripts of hearings, and key informants.

The analysis of public response focuses on three questions: the extent to which the socioeconomic effects of the station on individuals and groups in the study area played a causal role in the public response to the project; the level of the direct participation of study area residents in publicly responding to the project; and the effects of the public response itself on the residents of the study area. The latter question involves the degree to which issues and confrontations that arose in the course of building and operating the nuclear station were responsible for changes in social or economic conditions within the study area. The strategy of Chapter 9, therefore, is to identify public response to the nuclear project and then sort out the reciprocal causal links from local socioeconomic effects to public response and from public response to local socioeconomic effects.

The overall objectives of the individual case studies are to establish the socioeconomic consequences of constructing and operating a nuclear power station on the residents of the local area in which a station is located and to provide a perspective on the significance of these effects to the people who experienced them. Chapter 10 will focus on the evaluation of the major socioeconomic consequences of the project by each group in the study area. The next step in Chapter 10 is to combine the information on group characteristics, effects, and group-specific evaluations to reach conclusions about the impacts and significance of the effects of the project. Absolutely large effects combined with strong positive or negative evaluations would imply strong significance. Similarly, absolutely small effects would tend to offset strong positive or negative evaluations, or indifferent evaluations could offset large effects and produce low levels

of significance. This process leads to a summary of the significance of the effects of the project.

CHAPTER 2: OVERVIEW AND DESCRIPTION OF THE PROJECT

2.1 Introduction

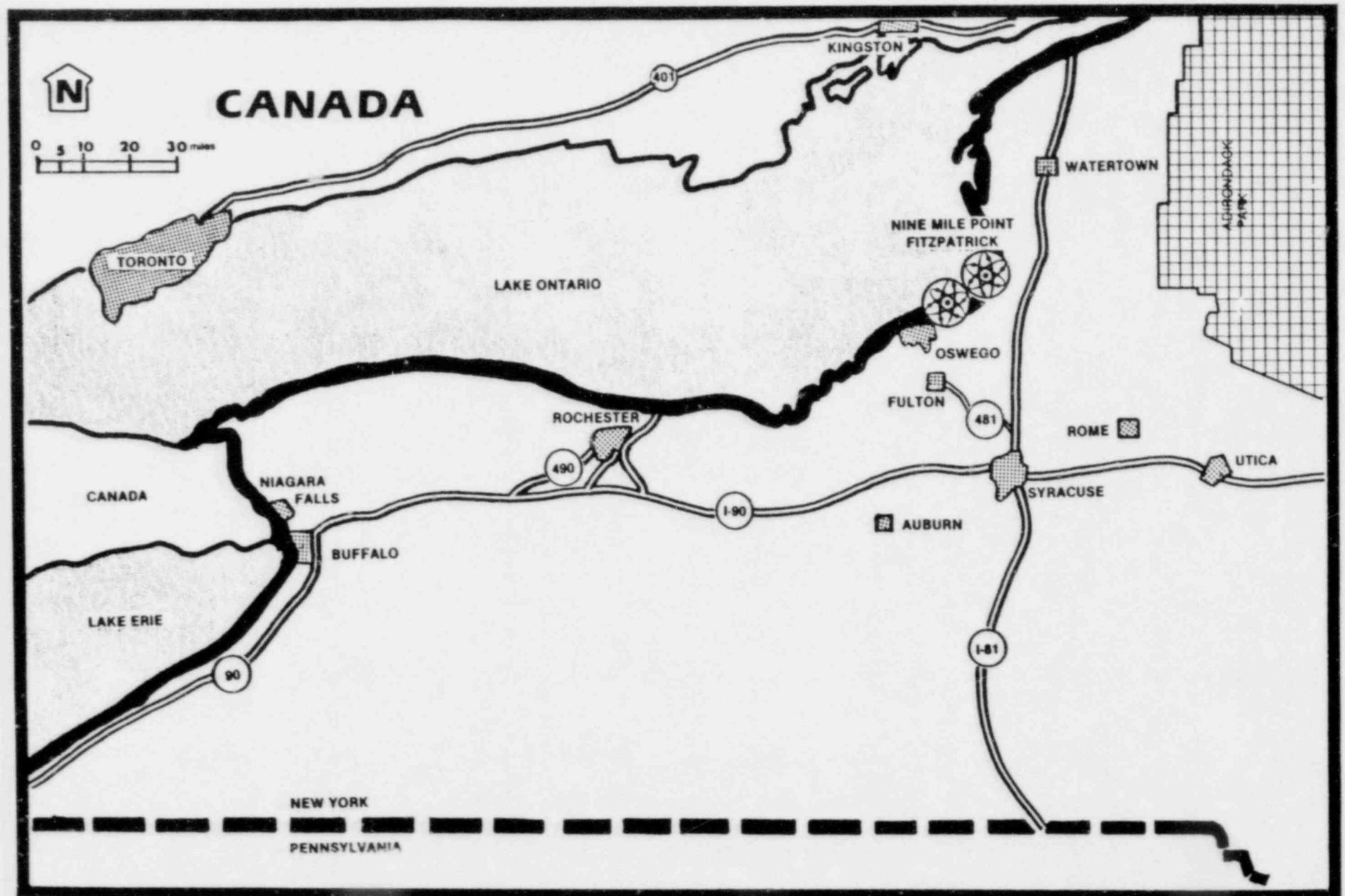
Essential to every impact assessment is a description of the impacting agents. This chapter provides: (1) a brief history of the utilities and of the Nine Mile Point Unit 1 (NMP-1), Nine Mile Point Unit 2 (NMP-2), and James A. FitzPatrick Nuclear Power Plant (FP) projects;¹ (2) information on the location, size, type, and site characteristics of all three Nine Mile Point stations; (3) a description of the utilities (Niagara Mohawk Power Corporation and the Power Authority of the State of New York) and other major factors involved with the projects; (4) an outline of the magnitude, timing, and duration of the construction efforts; and (5) a discussion of the operating characteristics of the stations. The principal purpose of this chapter is to establish a basis for analysis of the socioeconomic effects of these projects.

2.2 Ownership and Location

During the study period, Nine Mile Point Unit 1 was solely owned by the Niagara Mohawk Power Corporation and Nine Mile Point Unit 2, which was still under construction, was owned jointly by Niagara Mohawk (41 percent), Long Island Lighting Company (18 percent), New York State Electric and Gas Corporation (18 percent), Rochester Gas and Electric Corporation (14 percent), and Central Hudson Gas & Electric Corporation (9 percent). (Niagara Mohawk, 1980:9.) The James A. FitzPatrick Nuclear Power Plant was wholly owned by the Power Authority of the State of New York (PASNY). The three units, built adjacent to one another, were located in Oswego County, New York, on the southern shore of Lake Ontario. As shown in Figure 2-1, they were about 7 miles east of Oswego City, 36 miles north of Syracuse, and 135 miles east of Buffalo, New York. Located off a private section of a secondary road, the project site was linked indirectly to the City of Oswego by New York State Highway 104 (NY-104) and to Syracuse by Interstate Highway 81 (I-81).

¹Throughout this report, the three stations located at the Nine Mile Point site will be referred to collectively as the Nine Mile Point Stations.

FIGURE 2-1. LOCATION OF NINE MILE POINT & FITZPATRICK NUCLEAR PLANTS



2.3 The Utilities

2.3.1 Corporate Background

Niagara Mohawk Power Corporation

The Niagara Mohawk Power Corporation (Niagara Mohawk) an investor-owned electric and gas utility, was the applicant for the construction of the first nuclear station at Nine Mile Point. The corporation was formed in 1937 as the Central New York Power Corporation. In 1950, upon consolidation with Niagara Hudson Power, Buffalo Niagara Electric, and the New York Power and Light Corporation, the company name was changed to Niagara Mohawk Power Corporation (also called NMPC). The corporate headquarters of Niagara Mohawk were in Syracuse, with principal offices in Buffalo, Albany, and New York City (Moody's, 1979:1291).

Niagara Mohawk had supported research on nuclear electric generation for some time prior to its decision to construct a nuclear power station at Nine Mile Point. The corporation had participated in early research efforts on commercial nuclear power generation and had contributed to development of Peach Bottom Unit 1, one of the first commercial nuclear stations in the country. In the mid-1960s, in addition to its activity on Nine Mile Point, Niagara Mohawk had developed plans and ordered equipment for a nuclear facility on the Hudson River at Easton, New York, and in 1966 had ordered a nuclear reactor, turbine generator, and fuel fabrication from General Electric (PASNY, 1969:11). These plans were cancelled when the proposed project encountered opposition and delays. In the late 1970s, the corporation participated in a consortium of four utilities, led by Rochester Gas and Electric, which proposed to construct a nuclear generating station in Sterling, New York¹ (NMPC, 1980:8). At the time of the study, Nine Mile Point Unit 1 (constructed between 1963 and 1969) was the only operating nuclear generating facility in the Niagara Mohawk system. Nine Mile Point Unit 2 was still under construction.

¹Had the proposed project been realized, the percentages of ownership would have been: Niagara Mohawk (22 percent); Rochester Gas and Electric (28 percent); Central Hudson (17 percent); and Orange and Rockland Utilities, Inc., (33 percent). The New York State Board on Electric Generation Siting and the Environment, however, withdrew its certificate of environmental compatibility and public needs early in 1980, and the proposal was dropped (NMPC, 1980:8).

Power Authority of the State of New York (PASNY)

PASNY (also called the Authority) was formed in 1931 by the Power Authorities Act of the State of New York as a public corporation and a political subdivision of New York State. It was established as a wholesale power supplier, with the expressed purpose of providing low cost electricity to industries, power companies, and municipal or cooperative electric systems in New York, Pennsylvania, and Vermont. The New York State Power Authorities Act stipulated that the rates, services, and practices of PASNY were to be governed by PASNY sales contracts, and not by the New York State Public Service Commission nor the general principles of the New York Public Service Law (Moody's, 1978:2380). PASNY was tax exempt: it was not supported by tax revenues but obtained its capital investment funds through the sale of revenue bonds. Until 1967, PASNY was limited by statute to the construction and operation of hydroelectric facilities on the St. Lawrence and Niagara rivers.

As of 1967, the Authority owned two hydroelectric power projects, one on the Niagara River at Niagara Falls, New York, and the other on the St. Lawrence River near Massena, New York. Both projects were owned jointly by Canada and the United States. These two hydroelectric projects were considered insufficient to meet the demand for low-cost power and, in 1967, the governor of New York appointed the Electric Power Committee to examine power needs in the state and to recommend a comprehensive power program. The committee recommended that PASNY be authorized to construct nuclear and pumped-storage hydroelectric facilities (PASNY, 1968:9). In 1968, the New York State Legislature granted this authorization, and the Authority filed application with the Federal Power Commission to construct a 100 Mw pumped-storage facility in the southeastern portion of the state. It also filed application with the Atomic Energy Commission (AEC) for construction of the 821 Mw James A. FitzPatrick Nuclear Power Plant on Lake Ontario near Oswego, New York. This was PASNY's first involvement with nuclear generating facilities (PASNY 1969:1). In 1974, the State Legislature authorized PASNY to acquire and complete the Indian Point No. 3 Nuclear Station from the financially troubled Consolidated Edison (PASNY, 1974:8). In 1975, PASNY announced plans to construct a 1,200 Mw nuclear facility in Greene County, New York, but the permit for this facility was denied and the project was later dropped.

2.3.2 Service Areas

Niagara Mohawk Power Corporation

In 1962, Niagara Mohawk provided electricity to approximately 1.12 million customers, about 90 percent of whom were residential (Burtch, personal communication, December 1980). By 1972, the number of customers had increased to about 1.26 million. As shown in Figure 2-2, in 1978 Niagara Mohawk was serving about 1.33 million customers in a service area that covered a large portion of New York State (Moody's, 1979:1292). The corporation also provided gas service and in 1978 was serving approximately 412,000 customers in central New York State.

Niagara Mohawk was a member of the New York Power Pool, an organization formed in 1966 by the major electric utilities of New York State (PASNY, 1968:10).

Power Authority of the State of New York (PASNY)

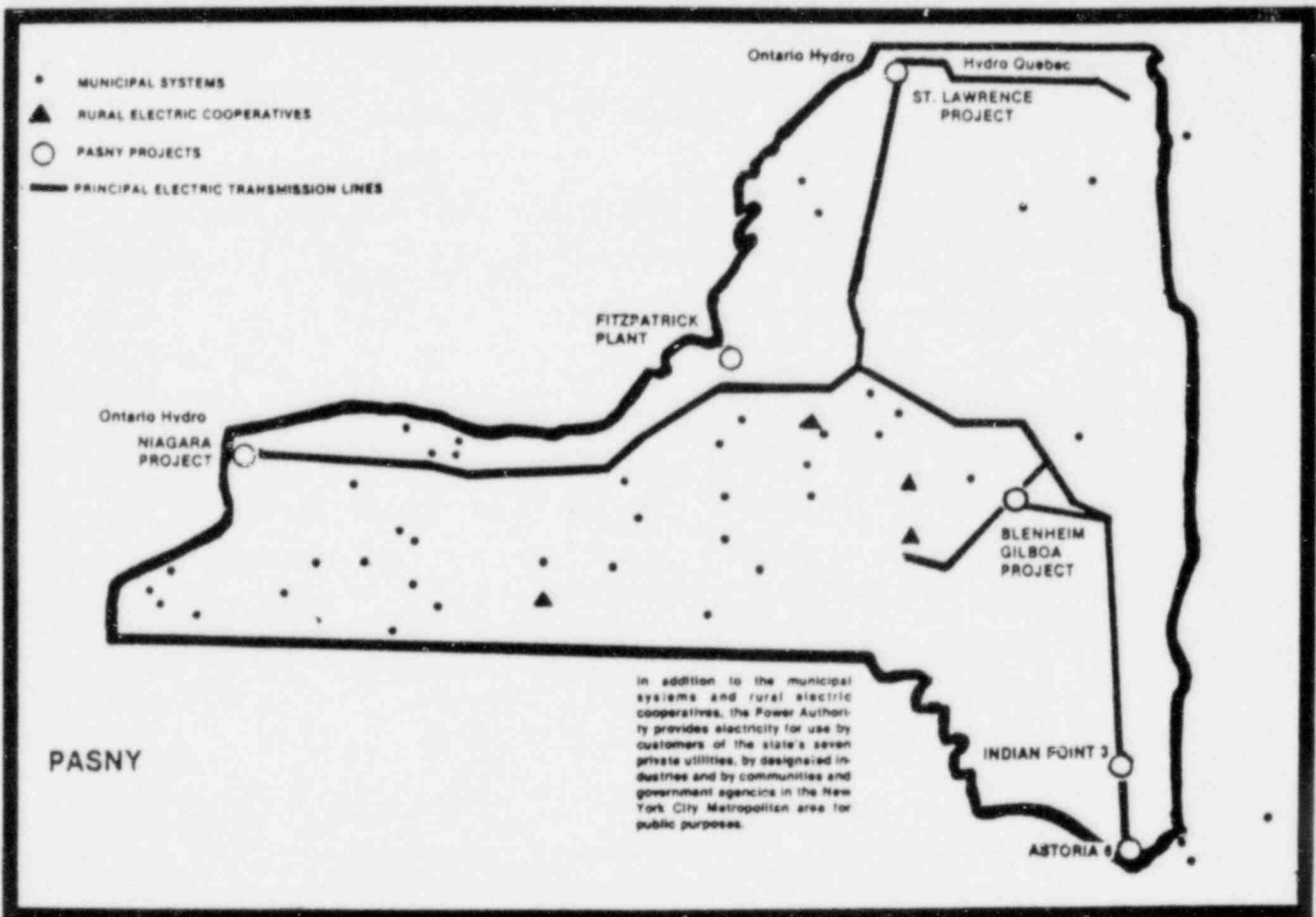
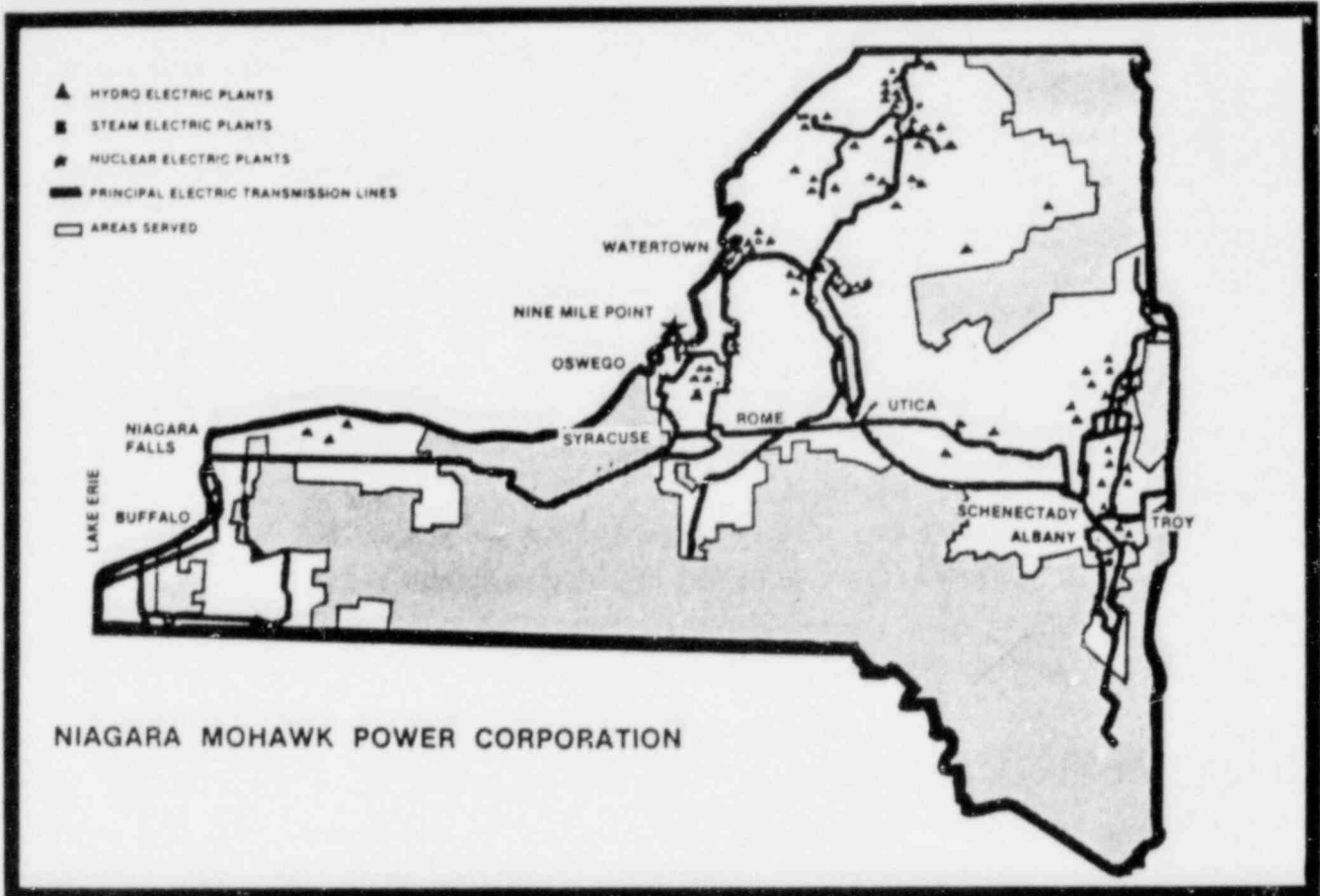
In 1962, PASNY served wholesale customers in New York, Pennsylvania, and Vermont and, by 1967, it provided electricity to a total of 50 wholesale customers. The Niagara Mohawk Power Corporation was one of PASNY's major customers. Federal law stipulated that a fixed quantity of the electricity generated by PASNY be supplied to Niagara Mohawk for resale to those industries in the Niagara area that had previously obtained power from Niagara Mohawk hydro plants (PASNY, 1968:16). Both the PASNY service area and the number of wholesale customers remained essentially unchanged through 1972 (PASNY, 1973:1). Between 1972 and 1978, legislative changes enabled PASNY to expand its wholesale service area, principally into the southeastern portion of New York State. The 1979 service area is shown in Figure 2-2 (PASNY, 1979:5). PASNY had joined the New York Power Pool in 1967 (PASNY, 1968:10).

2.3.3 Generating Capacities and Production

Niagara Mohawk Power Corporation

In 1963, when the first Nine Mile Point nuclear project was announced, Niagara Mohawk owned and operated a number of fossil-fuel and hydroelectric generating stations in New York State, and had a net generating capacity of about 3000 Mw. By 1969, when NMP-1 came on line, the generating capacity of the Niagara Mohawk system was 3,696 Mw. At this time, NMP-1 contributed 16.5 percent of the system total (USAEC, 1974:8-8). In 1978, Niagara Mohawk owned and operated 102 generating facilities with a net generating capability of 4,913 Mw. This reduced the NMP-1 contribution to 12.4 percent of the system total.

FIGURE 2-2 NIAGARA MOHAWK & PASNY SERVICE AREAS.



In 1978, Nine Mile Point Unit 1 generated 4.5 million MWh of electricity; this was 18.9 percent of the 23.6 million MWh produced by the Niagara Mohawk system. Nine Mile Point Unit 2 was not completed and in operation at the time of the study (Moody's, 1979:1291; Niagara Mohawk, 1980:24).

Power Authority of the State of New York (PASNY)

In 1967, the year prior to PASNY's announcement of the FitzPatrick project, PASNY had 3,200 Mw of generating capability in the form of hydroelectric and pumped-storage facilities (PASNY, 1968:14). In 1975, when the FitzPatrick unit entered the system, PASNY's capacity was about 5000 Mw, of which the FitzPatrick plant comprised 16.4 percent. By 1978, PASNY's production capacity had expanded to about 6,800 Mw, reducing the contribution of the FitzPatrick plant to 12.1 percent. In 1978, the PASNY system produced 34.9 million MWh of electricity of which the FitzPatrick plant produced 4.2 million MWh, or 12 percent of the total (PASNY, 1979:5).

2.4 The Project

2.4.1 The Project Site

The project site is located near Lake Ontario in the Town¹ of Scriba, New York. The site was selected by Niagara Mohawk following an in-house study conducted between 1960 and 1963. The principal alternative considered for the project was in eastern New York in the Hudson Valley. Although the alternative was closer to Niagara Mohawk's load center, the Oswego site was selected primarily because it provided adequate water for a once-through cooling system and because the central and western portions of the Niagara Mohawk service area were expected to show the greatest growth in demand (USAEC, 1974b:9-10). Two additional benefits of the selected site were the availability of land in an area reasonably removed from development and the ready access to the transmission grid (Niagara Mohawk, personal communication, 1979).

Once the site for Nine Mile Point Unit 1 was determined, site and ancillary facility development made the location a clear choice for the FitzPatrick and Nine Mile Point Unit 2 facilities. The 1,602 acres of property purchased for the project in 1962 cost approximately \$1.6 million (PASNY, 1967:7). In 1968, Niagara Mohawk sold the

¹In New York, a Town is the equivalent of a Township elsewhere.

eastern portion of the site (702 acres) for \$805,000¹ to the Power Authority of the State of New York for its FitzPatrick project (PASNY, 1969:7). The remaining 900 acres were used for NMP-1 and NMP-2. The outstanding feature of the site is its location on the shoreline of Lake Ontario (USAEC, 1974:4-1; USAEC, 1973a:4-1).

Prior to its acquisition by Niagara Mohawk in 1962, the land was partially owned by the United States government and partially owned by private citizens. The majority of the property was used by the federal government as a missile testing and artillery range. Only 45 acres of the 900-acre Niagara Mohawk site were used for plant structures and auxiliary systems. About 150 acres were set aside as a wildlife refuge. (Niagara Mohawk, 1979:3.) The joint Niagara Mohawk-PASNY Visitors' Center was located to the west of the plant on the lakeshore. A private road passed through the northern portion of the entire 1,600-acre site, providing the only access to the two plants (USAEC, 1974:2-2). The road was open to public traffic, however, and served as the northernmost route to Oswego from I-81.

2.4.2 The Plants

All three units used General Electric boiling-water reactors of similar design. The NMP-1 and NMP-2 reactors had net electrical output ratings of 610 Mw and 1,100 Mw, respectively. The reactor for the FitzPatrick unit was rated at 821 Mw. All three units utilized General Electric turbine generators. NMP-1 was designed by Niagara Mohawk.² Stone and Webster Engineering Corporation served as the architect-engineer on all three units.

NMP-1 and the FitzPatrick unit employed once-through cooling systems that circulated water from Lake Ontario through the systems. At maximum rates, NMP-1 required approximately 272,000 gallons of water per minute, and the FitzPatrick unit 370,200 gallons. (USAEC, 1974:3-4; USAEC, 1973a:3-6). NMP-2, rated at 1,100 Mw, was originally designed to utilize a once-through cooling system with a maximum water use

¹Niagara Mohawk sold the property to PASNY at cost.

²PASNY took over the orders for a reactor, turbine generator, and fuel fabricating service that Niagara Mohawk had placed in 1966 for their proposed Easton plant, which had been cancelled due to "unforeseen opposition and delays" (PASNY, 1969:11).

of 535,000 gallons per minute. In 1975-1976, following the establishment of new Environmental Protection Agency (EPA) discharge regulations, the cooling system design of NMP-2 was changed to a closed system with a natural draft cooling tower. At the time of the study, the cooling tower had not yet been constructed. Because they were boiling-water reactors, each of the units had a 350-foot stack rising from the radwaste building (USAEC, 1974a:3-1; USAEC, 1974b:3-1; USAEC, 1973:3-1; Niagara Mohawk, personal communication, 1980).

Several transmission lines linking the three units into the distribution systems were constructed or planned. As shown in Figure 2-2, two single circuit 345 kV lines connected NMP-1 to the Niagara Mohawk substation in Clay, New York. This required the purchase of a 27-mile long, 500-foot wide corridor. Two single-circuit 115 kV transmission lines were run along the edge of this same corridor for about four miles south of the site to join Unit 1 with the Niagara Mohawk Lighthouse Hill/Oswego 115 kV grid (USAEC, 1974:3-35). A single-circuit 345 kV transmission line was constructed from the FitzPatrick plant to the Edic-Porter-Marcy substation 70 miles southeast of the site. FitzPatrick was also linked to the NMP-1/Clay 345 kV lines. The corridor for this line was 400 feet wide and most of the construction occurred in 1972.¹ (PASNY, Fact Sheet, n.d.; USAEC, 1974a:3-42.)

Niagara Mohawk planned to construct a 765 kV single-circuit transmission line from NMP-2 to a new substation in Volney, nine miles south of the site. An additional 20 feet of land was purchased for this line² along an existing 345 kV right-of-way. (USAEC 1974b:3-38). At the time of this study, this line had not been constructed.

2.5 Construction

2.5.1 Announcement

Unit 1 of the Nine Mile Point project was announced by the president of Niagara Mohawk at a special breakfast meeting for civic and community leaders in the Oswego area in July 1963. The announcement identified the proposed facility as a nuclear generating station—one of the largest in the world. This initial announcement discussed

¹Estimated cost was \$13 million (PASNY, 1970:6).

²This caused displacement of four homes.

only one unit; it indicated that construction was scheduled to start in 1963 and that commercial production would begin in 1968. The cost of the facility was estimated at \$80 million (Albright, 1965:17; Burtch, personal communication, January 1979). Newspaper editors in Oswego, Fulton, and Syracuse had been briefed about the proposed project prior to the announcement (Albright, 1965:17).

On 8 August 1968, James A. FitzPatrick, chairman of the Power Authority of the State of New York, announced the FitzPatrick project. The announcement identified the project as a "750 Mw range" nuclear facility. In the announcement, the cost of construction was estimated at \$263 million;¹ the peak construction work force was projected to be 1,200 workers. A 1973 start-up date was projected in this announcement, with collaboration efforts between PASNY and Niagara Mohawk being credited with reducing the expected construction period by two years² (PASNY, Fact Sheet A, n.d.; PASNY press release, 8 August 1968). Simultaneous with this announcement, Niagara Mohawk announced the termination of its efforts to develop a nuclear facility at Easton, New York (Niagara Mohawk, news release, 8 August 1968).

In October 1971, Niagara Mohawk announced plans for Nine Mile Point Unit 2; the estimated completion year was 1977 and the estimated construction cost was \$357 million. These estimates were not met and, in early 1980, the completion year was again moved forward, from 1984 to 1986; the already drastically accelerated construction costs (\$1.35 billion) were estimated to eventually reach \$2.4 billion. (Syracuse Herald-Journal, 10 October 1980.)

2.5.2 Schedule and Cost

Nine Mile Point Unit 1

The construction permit for NMP-1 was not issued until April 1965. The original schedule called for completion of construction by 1967. Actually completed in 1968, commercial operation of the unit began in December 1969. Total construction costs

¹Including transmission lines, but excluding interest during construction.

²Time-saving was principally attributed to utilization of an approved site and the acquisition of existing orders for major components.

were approximately \$200 million,¹ two and one-half times the original estimate. (Burtch, personal communication, December 1980; Niagara Mohawk, 1969)

FitzPatrick Nuclear Power Plant

In May 1968, PASNY was authorized by the New York State Legislature and the governor to pursue development of nuclear facilities. In August 1968, the Authority finalized arrangements with Niagara Mohawk to purchase (at cost) 702 acres of the Nine Mile Point site. They also arranged to acquire from Niagara Mohawk the purchasing orders for the major facility components (reactor, turbine-generator, etc.) which Niagara Mohawk had initially placed for its defunct nuclear project in Easton, New York. PASNY was given authorization by the USAEC to proceed with preliminary construction activities in 1969. The construction permit for the FitzPatrick plant was issued in May 1970.

Originally, completion of the plant was scheduled for late 1972, with fuel loading to occur in January 1973 and commercial operation to begin in May 1973. Construction was actually completed in 1974, and the plant began commercial operation in July 1975.

The cost of construction was estimated at \$263 million at the time the project was announced in 1968.² Actual cost of construction was \$477 million³ (PASNY, Fact Sheets 1 and 2, n.d.).

Nine Mile Point Unit 2

The construction permit for NMP-2 was issued in June 1974, two years after the application was filed. The original schedule called for the unit to be completed and in production by late 1978. By the end of 1978, construction was approximately 25 percent completed. At the time of the study, construction efforts had been drastically curtailed, and the final estimated completion date had been changed to October 1986.

¹Other sources give figures as low as \$135 million (Syracuse Herald-Journal, 10 October 1980).

²Including transmission lines and initial inventory of nuclear fuel, but excluding interest during construction.

³Including interest. Costs excluding interest were \$322.6 million (Austin, personal communication, August 1980).

Initial cost estimates for the NMP-2 facility were \$357 million. By the end of 1978, (with 25 percent of construction completed) costs had reached \$1 billion. The revised cost estimate for the 1986 completion schedule was tentatively placed at \$2.4 billion. (Niagara Mohawk, 1980:25; Syracuse Herald-Journal, 10 October 1980).

2.5.3 Construction Phase Work Force and Earnings

Construction activity started at the Nine Mile Point site in 1963 and continued almost without interruption (although at different levels of intensity) through 1980. In December 1979, work on the as yet incomplete Nine Mile Point Unit 2 was nearly suspended, with no firm restart date set. Work continued on a very limited scale throughout 1980. In late 1980, a restart of full-scale construction was tentatively set for the spring of 1981. (Burtch, personal communication, December 1980; Syracuse Herald Journal, 10 October 1980).

Table 2-1 shows the following information for each year during the period 1964-1979: the estimated annual average daily construction work force on site; the average annual earnings per worker (in both current and 1972 dollars); and the total income in constant 1972 dollars earned by the entire construction work force (in constant 1972 dollars). As shown in this table, the years having the highest average work force size were 1967, 1972, 1977, and 1979.¹

Figure 2-3 shows the size of the on-site work force for all three Nine Mile Point Stations over the 1964-1980 period. As seen in this figure, the on-site work force increased slowly during 1963 and 1964, then rose quickly between 1965 and mid-1967. The year having the largest average on-site work force (838 persons) at NMP-1 was 1967, after which the size of the construction work force decreased rapidly. Construction-type work on NMP-1 was completed by the end of 1969. Also in 1969, however, work began on the FitzPatrick plant. Therefore, the on-site work force dropped only to about 250 persons before the build-up for FitzPatrick dominated, and the downward trend reversed.

¹ Average work force in 1978 would have been nearly equal to that of 1977 except for a three month strike which reduced the annual average daily work force by almost one-fourth.

TABLE 2-1

NINE MILE POINT STATIONS
ANNUAL AVERAGE DAILY WORK FORCE, ANNUAL WAGE, AND TOTAL EARNINGS
CONSTRUCTION PHASES
1964-1979

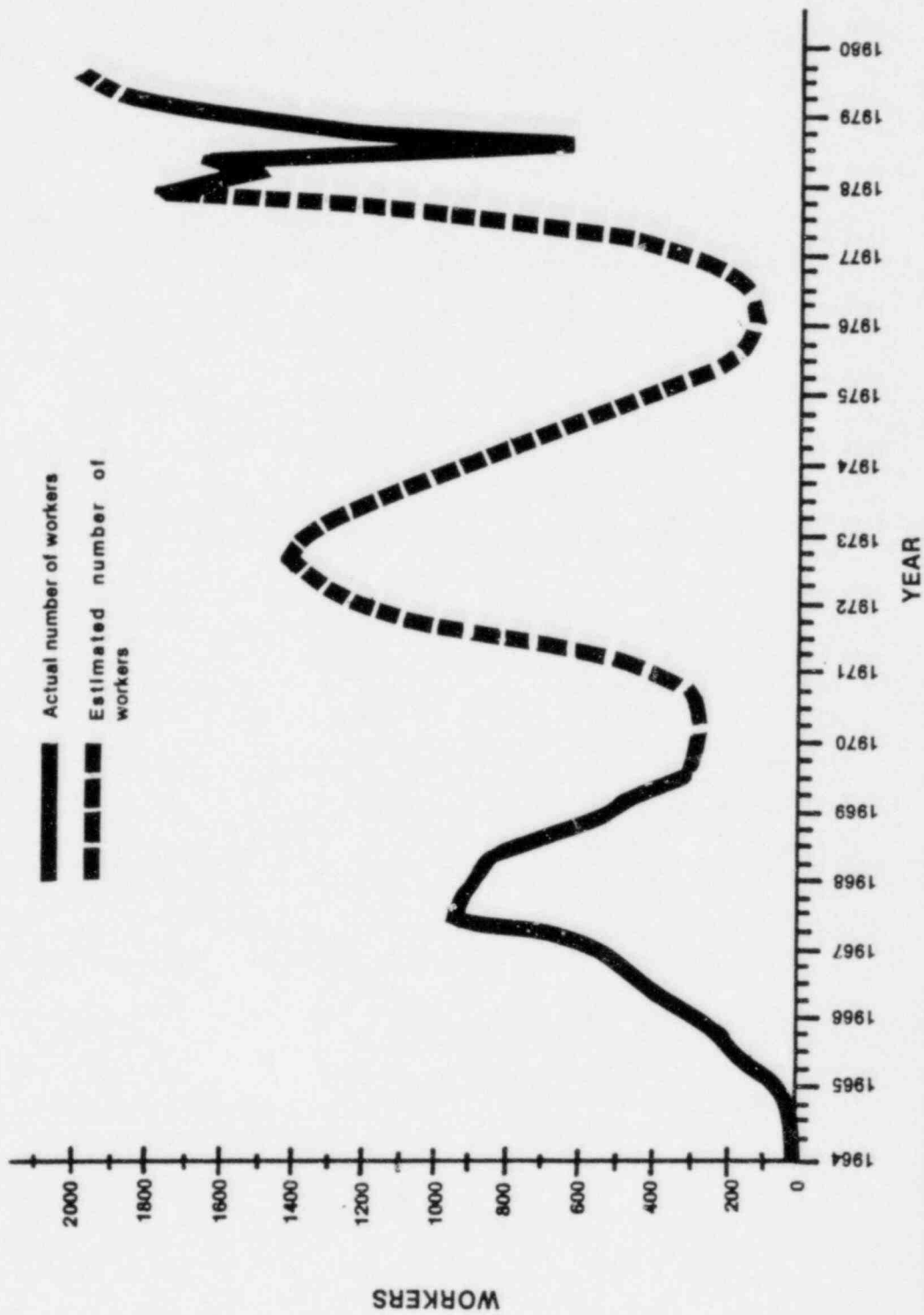
	Average Number of Workers ^a	Average Wages		TOTAL INCOME (1972 Constant Dollars)
		Current Dollars ^b	1972 Constant Dollars	
1964	57	\$ 8,700	\$11,493	\$ 655,000
1965	199	8,700	11,284	2,246,000
1966	495	9,800	12,358	6,117,000
1967	838	13,000	15,990	13,400,000
1968	785	13,000	15,366	12,062,000
1969	512	13,000	14,689	7,521,000
1970	350	14,000	15,135	5,297,000
1971	1,207	15,000	15,528	18,742,000
1972	1,448	16,000 ^b	16,000	23,168,000
1973	924	16,600	15,735	14,539,000
1974	392	18,200	15,569	6,103,000
1975	100 (est)	19,800	15,652	1,565,000
1976	300 (est)	21,400	16,066	4,820,000
1977	1,800 (est)	23,000	16,347	29,425,000
1978	1,437	25,500 ^b	16,966	24,380,000
1979	2,000 (est)	27,100	16,228	32,456,000

^aNiagara Mohawk was unable to provide work force numbers for NMP-2 (1975-1979) except for 1978 because no monthly work force and progress reports were prepared by Stone and Webster.

^bNo payroll or wage information was available for FitzPatrick or NMP-2 except for 1972 and 1978. Figures for all other years between 1970 and 1979 are estimated.

Sources: Mountain West Research, Inc., 1980; Stone and Webster Engineering Corporation, Work Force Reports and Manhour Reports, 1964-1969; Stone and Webster Engineering Corporation, Daily Field Office Report, 27 September 1967; Stone and Webster Engineering Corporation, Manpower Graphs, February 1979; Austin, personal communication, September 1980; Burtch, personal communication, December 1980; PASNY, Annual Report, 1973:3.

**FIGURE 2-3. QUARTERLY AVERAGE DAILY CONSTRUCTION
WORK FORCE
NINE MILE POINT UNITS 1-2 & FITZPATRICK NUCLEAR STATIONS**



SOURCE: Mountain West Research, Inc., 1980.

The number of on-site workers increased through most of 1972, the year of the largest average on-site work force (1,448 persons) for the FitzPatrick plant. During 1973-1974, as work on the FitzPatrick unit was completed, the number of workers declined. In mid-1975, work began on NMP-2 and a rapid work force buildup occurred during the last quarter of 1976. A three-month work stoppage (due to a labor dispute) in the summer of 1978 caused the work force to decrease temporarily (from about 1,700 persons to about 200), before it increased again (to over 2,000) in the third quarter of 1978. (Burtch, personal communication, December 1980.) Following the April 1979 accident at the Three Mile Island nuclear facility in Pennsylvania, questions regarding potential design modifications, combined with financing difficulties and lowered demand projections, resulted in major reductions in the work force in December 1979. (Over 1,100 of the 2,250 workers were released.) In early 1980, project work was again drastically curtailed (an additional 650 workers were released). (Oswego Valley News, 11 December 1979; Palladium-Times, 30 January 1980.) If work resumes on NMP-2 in the spring of 1981, the work force is expected to peak at well over 2,000 workers in 1981 and 1982 (Burtch, personal communication, December 1980).

As seen in Figure 2-3, the construction of each unit resulted in a distinct peak in work force size. The peak work force (1,079 workers) on NMP-1 was reached in September 1967 (Stone and Webster, 1977). In September 1972, the work force for the FitzPatrick plant peaked at 1,652 workers (PASNY, 1973:3; Austin, personal communication, September 1980). The work force for the initial phase of construction on NMP-2 reached about 2,000, beginning in the latter part of 1978 and continuing into 1979 (Markham, 1978; Burtch, personal communication, December 1980; Syracuse Herald-Journal, 10 October 1980). Projections made by Stone and Webster in February 1979 called for a peak work force of about 3,000 workers (Stone and Webster, 1979). Except for 1978, Niagara Mohawk was unable to provide accurate figures for the NMP-2 construction work force and payroll. Estimates have been developed for other years from available reports in newspapers and from Niagara Mohawk's Annual Reports.

The majority of the project workers were union members. Oswego was a center for the building trade unions, so many of the workers were hired through Oswego-based union locals. Overtime ran at about 15 percent during the entire construction effort. At peak periods, three shifts were utilized. No regular incentive programs were used to attract workers (Burtch, personal communication, December 1979 and August 1980; Patrick, personal communication, December 1979).

2.5.4 Construction Experience

Nine Mile Point Unit 1

Little information was made available concerning the construction phase of Nine Mile Point Unit 1. Niagara Mohawk took an active role in the design and supervision of the unit and neither the union business agents nor the utility identified any major work stoppages during the construction period. (Burtch, personal communication, December 1980; Thorpe, personal communication, August 1980.)

FitzPatrick Plant

No major work stoppages were reported during the 1969-1974 construction of the FitzPatrick plant. Construction of the plant was supervised by Niagara Mohawk, under contract to PASNY. Excavation began at the site in January 1969. In 1969, the AEC issued a construction exemption which allowed construction activity to proceed prior to issuance of the construction permit. Major components, such as the reactor and turbine, were available about two years earlier than normal due to the utilization of components ordered originally by Niagara Mohawk for its proposed Easton project. (PASNY, 1969:11.)

Nine Mile Point Unit 2

Construction started on Nine Mile Point Unit 2 in mid-1975. The construction period was characterized by numerous stops and starts. The work force remained small throughout 1976, but rose rapidly in 1977 to almost 2,000. A construction accident in February 1978 resulted in the death of two workers. (Oswego Valley News, 15 February 1978.) In June 1978, a jurisdictional dispute between a union local and its international resulted in a three-month work stoppage. In December 1979 and in early 1980, major layoffs were made as Niagara Mohawk reduced construction efforts on Nine Mile Point Unit 2 in response to financial considerations and regulatory uncertainties. (Burtch, personal communication, July 1980; Patrick, personal communication, July 1980.)

2.6 Operations

2.6.1 Schedule and Cost

Commercial operation of Nine Mile Point Unit 1 began on 14 December 1969 and commercial operation of the FitzPatrick plant began on 28 July 1975. Nine Mile Point Unit 2 was not yet in operation at the time of the study but was tentatively scheduled for commercial operation in 1986. (NUS Corporation, 1978; Syracuse Herald-Journal, 10 October 1980.)

The annual operation and maintenance costs of Nine Mile Point Unit 1 generally increased over the study period. Total 1970 operating costs for NMP-1 were \$12.6 million; in 1972 they were \$11.9 million; and in 1978 they were \$23 million (constant 1972 dollars). (Burtch, personal communication, August, 1980.) The operating budget for the FitzPatrick plant was about \$21.7 million in 1977 and about \$21 million in 1978 (Patrick, personal communication, November 1978).

2.6.2 Work Force and Earnings

During the initial operating period of the FitzPatrick plant, PASNY contracted with Niagara Mohawk to operate and maintain the plant while PASNY personnel were being hired and trained. In 1977, the Nuclear Regulatory Commission authorized transfer of the operations of the FitzPatrick plant to PASNY. (PASNY, 1978:2.) As shown in Table 2-2, the annual average operations work force at both plants increased steadily over the operations period. In 1969, when NMP-1 came into commercial operation, its work force was 50 persons. By 1978, it had expanded to nearly 220. Similarly, the FitzPatrick plant operations work force increased from about 130 persons in 1974 to almost 210 in 1978. Utility spokespersons attributed these increases largely to plant modifications and more stringent security requirements. (Patrick, personal communication, November 1980; Niagara Mohawk, memo, n.d.)

In addition to the regular operations workers, NMP-1 and the FitzPatrick plant periodically employed a number of refueling/repair personnel. The number of these additional workers varied depending upon the refueling schedule and the nature of repairs required. The annual average number of refueling/repair personnel and the earnings of operations personnel are also shown in Table 2-2.

2.6.3 Operating Experience

Nine Mile Point Unit 1

Nine Mile Point Unit 1 was licensed for commercial operation on 22 August 1969 and began commercial operation in mid-December 1969. In January 1970, the unit was shut down due to "construction-related" difficulties. The outage lasted until July 1970. (Burtch, personal communication, 1979.) The unit was originally designed to be refueled annually, but modifications in operating procedures reduced refueling requirements to once every 18 to 24 months (Niagara Mohawk, 1979:8). It was out of service (for refueling) in 1971, at the beginning of 1972, from April to June 1973, from April through June 1974, from September to December 1975, from March to July 1977, and from March

TABLE 2-2

NINE MILE POINT UNIT 1 (NMP-1) AND FITZPATRICK (FP) NUCLEAR STATIONS^a
 AVERAGE DAILY WORK FORCE, ANNUAL WAGE, AND TOTAL EARNINGS
 OPERATIONS PHASE
 1968-1979

Year	Regular Operations Employment			Outage/Refueling Employment			Operations Workers	
	Annual Average Workers		Average Annual Salary ^b	Annual Average Workers ^c		Average Annual Salary ^d	Workers Total	Salaries ^e Total
NMP-1	FP	NMP-1		FP				
1968	50	—	\$12,196	—	—	—	50	\$ 610,000
1969	84	—	12,603	—	—	—	84	1,059,000
1970	89	—	13,037	115	—	\$16,649	204	3,075,000
1971	89	—	13,496	49	—	17,081	138	2,038,000
1972	140	—	14,094	49	—	17,600	189	2,836,000
1973	142	—	14,443	32	—	17,309	174	2,605,000
1974	142	128	14,091	50	—	17,126	320	4,661,000
1975	155	129	14,077	44	27	17,217	355	5,220,000
1976	182	115	14,453	—	23	17,673	320	4,699,000
1977	201	189	14,792	50	49	17,982	489	7,549,000
1978	218	206	14,970	—	61	18,663	485	7,486,000
1979	218 (est)	196	\$14,484	60	100	\$17,851	574	\$8,853,000

^aNMP-2 was not yet operational.

^bAverage annual salary figures were available only for 1978-1980 (constant 1972 dollars). An annual increase of 7.5 percent in wages (current dollars) was estimated by Niagara Mohawk personnel (Burtch, personal communication, December 1980).

^cNo outage/refueling data were available from Niagara Mohawk. PASNY provided work force information for the 1978 outage (Patrick, personal communication, November 1980; Leonard, letter to Berry, 3 November 1978). Other work force estimates were based on information on the duration of the outage (Burtch, personal communication, December 1980) and information gleaned from newspaper reports and interviews with business agents of union locals (Thorpe, personal communication, August and December 1980; Lavery, personal communication, August and December 1980).

^dSalaries for outage personnel were assumed to be similar to those of construction workers in that year, plus 10 percent for overtime (Constant 1972 dollars).

^eRounded to the nearest thousand dollars in constant 1972 dollars.

Source: Mountain West Research, Inc., 1980.

through June 1979. By December 1980, Nine Mile Point Unit 1 had required eight refueling outages and numerous additional outages for repairs.

FitzPatrick Plant

The James A. FitzPatrick plant was licensed for operation on 17 October 1974 and entered commercial production at 50 percent power on 28 July 1975. Initially operated by Niagara Mohawk personnel under contract to PASNY, the unit underwent a 7-week shutdown in March-April 1975 shortly after its initial electrical generating start-up. In August, September, and November of 1975, the unit was out of service between 5 and 7 days. In December, it was out of service for 15 days due to condenser tube leaks. Beginning in mid-January 1976, the unit was out of commission 6 weeks for maintenance and for correction of instrument vibration problems. (Nuclear Power Experience, Inc., 1979:1; PASNY, 1977:6.)

In June 1977, PASNY assumed operating responsibility from Niagara Mohawk. The first refueling outage began in mid-June. Start-up occurred in late September. A six-day outage was required in February-March 1978. The second refueling occurred between mid-September and early December 1978. In mid-March 1979, the FitzPatrick plant was shut down for re-analysis of seismic pipe stresses. This outage lasted until September 1979 (Nuclear Power Experience, 1979:2; PASNY, 1979:9).

Both NMP-1 and the FitzPatrick station demonstrated variable generating performance. Table 2-3 compares the capacity factors¹ of these two plants to all other nuclear plants in the United States between 1975 and 1979. As seen in this table, NMP-1 generally demonstrated a higher than average capacity factor over this period.

2.7 Taxes

As a political subdivision of the State of New York, PASNY was exempt from all taxes and made no payments in lieu of taxes. As an investor-owned company, Niagara Mohawk Power Corporation was not exempt, however, and paid a variety of taxes on its facilities. The corporation started paying property taxes on its Nine Mile Point land in 1962. As shown in Table 2-4, total property taxes paid on NMP-1 and NMP-2 totaled \$6.1

¹The capacity factor is the ratio of power actually produced by a unit to the power it would have produced had it been 100 percent operational for the year.

TABLE 2-3

NMP-1 AND FP STATION
 ANNUAL GENERATING CAPACITY FACTORS^a
 1975-1979

Year	NMP-1	FP	Average for all U.S. Nuclear Plants
1975	58.9	33.8	52.7
1976	79.2	59.4	52.2
1977	56.9	56.0	62.0
1978	82.4	60.5	61.7
1979	52.7	39.0	52.4

^aThe capacity factor is the ratio of power activity produced by a unit to the power it would have produced had it been 100 percent operational for the year.

Source: Nucleonics Week, McGraw Hill Book Company, New York. Annual Summary, 1976-1979, inclusive.

TABLE 2-4

NMP-1 AND NMP-2
 TOTAL PROPERTY TAXES PAID BY NIAGARA MOHAWK
 1962-1980
 (Current Dollars)

Year	NMP-1 ^a	NMP-2 ^b	TOTAL
1962	\$ 3,180	—	\$ 3,180
1963	17,106	—	17,106
1964	17,492	—	17,492
1965	27,555	—	27,555
1966	41,271	—	41,271
1967	249,645	—	249,645
1968	748,727	—	748,727
1969	2,751,866	—	2,751,866
1970	2,529,442	—	2,529,442
1971	2,850,190	—	2,850,190
1972	3,368,824	—	3,368,824
1973	3,465,555	—	3,465,555
1974	3,290,098	—	3,290,098
1975	3,676,907	—	3,676,907
1976	3,727,585	\$ 64,287	3,791,872
1977	4,196,332	611,952	4,808,284
1978	4,215,123	1,910,215	6,125,338
1979	4,182,296	3,119,599	7,301,895
1980	4,343,961	3,515,918	7,859,879

^aIncludes plant and all related facilities and land.

^bIncludes plant and structures.

Source: Burtch, personal communication, December 1980.

million (current dollars) in 1978 (\$4.1 million constant 1972 dollars). These taxes were paid primarily to Scriba Town, the Oswego City Consolidated School District, and Oswego County. In addition to property taxes, Niagara Mohawk paid state/local sales and use taxes. The State of New York instituted a 2 percent State Sales Tax in 1965, which was increased to 3 percent in 1969, and to 4 percent in mid-1971. The cities of Oswego and Fulton imposed a 2 percent City Sales Tax in 1968, which was increased to 3 percent in 1972. (Haskell, personal communication, December 1980; Burtch, personal communications, August and December 1980; Patrick, personal communications, December 1978, August 1980, and December 1980.)

2.8 Corporate/Community Programs

2.8.1 Emergency Planning

Both Niagara Mohawk and PASNY established emergency response agreements with a number of agencies in the event of emergencies at the Nine Mile Point Stations. Emergency plans were developed by both state and county agencies: the New York State Police Department, the New York State Department of Health, the Oswego County Sheriff's Department, and the Oswego County Civil Defense Department. Niagara Mohawk and PASNY were party to these plans.

The utilities also made specific agreements with a number of local organizations to provide assistance as needed: the Scriba Volunteer Fire Department, the Oswego Fire Department, and the Oswego hospital. An agreement was also made with the United States Coast Guard. (Brower, personal communication, August 1980; Patrick, personal communication, August 1980.) These plans were revised a number of times during the study period.

In 1979, following the accident at Three Mile Island, public meetings were held with utility, state, local, and NRC officials concerning the development of new emergency plans with specific details for public evacuation. At the time of the study, despite much discussion, a plan conforming with the administrative structure and comprehensive coverage of the NRC requirements had not yet been finalized.

2.8.2 Visitors' Center and Other Public Contact Programs

Visitors' Center

Niagara Mohawk Power Corporation and PASNY shared a visitors' center/administrative building located adjacent to Nine Mile Point Unit 1. The center served as the

liaison between the community and the utilities regarding the nuclear plants, particularly for PASNY which did not have a service office in the area. The center housed the public information and public relations offices, in-service classrooms, and an energy information exhibit with a working model of a nuclear-fueled boiling-water reactor. A picnic area that overlooked Lake Ontario was provided on the center grounds.

The center was designed to serve as a tourist attraction as well as a contact point and information center for local citizens. Special programs were developed for groups of school-aged children. The visitors' center opened in 1968 and thereafter averaged between 15,000 and 20,000 visitors per year. During the early part of the study period, the focus of the displays and information was almost solely on nuclear power; during the latter part of the 1970s, however, it shifted to include other energy sources. (Energy Information Center, personal communication, December 1980.)

Public Contact Programs

Niagara Mohawk Power Corporation profiled a major presence in Oswego County. According to a report by a Niagara Mohawk Public Relations manager, Niagara Mohawk established plans for "achieving public acceptance of the atom as a source of power long before the company had any specific plans for constructing an atomic power plant of its own" (Albright, 1965:16). The Niagara Mohawk public relations department produced two films about power generation and the company's efforts to provide power, and each of the films included a segment on atomic power. These films were shown to every employee of the company as well as to "thousands of organizations across the Niagara Mohawk System" (Albright, 1965:16).

Niagara Mohawk joined four other electric utilities in sponsoring a trip for 35 editors from important New York State publications (including the editor of the Oswego newspaper) to three atomic power research and development projects in California. In addition, the utility established a "Speakers Bureau" to provide representatives to give talks to various organizations. It also developed articles for publication in newspapers throughout the Niagara Mohawk system (Albright, 1965:17). An intensive public information program was developed in conjunction with PASNY concerning the effects of 765 kV transmission lines. As part of this program, trips were arranged for local residents to visit areas in Canada and Ohio having 765 kV lines.

2.9 Chronology of Major Events

Table 2-5 summarizes the major events related to the Nine Mile Point Stations between 1963 and 1980.

TABLE 2-5

NINE MILE POINT STATIONS
CHRONOLOGY OF MAJOR EVENTS

Year	Month	Event
1963	July	Nine Mile Point Unit 1 (NMP-1) was announced.
1965	January	Public hearings on construction of NMP-1 were held.
1965	April	Construction permit for NMP-1 was issued.
1967	September	Peak work force (1,079) on NMP-1 was reached.
1968	May	PASNY was authorized to develop nuclear generating capability.
1968	August	FitzPatrick project was announced.
1969	August	Operating license for NMP-1 was issued.
1969	October	Preliminary construction activities for the FitzPatrick plant were authorized.
1969	December	Commercial operation of NMP-1 began.
1970	March	Public hearings were held on construction of the FitzPatrick plant.
1970	May	Construction permit for the FitzPatrick plant was issued.
1971	October	Nine Mile Point Unit 2 (NMP-2) was announced.
1972	September	Peak work force (1,652) on the FitzPatrick plant was reached.
1974	June	Construction permit for NMP-2 was issued.
1974	October	Operating license for the FitzPatrick plant was issued.

TABLE 2-5 (Continued)

1975	July	Commercial operation of the FitzPatrick plant began.
1978	June	Three month work stoppage on NMP-2 began.
1979	December	Work force on NMP-2 was reduced from 2,250 to 1,150.
1980	January	Work force on NMP-2 was reduced from 1,150 to 500.

Sources: Austin, personal communication, August 1980; Patrick, personal communications, December 1979 and August 1980; Burtch, personal communication, December 1980; USAEC, Final Environmental Statement Related to Operation of Nine Mile Point Nuclear Station, Unit 1, Washington D.C.: U.S. AEC, 1974; USAEC, Final Environmental Statement Related to Operation of James A. FitzPatrick Nuclear Power Plant, Washington, D.C.: USAEC, 1973; USAEC, Final Environmental Statement Related to Construction of Nine Mile Point Nuclear Station, Unit 2, Washington, D.C.: USAEC, 1973; NUS Corporation, Commercial Nuclear Power Plants, 1978.

CHAPTER 3: DISTRIBUTION OF DIRECT PROJECT EFFECTS AND IDENTIFICATION OF THE STUDY AREA

3.1 Introduction

This chapter provides a transition between the focus on the Nine Mile Point Stations (NMP-1, NMP-2, and FP) themselves and the focus on the socioeconomic effects of the projects presented in Chapters 4 through 10. As such, it has two principal purposes. The first is to describe the region near the Nine Mile Point Stations and the distribution of direct project effects—jobs, workers, purchases, and tax payments—within that region. The second is to establish the basis upon which the study area—the geographic area in which the consequences of the direct project effects were studied in detail—was identified and selected.

A description of the locale in which a nuclear power plant is located and the identification and selection of the Study Area are important elements in the overall case study methodology. To determine the appropriate units of analysis for this process, the counties which were contiguous to the project site and which were recipients of appreciable direct project effects were identified and a study region subsequently defined. Within this study region, the minor civil divisions (or municipal units) receiving appreciable direct project effects were also identified. Based on a consideration of the relationships between these units and the magnitude of direct effects received, the units were aggregated to facilitate data collection and analysis. For each of the aggregate units, the distribution of jobs, workers, purchases, and tax payments was determined for 1978, which was both a peak construction year and the benchmark operations year established for the Post-Licensing Studies. The pattern of distribution of direct project effects and the population size of each of the aggregate units were then examined to identify those in which the greatest intensity of direct project effects had occurred.

Based on the intensity of direct project effects and the relationships among the aggregate units, alternative study areas were evaluated. One area was then selected to serve as the unit of analysis of the economic, demographic, housing, governmental, and social structure effects of the Nine Mile Point Stations.

3.2 The Region

3.2.1 Description of the Region

The north-central portion of New York State was examined during the preliminary phases of this project. Based on the findings of the initial study, described in the Nine

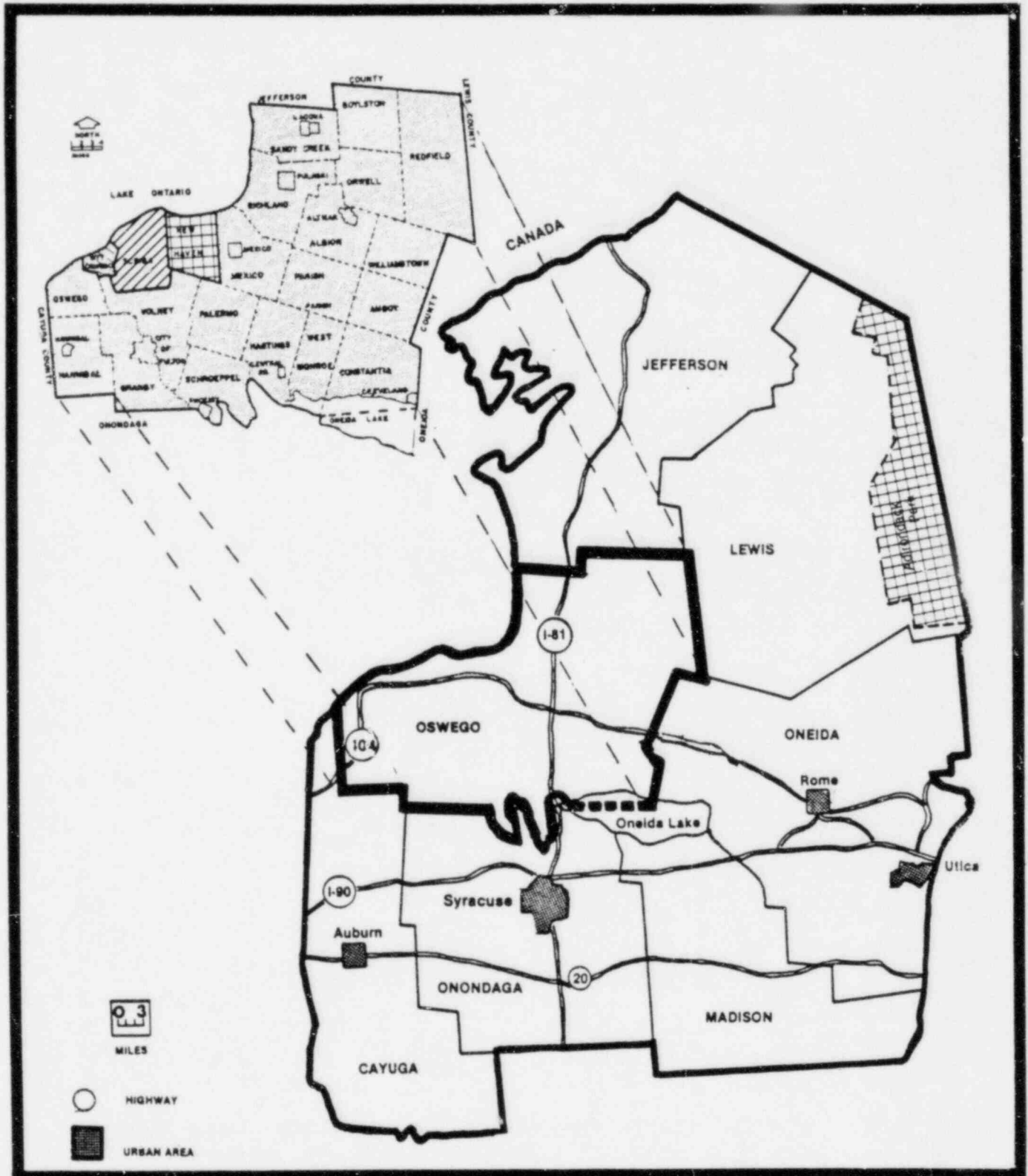
Mile Point, J.A. FitzPatrick Preliminary Site Visit Report (Branch, 1979), the study region was narrowed to Oswego County. Oswego County, as shown in Figure 3-1, is located in north-central New York. It is bounded on the north by Canada, Lake Ontario, and Jefferson County. Its western and southern borders are formed by Cayuga and Onondaga counties, while its eastern border is formed by Oneida and Lewis counties. The Nine Mile Point Stations are sited in Scriba Town on a point protruding into Lake Ontario in the western portion of Oswego County.

In 1960, the population of Oswego County was about 86,120 and the county-wide population density was about 89 persons per square mile. At that time, 42.3 percent of the county population lived in areas defined as urban by the United States Census. By 1970, the county population had risen to about 100,900 people, (up 17.2 percent over 1960) with a population density of 104.2 persons per square mile. (U.S. Bureau of the Census, 1964:Table 7; U.S. Bureau of the Census, 1973:Table 7.) Nevertheless, during this period the urban population in the county had declined (40.1 percent) since most of the county population growth occurred outside the existing urban centers. This contrasted with the population distribution in New York State as a whole in which 85.6 percent of the population lived in areas classified as urban, a comparison which depicts the "up-state" character of Oswego County. In 1970, there were only two cities in Oswego County: Oswego City (about 21,000) and Fulton (about 14,000). The population of the cities, villages, and towns in Oswego County in 1960 and 1970 are shown in Table 3-1.

Historically, the economy of Oswego County was based on trade/transportation, manufacturing, and agriculture. Vegetables, fruits, and dairy products were the primary agricultural products. The Oswego port provided employment and ready access to the markets of both the Great Lakes and the eastern Seaboard. Manufacturing in the county was established well before the turn of the century; it increased in importance with the two world wars while the relative position of agriculture and port activities slowly declined. (Oswego County Planning Board, 1977.) In 1970, the total number of wage and salary jobs in the county was approximately 27,000 (Bureau of Economic Analysis, 1980, unpublished data).

Oswego County is adjacent to Onondaga County in which Syracuse, a major urban and industrial center of New York State, is located. Oswego County was included in the Syracuse SMSA in the 1970 Census. Syracuse is approximately 36 miles from Oswego

**FIGURE 3-1. STUDY REGION: OSWEGO COUNTY
(WITH SURROUNDING COUNTIES).**



SOURCES: Oswego County Planning Board, 1977, Oswego County Data, p. 3 and Rand McNally, 1979.

TABLE 3-1

NINE MILE POINT STATIONS
POPULATION OF MUNICIPAL UNITS IN THE STUDY REGION
OSWEGO COUNTY
1960 AND 1970

	1960	1970
Albion Town	1,125	1,452
Altmar Village	277	448
Amboy Town	524	557
Boylston Town	293	276
Constantia Town	2,730	3,547
Cleveland Village	732	821
Fulton City	14,261	14,003
Grandby Town	3,704	4,718
Hannibal Town	2,673	3,165
Hannibal Village	611	686
Hastings Town	4,457	6,042
Brewerton ^a (part)	—	438
Central Square Village	935	1,298
Mexico Town	3,435	4,174
Mexico Village	1,465	1,555
Minetto Town	1,290	1,688
New Haven Town	1,478	1,845
Orwell Town	663	836
Oswego City	22,155	20,923
Oswego Town	2,796	6,514
Palermo Town	1,663	2,321
Parish Town	1,439	1,782
Parish Village	567	634
Redfield Town	388	386
Richland Town	4,554	5,324
Pulaski Village	2,256	2,480
Sandy Creek Town	2,506	2,644
Lacona Village	556	556
Sandy Creek Village	697	731
Schroeppel Town	5,554	7,153
Phoenix Village	2,408	1,109
Sand Ridge ^a	—	2,617
Scriba Town	2,489	3,609
Volney Town	3,785	4,520
West Monroe Town	1,417	2,535
Brewerton ^a	—	346
Williamstown Town	739	883
TOTAL COUNTY	86,118	100,897

^aUnincorporated.

Sources: U.S. Department of Commerce, Bureau of the Census; Characteristics of the Population, Vol. 1, Part 34, Table 10 (with corrections), 1973.

City. Much of the southern portion of Oswego County is closer to Syracuse than to Oswego City, and many of the residents in the southern portion of Oswego County were employed in the Syracuse area. The population of Syracuse in 1970 was about 200,000. (U.S. Bureau of the Census, 1973:Table 7.)

Figure 3-1 shows the major transportation links in Oswego County. Of primary importance to the early development of the manufacturing and trade economy was the canal barge linkage to the Great Lakes System and to the major urban centers of Buffalo, Rochester, Syracuse, Utica, and New York City. With the development of the railroads and the decline in water transport, Oswego was at a disadvantage with respect to market accessibility. Both Oswego City and Fulton were somewhat remote from the major truck routes of I-81 and I-90. North-south I-81, which nearly bisected the county, had a distinct influence on the course of development in the county during the 1950-1980 period.

In general, the western portion of the county became relatively more urban and industrialized than the eastern half. Although manufacturing, trade, and service establishments were located throughout the county, they were particularly concentrated in Oswego City and Fulton as well as along the Oswego-Fulton-Syracuse highway routes. The eastern portion of the county remained less densely populated and more heavily agricultural. Although tourism and recreational activities were prevalent along Lake Oneida in the southeastern corner of Oswego County, little tourism or recreational activity, aside from fishing, occurred along the Lake Ontario section of the county. This was due, in part, to both the rocky shoreline of Lake Ontario in Oswego County and the problems with water pollution caused by the early development of industry on shore line property. (Halpin, personal communication, December 1980; White, personal communication, December 1980; Oswego County Planning Board, 1977).

3.2.2 Specification of Places within the Region

Based on preliminary information provided by secondary sources, community residents, surveys of workers on the projects (both construction and operations), and utility/union personnel regarding area characteristics and distribution of direct project effects, the individual municipal units in Oswego County were combined to form four aggregate units: Oswego City, Scriba Town, New Haven Town, and the remainder of Oswego County. The geographic location of the four units is shown in Figure 3-1.

Oswego City

Oswego City was the major municipality of Oswego County. It was the county seat, the port city, and the major commercial-service center for the county. It shared industrial dominance with Fulton, the only other city in the county. The 1960 population of Oswego City was about 22,000; by 1970 it had decreased to about 21,000. (U.S. Bureau of the Census, 1973.) An old city with very limited room for new residential or industrial expansion, Oswego became a university town in 1948 with the conversion of a local teacher's college into a branch of the State University System (SUNY). By the mid-1970s, SUNY Oswego had an enrollment of nearly 10,000. (SUNY, Office of Institutional Research, 1980.)

Ethnic ties were very strong in Oswego, particularly prior to World War II, with distinct Italian, Polish, and German neighborhoods firmly established. The salience of ethnic identity diminished considerably following the war, although it had not disappeared entirely by the time of the study in 1979-80.

The schools in Oswego City were part of the Oswego City Consolidated School District and its administrative offices were located in the city.

Scriba Town

All three of the Nine Mile Point Stations were located in Scriba Town. Scriba had no village or additional municipal subdivisions other than the town itself. The population of Scriba Town in 1960 was about 2,500. By 1970, the population had increased to about 3,600. Scriba Town covered an area of approximately 41 square miles. Prior to the construction of the Nine Mile Point Stations, the only major employer located in Scriba was the Alcan Company which began operation in 1963. Scriba had traditionally been an agricultural area, with emphasis on truck farming and dairying. During and after the second world war, the residents of Scriba increasingly took employment in Oswego, Fulton, and, to a lesser extent, Syracuse, as the viability of small-scale farming declined. Little commercial or service activity had developed in Scriba at the time of the study.

Most of Scriba was included in the enlarged Oswego City Consolidated School District. The remainder was part of the Mexico Academy District, the Central School District, or the Fulton Consolidated School District. There were no schools located in Scriba Town itself.

New Haven Town

New Haven Town was the civil division adjacent to Scriba Town on the east. There were no municipal units within the 31.4 square-mile area comprising New Haven Town. The town population was about 1,500 in 1960 and 1,800 in 1970. The average population density in New Haven in 1970 was 59 persons per square mile. New Haven had little commercial or service activity at the time of the study but had retained a number of dairy and beef cattle farmers. The settlement pattern in New Haven was scattered with the majority of the population living in rural residential areas. (Oswego County Planning Board, 1977.)

The Remainder of Oswego County

The remainder of Oswego County was treated as one unit for this analysis. The dominant municipal unit of this aggregate was Fulton, which had a population of about 14,300 in 1960 and 14,000 in 1970. The total population of this aggregate unit increased from about 60,000 in 1960 to about 74,500 in 1970. (U.S. Bureau of the Census, 1973, 1979.) Much of this area, particularly that portion which was east of I-81, was primarily rural/rural-residential and was not closely tied economically to the activities in Oswego City or Scriba Town. Syracuse and Watertown (to the north) had a strong influence on much of this portion of the county. However, the county government played a strong role in Oswego County, and the entire county's participation in local government was high. Fulton was known principally as a manufacturing town.

Oswego Town and Minetto Town were included in this aggregate unit. Much of the residential development from the college conversion and expansion of SUNY-Oswego took place in Oswego Town which became known for its high concentration of faculty members. Minetto functioned principally as a residential community and was noted for the high average income of its residents.

3.3 Distribution of Direct Project Effects within the Region

In this section, the distribution of the direct project effects—direct basic employment,¹ residential location of direct basic workers, utility purchases, and tax payments for the nuclear facilities among the four aggregate units—is described for

¹Direct basic employment is the employment on the project itself. In this discussion, the focus is on the location of the employment by place of work.

1978, the year of peak construction and the operating year of focus in the post-licensing case studies. The aggregate incidence of direct project effects and indications of the pattern of their distribution over time were principal components in the determination of the intensity of direct project effects and the identification of the study area.

3.3.1 Distribution of Direct Basic Employment, by Place of Work, 1978

Since the project site and all direct project work were located in Scriba Town, all direct basic employment occurred within the jurisdictional boundaries of Scriba. In 1978, the annual average daily employment at the project in Scriba was about 1,920 workers: 1,400 construction workers, 420 year-round operations workers, and an annual average of 60 periodic maintenance, refueling, and repair workers.

3.3.2 Distribution of Direct Basic Workers, by Place of Residence, 1978

During 1978, an average 1,920 workers were on-site at the Nine Mile Point Stations. The estimated residential location of these workers is shown in Table 3-2.

The 1978 residential location of the year-round operations work force at Nine Mile Point Unit 1 and the FitzPatrick plant was determined from personnel records of the utilities. The residential location of the construction work force on Nine Mile Point Unit 2 was determined from special analysis of a survey conducted for the NRC by the Battelle Human Affairs Resources Center in June 1978. Information from the utilities, the unions, and motel personnel indicated that the periodic workers--additional security personnel and refueling/repair/maintenance workers--tended to locate in a pattern similar to that of the construction workers with, perhaps, a somewhat greater concentration in the vicinity of the plant, especially in Oswego City and Scriba Town. (Burtch, personal communications, 1979 and 1980; Patrick, personal communications, 1979 and 1980; Business agents for the major crafts unions, personal communications, 1979 and 1980; Gilbert, personal communication, August 1980.)

Information about the spatial distribution of the workers at several points in time was gleaned from the several surveys of the work force at the Nine Mile Point Stations which had been conducted over a period of time. (Malhotra and Manninen, 1979; Manninen, personal communications, 1979 and 1980; VanderWees, personal communication, November 1980; Markham, 1976 and 1977). Utility records, as well as interviews with local union business agents, real estate agents, and apartment/motel managers, were utilized to confirm the worker distribution patterns within the four aggregate

TABLE 3-2

NINE MILE POINT STATIONS
DIRECT BASIC WORKERS BY PLACE OF RESIDENCE^a
1978

Place	Nonmovers		Movers		Combined Total	
	Number of Workers	% of Total Work Force	Number of Workers	% of Total Work Force	Number of Workers	% of Total Work Force
Oswego City	490	25.3	270	13.8	750	39.1
Scriba Town	50	2.6	40	2.0	90	4.6
New Haven Town	10	0.3	5	0.2	10	0.5
Remainder Oswego County	440	22.7	190	9.9	630	32.6
Oswego County	980	51.0	500	25.8	1,480	76.8
Outside Oswego County (Daily Commuters)	420	21.6	30	1.6	450	23.2
TOTAL	1,400	72.6	530	27.4	1,920	100.0

^aFigures are rounded to the nearest 10; thus, totals may not add exactly due to rounding.

Sources: Mountain West Research, Inc., 1980 (based on Malhotra and Manninen, *Socioeconomic Impact Assessments*, Seattle, Washington, Battelle Memorial Institute, 1979); Vander Wees, personal communication, November 1980; Burtch, personal communications, August and December 1980; Austin, personal communication, August 1980; Patrick, personal communications, August and November 1980; Trade Union officials, personal communications, July, August, and December 1980.

places in both 1978 and the entire study period (1963-1980). Nevertheless, it is important to note that the distribution is necessarily an estimate and is based on information for only a few points in time. The availability of the Battelle survey and address lists for the utility and security personnel increased the precision of the worker allocation. However, the rural nature of much of the county made determination of municipal unit residences difficult (even with address lists), since rural routes and zip codes did not conform to municipal unit boundaries.

Table 3-2 shows the number of direct basic workers that were estimated to be residing in each of the four aggregate units in 1978. To enhance the interpretation of this distribution, the workers were divided into three categories: (1) nonmovers--workers who were residents of the place before construction began and who did not relocate; (2) movers--workers who relocated into the area to work on the project; and (3) daily long-distance commuters--workers who commuted daily from outside Oswego County.

As shown in Table 3-2, almost 77 percent of the approximately 1,920 direct basic workers resided in Oswego County in 1978. Roughly 72.6 percent of the direct basic workers were nonmovers; of these, about 35 percent (25.3 percent of the total direct basic work force) lived in Oswego City and 51 percent lived in Oswego County. In total, Oswego City was the place of residence of almost 40 percent of the direct basic workers, including an estimated 270 movers. Nearly 5 percent of all direct basic workers lived in Scriba Town; fewer than 1 percent lived in New Haven; and about 33 percent lived in the remainder of Oswego County. Over 23 percent lived outside Oswego County and commuted daily to the project site.

3.3.3 Distribution of Utility Purchases, 1978

Both the largest purchases and the greater proportion of all purchases for the construction and operation of the three Nine Mile Point Stations were made outside the study region. Nevertheless, because of the availability of materials and services in Oswego County, the utility made substantial purchases in Oswego City and Fulton. In 1978, when Nine Mile Point Unit 2 was under active construction, Niagara Mohawk's purchases of construction materials accounted for the majority of the \$14.1 million (constant 1972 dollars) spent by the utilities in the study region. The distribution of utility purchases made in 1978 by place of transaction are shown in Table 3-3. Only major accounts were tallied by Niagara Mohawk and PASNY, so these figures represent a conservative estimate of the value of purchases made in the study region. Oswego City

TABLE 3-3

NINE MILE POINT STATIONS
 ESTIMATED DISTRIBUTION OF UTILITY PURCHASES FOR PLANT
 CONSTRUCTION AND OPERATION BY PLACE OF TRANSACTION
 IN STUDY REGION IN 1978
 (Constant 1972 Dollars)

Places in Oswego County	Value of Purchases ^a
Oswego City	\$6,200,000
Scriba Town	- ^b
New Haven Town	- ^b
Remainder of Oswego County	7,900,000
TOTAL	\$14,100,000

^aNiagara Mohawk provided an estimate of the value of purchases from each vendor with a total greater than \$100,000 in 1978; PASNY provided only a generalized estimate—therefore these figures should be used with caution and are probably low.

^bEstimated to be less than \$100,000.

Sources: Mountain West Research, Inc., 1980; Burtch, personal communication, December 1980; Patrick, personal communication, November 1980.

and Fulton were the only places for which utility purchases of over \$100,000 were noted.¹ (Burtch, personal communication, December 1980; Leonard, letter to Berry, 1978; Patrick, personal communication, November 1980).

3.3.4 Distribution of Taxes, 1978

Starting in 1962, the Niagara Mohawk Power Corporation² began paying property taxes on its Nine Mile Point holding. Table 3-4 shows the distribution of project-related property tax payments among the taxing jurisdictions in the study region in 1978. These figures are based on data derived from records in the various municipal units in the study region. Niagara Mohawk was not able to provide this type of breakdown of their tax payments (Burtch, personal communication, December 1980). In constant 1972 dollars, Oswego County received project-related property tax payments of about \$1,670 thousand; Scriba Town received about \$230 thousand; and the Oswego City Consolidated School District received about \$2,110 thousand. No other municipal units in the study region received significant property tax payments from the stations.

In addition to the property taxes, Niagara Mohawk also paid sales and use taxes on purchases and equipment.³ Based on the limited data available on local purchases, it is estimated that Niagara Mohawk paid a minimum of \$410,000 (constant 1972 dollars) in sales tax in Oswego County in 1978; of this, about \$180,000 was paid to Oswego City and most of the remainder was paid to Fulton (which is included in the remainder of Oswego County aggregate).

3.4 Selection of Study Area

The Study Area selected for the Nine Mile Point/FitzPatrick Study was Oswego City-Scriba Town. A map of this Study Area is shown in Figure 3-2.

¹It is estimated that purchases from the wholesale trade sector of approximately \$100,000 in constant 1972 dollars would generate about one additional job. (Ronald Drake, personal communication, 1980.)

²PASNY is tax exempt and pays neither property nor sales taxes. In addition, it makes no payments in lieu of taxes.

³New York has reciprocal agreements with 41 states. Consequently, it is thought that little use tax was paid in New York State (New York State Department of Taxation and Finance, personal communication, December 1980).

TABLE 3-4
NINE MILE POINT UNITS 1 AND 2
DISTRIBUTION OF PROPERTY TAX PAYMENTS
1978
(Constant 1972 Dollars)

Place	Tax Payments ^a
Oswego City	—
Scriba Town	\$228,110
New Haven Town	—
Remainder of Oswego County	69,060
Oswego City Consolidated School District ^b	2,109,550
Mexico School District	810
Oswego County	<u>1,667,880</u>
TOTAL	\$4,075,410

^aFigures are rounded to the nearest 10.

^bIncludes portions of Scriba Town, Oswego City, Minetto Town, Oswego Town, and Volney.

Sources: Mountain West Research, Inc., 1980; New York State Department of Audit and Control, Annual Reports for 1962-1978; Parker, personal communication, August 1980; Miller, personal communication, August 1980; Hutchinson, personal communications, July, August, and December, 1980; Oswego City Consolidated School District, 1980-81 Annual School Budgets; Burtch, personal communication, December 1980.

**FIGURE 3-2. NINE MILE POINT—FITZPATRICK STUDY AREA:
OSWEGO CITY AND SCRIBA TOWN**

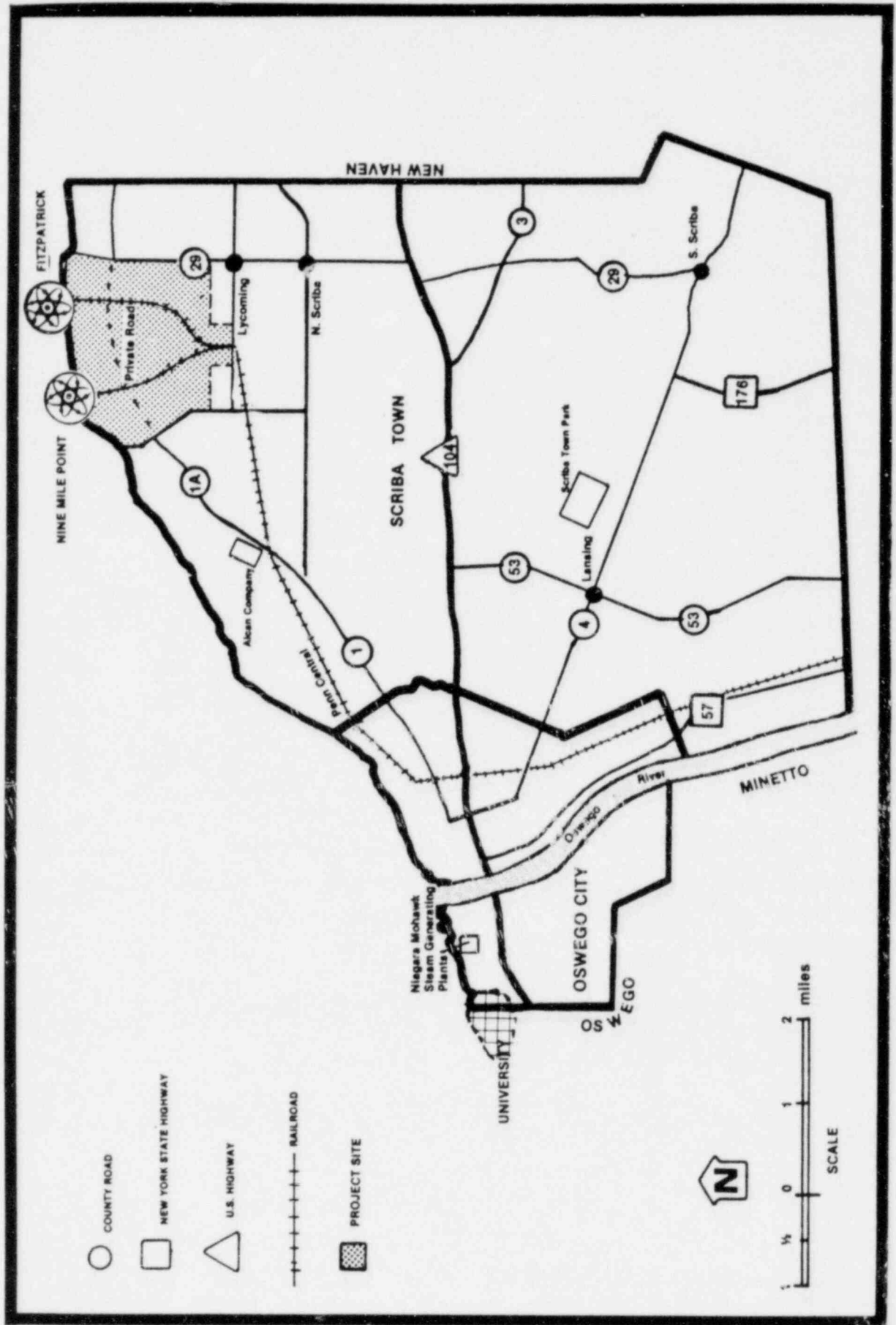


Table 3-5 summarizes the distribution of direct basic employment, direct basic utility purchases, and tax payments for 1978. The direct basic employment in 1978 was all located in Scriba Town, adding approximately 1,920 jobs to the Scriba economy. The places of residence of direct basic workers varied widely in both location and number of workers. To facilitate examination of the concentration of direct project effects, the percentage of the direct basic workers and the percentage of total county population residing in each of the Oswego County areas are presented in this table.

As shown in Table 3-5, 51 percent of the direct project workers resided in Oswego City; this was two and one-half times greater than Oswego City's percentage share (20.7) of the total county population. Six percent of the direct project workers resided in Scriba Town; this was 1.7 times greater than Scriba's percentage share of the county population. These were the highest ratios of any of the aggregate units and indicate that the highest intensity of direct basic employment and direct basic workers occurred in the Oswego-Scriba area. The remainder of Oswego County had the second highest percentage-of-workers-to-percentage-of-population ratio, 0.6 percent.

Purchases were considered in a similar manner. As indicated previously, the data are not strong; however, they do clearly show that Oswego City and the remainder of Oswego County (principally Fulton) received the greatest concentration of utility purchases.

Only Scriba Town, the Oswego City Consolidated School District, and Oswego County itself received substantial property tax receipts from the facilities. Oswego City and Fulton each received several hundred thousand dollars in sales taxes in 1978. Except through county disbursements, New Haven received no significant tax payments from the projects.

It is evident from Table 3-5 that the highest aggregate intensity of direct project effects consistently occurred in Oswego City and Scriba Town. None of the other five units had a comparable intensity of direct project effects. Therefore, the Oswego City-Scriba Town area was selected as the Study Area.

It is shown in subsequent chapters, however, that the Study Area is similar to, and integrated with, the whole of Oswego County. Thus, although the ultimate focus of the

TABLE 3-5

NINE MILE POINT STATIONS
 SUMMARY OF DIRECT PROJECT EFFECTS WITHIN STUDY REGION
 1978

Place	Direct Basic Employment (Place of Work) ^a	Direct Basic Workers (Place of Residence) ^a	Purchases ^b (Millions of Constant 1972 Dollars)	Property Tax Receipts ^c (Millions of Constant 1972 Dollars)	Total 1970 Population ^a	Ratio of Percent Employment to Percent Population (Place of Work)	Ratio of Percent Workers to Percent Population (Place of Residence)	Ratio of Percent Purchases to Percent Population	Major Types of Taxes Received
Oswego City	—	750 (51.0)	\$ 6.2 (44.0)	— ^d	20,920 (20.7)	0.0	2.5	2.1	School Property Tax and Sales Tax
Scriba Town	* 1,920 (100.0)	90 (6.0)	—	0.2 ^d	3,610 (3.6)	27.8	1.7	0.0	School Property Tax and Property Tax
New Haven Town	—	10 (0.6)	—	—	1,850 (1.8)	0.0	0.3	0.0	—
Remainder of Oswego County	—	630 (42.5)	\$ 7.9 (56.0)	0.1	74,520 (73.9)	0.0	0.6	0.8	Sales Tax
Oswego County	1,920 (100.0)	1,480 (100.0)	\$15.1 (100.0)	1.7	100,900 (100.0)	1.0	1.0	1.0	Property Tax
TOTAL FOR PROJECTS	1,920	1,920	NA	4.1					

^aFigures are rounded to the nearest 10. Numbers in parentheses indicate the percentage of the Oswego County total.

^bMinimum estimates.

^cIn addition, Oswego City and Fuiton each received a minimum of \$180,000 in sales tax revenues.

^dIn addition, the Oswego City Consolidated School District received \$2.1 million in property taxes. Oswego City and most of Scriba Town are in that district.

case study is on the social and economic effects of the nuclear stations on the residents of Oswego City and Scriba Town (the Study Area), these effects can best be understood by looking at the effects of the stations on both the Study Area and on Oswego County as a whole. Based on this conclusion, the economic, demographic, and community facility and service analyses of Chapters 4, 5, 6, and 7 deal with both the Study Area proper and the larger context (Oswego County). Chapters 8 and 10 then refocus on the Study Area proper in examining the effects of the project on social structure and in summarizing the overall socioeconomic consequences of the project. Chapter 9, which examines the public response to the project, necessarily deals with a broader regional perspective.

CHAPTER 4: ECONOMY OF THE STUDY AREA

4.1 Introduction

The purpose of this chapter is to analyze the effects of the construction and operation of the Nine Mile Point Stations on the economies of the Study Area and the study region (Oswego County). Emphasis is placed on changes in the local economies as well as changes in the labor force status, employment, income, and standard-of-living of the area population.

The analysis begins by providing an overview of the economic history of Oswego County and the Study Area. A more detailed examination is then made of the changes that occurred in the economy of the Study Area from 1963 (the year in which the first Nine Mile Point project was announced) through 1978. This examination will focus on: (1) jobs located and income generated in the Study Area; and (2) labor force participation, employment, and income characteristics of Study Area residents.

The next sections of the chapter analyze the effects of the construction and the operation of the nuclear power plants for these same economic variables. The analysis of the economic effects of the Nine Mile Point Stations is centered on 1978 (a major construction year and the year of focus for plant operations). Attention is also given to 1967 (the peak construction year for Nine Mile Point Unit 1) and 1972 (the peak construction year for the FitzPatrick plant). An economic base approach is utilized to identify and analyze the elements of basic employment/income and nonbasic employment/income, which together constitute the total employment and income effects of the projects in the Study Area. This analysis is followed by a summary of the employment, income, labor force, and standard-of-living effects due to the projects. The role these effects played in the total changes that occurred in the economy of the Study Area and Oswego County is then considered.

4.2 Economic History of the Study Area

4.2.1 Oswego County

Oswego County was created on 1 March 1816, from portions of Onondaga and Oneida counties. The history of Oswego County, however, dates back to the late 1700s. The first permanent white settler arrived in Oswego County in the early 1790s. The major economic activities during this period were agriculture and trade. In 1817, the arrival of steamboats on Lake Ontario and the construction of the Welland and Erie

Canals (which were built in the first quarter of the nineteenth century)¹ greatly expanded commerce on the lake and in Oswego County (Americana Corporation, 1978:549). In 1828, the opening of navigable communications between Lake Erie, Lake Champlain, and the Atlantic Ocean (by means of canals connected with the Hudson River) reduced the costs of transportation and promoted trade and settlement in communities along the canal route. This resulted in a gradual change in the industries of Oswego County and in the relationship between Oswego City and other communities along the canal route—especially Buffalo, Rochester, and Syracuse. Prior to the canals, wheat and other grains had been grown in large quantities in the county. The influx of grain products from the west, however, which came about as a result of the availability of this low cost transportation, caused the Oswego County farmers to shift more to dairying and fruit growing.

Other industries also began to expand, particularly those associated with the lumber business, and paper products became an important industrial activity. By 1840, Oswego County had a population of about 43,620 and was growing rapidly because of general prosperity throughout the northern states. This period is generally considered the apex of Oswego County history (White, personal communication, December, 1980). In 1854, a reciprocity treaty was concluded between the United States and Great Britain. Under this treaty, all natural products of British America were admitted into the United States without tariff. This contributed substantially to the business development and population growth of northern New York State and Oswego County. By 1860, the population of Oswego County had increased to almost 76,000 (Churchill, 1895; Krul, 1949).

Nevertheless, the prosperity of the early 1800s did not continue during the remainder of the century. In response to demands for extended transportation facilities, New York State removed the tolls on rail shipments across the state. (These tolls had been originally imposed to encourage use of the canal system.) At this same time, additional railroads were constructed, often underwritten by bonds issued by communities requesting the railroads. The advent of more rail traffic reduced the function of Oswego

¹The Welland Canal paralleled the Niagara River and linked Lake Erie with Lake Ontario. The Erie Canal, to which the port of Oswego was linked via a connection canal, provided barge transportation between the western Great Lakes, Buffalo, Rochester, Oswego, Syracuse, Ithaca, Rome, Utica, Schenectady, Albany and, via the Hudson River, New York City and the Atlantic Ocean.

as a major port for Lake Ontario but, for a short while, rail construction contributed to the economic activity in Oswego County. Many of the railroads subsequently went bankrupt, and the last twenty years of the nineteenth century saw the decline of commerce, milling, and grain storage in Oswego City. In 1874, the city had twelve large flour mills with a productive capacity of five thousand barrels a day, elevators capable of storing one and a half million bushels of grain, and a fleet of over one hundred steam and sailing ships, all of which were active and profitable operations. By 1894, however, only two flour mills and a single elevator remained.

From 1900 to 1940, the economic structure of Oswego County changed very little although numerous changes occurred in the ownership and particulars of county businesses. During this period, the population of Oswego County remained almost constant at approximately 71,000. Between 1940 and 1975, Oswego County showed renewed growth, primarily due to the expansion of manufacturing in the area. New manufacturers moving into Oswego County during this time included Northern Steel in 1940, J&K Boiler Company in 1943, Oswego Castings in 1953, and Alcan and Hammermill Papers in 1960. In addition, the State University of New York at Oswego underwent a major expansion in the 1960s, constructing 16 multistoried buildings and increasing the enrollment of the school to approximately 7,000;¹ the Miller Brewing Company established a brewery and a can manufacturing plant in Volney; and the Nestle and Sealright Companies expanded their operations in Fulton. Oswego County also became a large producer of electricity, maintaining hydro, fossil, and nuclear fueled generating plants.

At the time of the study, Oswego County's economy was very similar to what it had been in the 1940s, characterized in a broad sense by trade, services, manufacturing, and agriculture. Employment by place of residence (the best available long-term indication of economic structure) from 1940 to 1970 is shown in Table 4-1.² As shown in this table, agricultural employment showed the greatest change, declining from 19.8 percent of total persons employed in 1940 to 3.0 percent in 1970. The trade and services

¹Full-time equivalent.

²It should be noted that, by 1970, almost a third of the employed persons residing in Oswego County were working in jobs located outside the county. Despite this, these figures appear to represent the structure of the Oswego economy (employment by place of work) quite accurately, reflecting the similarity of employment opportunities throughout the region.

TABLE 4-1

NINE MILE POINT STATIONS
EMPLOYMENT BY PLACE OF RESIDENCE
OSWEGO COUNTY, NEW YORK
1940, 1950, 1960, 1970

	Employment by Sector				Percent of Total Employment				Percent Change in Employment		
	1940	1950	1960	1970	1940	1950	1960	1970	1940 - 1950	1950 - 1960	1960 - 1970
Total Employment	23,590	27,170	28,523	34,273	100.0	100.0	100.0	100.0	15.2	5.0	20.2
Agriculture	4,663	3,480	1,975	1,043	19.8	12.8	6.9	3.0	-25.4	-43.2	-47.2
Mining	27	11	4	26	0.1	0.04	0.01	0.1	-59.3	-63.6	550.0
Construction	1,295	1,598	1,760	2,774	5.5	5.9	6.2	8.1	23.4	10.1	57.6
Manufacturing	7,865	10,815	11,590	11,361	33.3	39.8	40.6	33.1	37.5	7.2	-2.0
TCPU ^a	1,322	1,688	1,636	2,203	5.6	6.2	5.7	6.4	27.7	-3.1	34.7
Trade ^b	3,083	4,155	4,559	6,037	13.1	15.3	16.0	17.6	34.8	9.7	32.4
FIRE ^c	339	465	663	930	1.4	1.7	2.3	2.7	37.2	42.6	40.3
Services	3,850	4,028	5,192	8,540	16.3	14.8	18.2	24.9	4.6	28.9	64.5
Government	1,146	930	1,144	1,359	4.9	3.4	4.0	4.0	-18.8	23.0	18.8

^a Transportation, communications, and public utilities.

^b Wholesale trade and retail trade.

^c Finance, insurance, and real estate.

Source: U.S. Department of Commerce, Social and Economic Statistics Administration, Bureau of Economic Analysis, Regional Employment by Industry, 1940-1970, 1975.

sectors increased their share of total employment during this period. The percentage share of total employment in mining and manufacturing remained virtually unchanged between 1940 and 1970. During this period, the construction sector, the transportation, communications, and public utilities (TCPU) sector, and the finance, insurance, and real estate (FIRE) sector, all slightly increased their share of total employment. Employment in government declined from 4.9 percent of total county employment in 1940 to 4.0 percent in 1970.

4.2.2 Oswego City

Oswego City was laid out in 1797. The large forests and available water power made lumber and sawmills Oswego's first manufacturing interest. The first sawmill in Oswego was erected in 1802 and the first road into Oswego was constructed in 1804. During the first half of the nineteenth century, manufacturing and transportation advanced slowly but steadily. The first large scale grist mill was constructed in Oswego in 1820. The Oswego Cotton Manufacturing Company began operation in 1832 and, in the same year, the Northwestern Insurance Company and the Oswego County Mutual Insurance Company were organized. In 1835, Simeon Bates established Oswego's first lumberyard. The Oswego Starch Factory, which was established by T. Kingsford & Son in 1848, became the largest starch factory in the world, producing at its peak more than 25 million pounds of starch per year. Improvements in transportation during this time included the steamboat (1817), plank roads (1840s), and the railroad (1848).

The last half of the nineteenth century saw continued change in the economic base of Oswego City. The advent of steam propulsion played an important role in Oswego County, in terms of both transportation routes and methods and in industrial development. Shipbuilding and boilermaking became important local industries. The Ames Iron Works was founded in Oswego City in 1853. In 1861, Edward Sheldon organized a teacher's college in Oswego.¹ In 1864, the Kingsford Foundry and Machine Works was founded as a subsidiary of the Oswego Starch Factory. The Oswego Shade Cloth Factory, which manufactured painted cloth for window shades, was established in 1872. A barrel factory was started in 1875 by DeWitt C. Littlejohn. The Standard Yarn

¹The college was located right on the boundary between Oswego City and Oswego Town. Much of the physical plant of SUNY-Oswego, especially the residential buildings, was in Oswego Town.

Company was incorporated in 1884, and a branch factory of the Diamond Match Company of Chicago was started in Oswego in 1892.

Although Oswego City continued to change and grow during the 1900s, in many ways its basic character remained much as it had been during the early part of the century. Some of the manufacturing establishments which were started in the 1800s were no longer in operation in the 1970s. The Oswego Starch Factory was closed in 1922 following a government decision to break its monopoly on corn starch production (Greater Oswego Chamber of Commerce, 1978). In 1892, the Diamond Match Company bought out the Globe Match Company. The paper mills changed hands a number of times. In general, however, most manufacturing establishments were replaced by other, similar industries. The Ames Iron Works was sold in 1919. The teacher's college became a charter member of the New York State University System (SUNY) in 1948. New industries to Oswego City included the Copperweld Corporation (1951) and Hammermill Paper Company (1960). (Oswego County Planning Board, 1977:97ff; Greater Oswego Chamber of Commerce, 1978.)

4.2.3 Scriba Town

Scriba Town was formed in 1811 with an area of 25,031 acres. At the beginning of the 1800s, Scriba Town was covered with a forest of maple, beech, hemlock, and cedar which the sawmills of Oswego rapidly converted into lumber. By the end of the 1800s, agriculture had become the leading industry of the town.

For the first half of the twentieth century, agriculture continued to dominate the economy of Scriba Town. This was due in large measure to the abundance of land resources—mostly level dairy farmland—although an increasing number of Scriba Town residents were employed in wage and salary jobs in the nearby cities. By the 1930s and 1940s, farming had become increasingly uneconomical and the Scriba Town economy diminished as an increasing number of its residents sought work elsewhere. In the 1960s, however, industry began to move into Scriba Town and the population increased dramatically. In 1963, Alcan opened a large aluminum rolling mill in Scriba Town. In addition, beginning with initial construction in the early 1960s, the Nine Mile Point Stations added to the economic base of Scriba Town. From 1960 to 1970, the population of Scriba Town increased by 45 percent, compared to 18 percent for the county as a whole. During the 1970s, Scriba Town continued this rapid growth, increasing by at least 30 percent according to preliminary federal census estimates. This rapid growth was

attributed to a combination of a rich tax base, abundant land, no land use controls, and significant employment gains. By and large, however, Scriba Town maintained its rural, somewhat agricultural character, despite the significant increase in manufacturing employment and the integration of the local economy with that of the county as a whole.

4.3 Economic Changes during the Study Period

The first part of this section focuses on the level of economic activity occurring within the Study Area and Oswego County. The measures of activity include the number of jobs and the amount of income generated at places of work within the Study Area and/or within Oswego County. The next section focuses on the labor force status of area residents and the income they earned. Employment is a key indicator in both discussions, but the distinction in the employment concepts must be kept closely in mind. The first deals with employment in terms of the local economy—the number of jobs measured at the place of work; the second deals with the number of employed persons on the basis of their residence in the Study Area or Oswego County.

4.3.1 Employment and Income in the Local Economy

Oswego County

In 1967, there were approximately 27,000 jobs in the Oswego County economy of which 10,000 were in the Study Area.¹ In both Oswego County and the Study Area, total employment by place of work increased between 1963 and 1978. Employment by place of work for selected employment sectors in Oswego County from 1967 to 1978 is shown in Figure 4-1.² Except for a downturn in 1974-1975, overall total employment in Oswego County increased between 1967 and 1978. Total employment in the Study Area reflected a similar trend but with greater variation due to the smaller base.

As shown in Table 4-2, total employment in the Oswego County economy increased from about 27,160 in 1967 to about 33,720 in 1978. However, as illustrated in

¹Because employment data are generally not available for sub-county units, the figures for the Study Area are estimates.

²These data are not available for the early 1960s.

FIGURE 4-1. EMPLOYMENT BY PLACE OF WORK FOR SELECTED INDUSTRIAL SECTORS. OSWEGO COUNTY, NEW YORK. 1967-1978

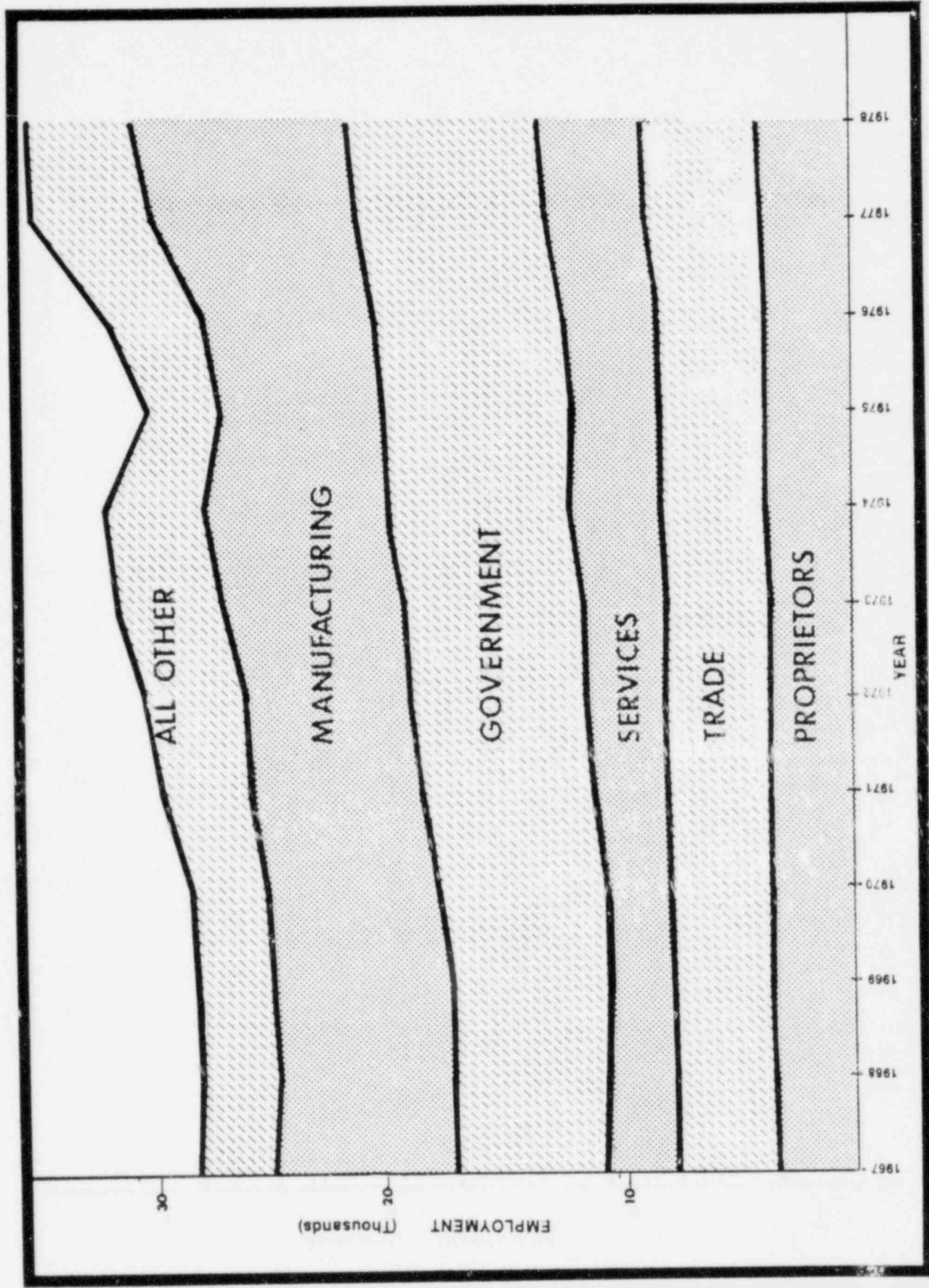


TABLE 4-2

NINE MILE POINT STATIONS
 EMPLOYMENT BY PLACE OF WORK BY INDUSTRIAL SECTOR
 OSWEGO COUNTY, NEW YORK
 1967-1978

	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978
Total Employment	27,158	26,971	27,098	27,329	28,406	29,072	30,213	30,703	28,893	30,563	33,500	33,722
Number of Proprietors												
• Farm Proprietors	3,750	3,595	3,651	3,632	3,615	3,516	3,540	3,693	3,678	3,705	3,787	3,870
Nonfarm Proprietors	1,435	1,309	1,205	1,194	1,183	1,212	1,243	1,276	1,229	1,241	1,217	1,215
	2,315	2,286	2,446	2,438	2,432	2,304	2,297	2,417	2,449	2,464	2,570	2,655
Number of Wage and Salary Employment	23,408	23,376	23,447	23,697	24,791	25,556	26,673	27,010	25,215	26,858	29,713	29,852
Agricultural Services ^a	349 (D)	367 (D)	382 (D)	344 (D)	348 (D)	379	371 (D)	393 (D)	417 (D)	404 (D)	430 (D)	496
Mining	(D)	(D)	(D)	(D)	(D)	45	(D)	(D)	(D)	(D)	(D)	56
Construction	1,423	1,487	1,310	1,290	1,578	2,011	2,030	1,842	820	1,537	2,329	1,697
Manufacturing	7,583	7,045	7,230	6,974	7,100	6,803	7,569	7,517	6,651	7,005	8,451	8,809
TCPU ^b	919	949	926	960	985	1,057	1,173	1,153	1,118	1,263	1,373	1,398
Trade ^c	3,882	3,981	3,919	4,065	4,156	4,394	4,212	4,273	4,285	4,389	4,702	4,748
FIRE ^d	449	473	496	485	501	535	557	545	535	566	639	674
Services	2,797	2,821	2,646	2,645	3,006	3,239	3,346	3,731	3,577	3,814	3,968	4,193
Government	5,943	6,196	6,469	6,848	7,034	7,093	7,293	7,418	7,696	7,767	7,698	7,781

^aFarm, agricultural services, forestry, fisheries, and other wage and salary employment.

^bTransportation, communications, and public utilities wage and salary employment.

^cWholesale and retail trade wage and salary employment.

^dFinance, insurance, and real estate wage and salary employment.

(D): Incomplete total in order to avoid disclosure of confidential data; included in totals.

Source: Bureau of Economic Analysis, Regional Economic Information System, April 1980, unpublished data.

Figure 4-1, the increase was not consistent. Total employment steadily increased between 1968 and 1974, decreased in 1975, then rose again in 1978.

The principal components of the economic base of Oswego County were manufacturing, agriculture, and commerce. During the study period (1963 to 1978), the major sources of employment were the manufacturing, trade, services, and government sectors. Manufacturing was the single most important employment sector. Agriculture, although less important than manufacturing in terms of employment, played a disproportionately important role in the local residents' perception of the area. Commerce also had a significant influence upon the structure and development of the local economy, especially in the transportation, trade, and services sectors.

Most of the employment in Oswego County during the study period was in wage and salary employment (see Table 4-2). In 1967, proprietors accounted for 13.8 percent of total employment; by 1978, they accounted for only 11.5 percent. Farm proprietors showed a decline, falling from approximately 1,430 in 1967 to about 1,220 in 1978, reflecting a continuation of the historical trends. Nonfarm proprietors, on the other hand, increased from about 2,320 to approximately 2,660 during the same time period. The net effect was that the total number of proprietors remained fairly stable over the entire study period, increasing at a rate of only 0.3 percent per year—from 3,750 in 1967 to 3,870 in 1978—while total employment increased at an annual rate of 2.0 percent.

During the study period, wage and salary employment grew at an average annual rate of 2.2 percent, compared to the 2.0 percent growth rate for total employment. In the late 1960s and early 1970s, wage and salary employment in Oswego County increased to a peak of 27,010 in 1974. During the recession of 1974-1975, wage and salary employment declined to about 25,220 (in 1975), approximately equal to the 1972 level. Following the recession, wage and salary employment rebounded and by 1978 had increased to more than 29,850.

The construction sector in Oswego County showed the greatest variation in employment during this period. It increased to a peak of nearly 2,330 in 1977, despite mild downturns in 1969 and 1970 and a large layoff in 1975 when construction employment declined sharply to only 820 jobs. The manufacturing sector showed frequent variations during the 1967 to 1976 period before increasing rapidly in 1977 and 1978. Between 1967 and 1978, the transportation/communication/public utilities sector

and the finance/insurance/real estate sector showed a fairly steady increase at an average annual growth rate of 3.9 percent and 3.8 percent respectively, except for very mild downturns in 1974 and 1975. Employment in the trade and service sectors also increased during the study period. Trade employment increased at an annual rate of 1.8 percent while services employment increased at 3.7 percent per year. Government employment increased at a steady pace—2.5 percent annually.

Labor and proprietors' income by place of work followed the same pattern as total employment. As shown in Table 4-3, total labor and proprietors' income in Oswego County by place of work increased (in constant 1972 dollars) throughout the study period except for declines in 1974, 1975, and 1978.

Study Area

Information on the economy of the Study Area is much more limited and less precise than that available for Oswego County. There were approximately 10,000 jobs in the Oswego City-Scriba Town area in 1970, about one-third of the total employment in the county. Available data indicate that, in general, this ratio held fairly constant throughout the study period.¹ Total employment by place of work in the Study Area was approximately 10,200 in 1967, 11,400 in 1972, and 13,300 in 1978. In 1970, the year for which the most accurate information was available, the employment in the Study Area was distributed among the industrial sectors in a pattern similar to that of Oswego County, confirming other indications of the integration of the Study Area economy into that of the county.

As in Oswego County, wage and salary employment, particularly in the manufacturing sector, accounted for a high proportion of the employment in Oswego City-Scriba Town. In 1970, industry was the largest employer in Oswego County, accounting for 33 percent of the work force, followed by services which accounted for 25 percent of the total. Retail trade employed almost 15 percent, construction just over 8 percent, and all others almost 19 percent. As might be expected, Oswego City and Fulton dominated in the number of workers in all four major groups, since most of the

¹The other major areas of economic activity were Fulton City and environs, and the southwestern portion of the county adjacent to Onondaga County and I-81. Comparable economic growth occurred in these areas to maintain their relative positions throughout the study period.

TABLE 4-3

**NINE MILE POINT STATIONS
PERSONAL INCOME BY PLACE OF RESIDENCE, PER CAPITA PERSONAL INCOME, NET LABOR AND PROPRIETORS' EARNINGS PER WORKER
BY PLACE OF WORK, AND NET LABOR AND PROPRIETORS' EARNINGS PER WORKER BY PLACE OF RESIDENCE
OSWEGO COUNTY, NEW YORK
1962-1978
(Thousands of Constant 1972 Dollars)**

	1962	1965	1966	1967	1968	1969	1970
Total Labor and Proprietors' Earnings by Place of Work	\$163,317	\$180,018	\$188,718	\$193,754	\$198,035	\$200,689	\$204,191
Less: Personal Contributions for Social Insurance by Place of Work	4,732	5,534	6,987	7,710	7,707	8,182	8,318
Net Labor and Proprietors' Earnings by Place of Work	158,584	174,484	181,730	186,044	190,329	192,507	195,874
Plus: Residence Adjustment	39,845	48,853	52,651	55,948	60,030	67,116	70,143
Net Labor and Proprietors' Earnings by Place of Residence	198,429	223,337	234,381	241,993	250,358	259,624	266,016
Plus: Dividends, Interest, and Rent	24,844	28,866	29,676	29,091	27,437	31,563	33,637
Plus: Transfer Payments	27,798	30,761	32,113	36,544	39,317	40,437	46,227
Personal Income by Place of Residence	251,071	282,965	296,170	307,627	317,112	331,624	345,880
Per Capita Personal Income	2,789	3,018	3,043	3,053	3,058	3,323	3,410
Net Labor and Proprietors' Earnings per Worker by Place of Work	--	--	--	6,850	7,057	7,104	7,167
Net Labor and Proprietors' Earnings per Worker by Place of Residence	--	--	--	--	--	--	--

(Continued on next page)

TABLE 4-3 (Continued)

NINE MILE POINT STATIONS
 PERSONAL INCOME BY PLACE OF RESIDENCE, PER CAPITA PERSONAL INCOME, NET LABOR AND PROPRIETORS' EARNINGS PER WORKER
 BY PLACE OF WORK, AND NET LABOR AND PROPRIETORS' EARNINGS PER WORKER BY PLACE OF RESIDENCE
 OSWEGO COUNTY, NEW YORK
 1962-1978
 (Thousands of Constant 1972 Dollars)

	1971	1972	1973	1974	1975	1976	1977	1978
Total Labor and Proprietors' Earnings by Place of Work	\$220,482	\$233,641	\$243,738	\$233,074	\$208,404	\$237,459	\$280,953	\$277,403
Less: Personal Contributions for Social Insurance by Place of Work	9,092	9,831	11,591	11,657	9,998	11,291	13,644	13,534
Net Labor and Proprietors' Earnings by Place of Work	211,390	223,810	232,147	221,417	198,406	226,169	267,309	263,860
Plus: Residence Adjustment	72,653	81,786	87,452	90,954	86,859	83,612	69,021	79,169
Net Labor and Proprietors' Earnings by Place of Residence	284,043	305,596	319,599	312,370	285,265	309,781	336,330	343,038
Plus: Dividends, Interest, and Rent	33,747	34,608	35,396	36,831	38,416	39,791	41,997	44,158
Plus: Transfer Payments	51,720	55,364	57,616	61,390	77,823	76,655	75,207	77,033
Personal Income by Place of Residence	369,511	395,568	412,611	410,592	401,504	426,227	453,534	464,229
Per Capita Personal Income	3,561	3,707	3,880	3,820	3,659	3,849	4,068	4,215
Net Labor and Proprietors' Earnings per Worker by Place of Work	7,442	7,698	7,684	7,212	6,867	7,400	7,979	7,825
Net Labor and Proprietors' Earnings per Worker by Place of Residence	--	--	--	7,315	6,744	7,154	7,425	7,330

Source: Bureau of Economic Analysis, Regional Economic Information System, April 1980, unpublished data.

industry, trade, services, and construction activities were centered in or near these cities.

In 1970, there were almost 2,500 industrial employees in the Study Area, comprising approximately 25 percent of the total industrial employment. Roughly 500 of these employees worked in Scriba Town, primarily at the Alcan Company. Employment in the services sector accounted for nearly 35.4 percent (3,220 workers) of total Study Area employment; the retail trade sector accounted for 17.5 percent (1,590 workers). Few of these were in Scriba Town, where the service/trade economy was relatively undeveloped. Construction employment, with over 600 workers, comprised about 7 percent of the total Study Area employment. Many of these workers were employed at either the Niagara Mohawk Oswego steam generating stations or PASNY FitzPatrick nuclear generating plant. (Oswego County Planning Board, 1976.) In 1974, about 40 percent of the industries located in Oswego County were located in Oswego City-Scriba Town (Greater Oswego Chamber of Commerce, 1978).

Although accurate information was not available on actual industrial sector employment for the years 1971 and 1978, it was clear that the Study Area economy followed trends similar to that of the Oswego County economy. Throughout the entire study period, however, agricultural sector employment was less important in the Study Area than it was in the county. Construction sector employment, on the other hand, showed great fluctuation, at times becoming substantially more important in the Study Area than in the county as a whole. Over the study period, the economy of Scriba Town increased its proportion of county employment. Nevertheless, the economy of Scriba Town remained undifferentiated and, except for manufacturing, construction, and utilities, was completely dominated by that of Oswego City.

4.3.2 Employment and Income of Local Residents

The labor force status of the residents of Oswego City-Scriba Town, as well as that of the county as a whole, reflected the general forces described in the previous section. The focus here is on the size of the labor force and on the employment/unemployment status and income levels of the area residents.

Oswego County

In 1970, which was midway in the construction of the Nine Mile Point Stations, Oswego County had a labor force of about 34,000 persons.¹ As shown in Table 4-4, the size of the labor force increased throughout the study period; it peaked at 51,400 in 1978. The size of the labor force did not follow the number of jobs in the Oswego County economy. The increase in labor force response is shown in the pattern of employment by place of residence and of unemployment rates shown in Table 4-4. Employment by place of residence remained substantially higher than the number of jobs in the local economy (employment by place of work) throughout the study period, indicating that a large proportion of county residents commuted out of the county for employment.²

In 1970, approximately 9.3 percent of the Oswego County labor force was unemployed. This was well above the unemployment rate in both New York State and the nation. Between 1970 and 1974, unemployment in Oswego County declined to 6.8 percent, still above the New York State and national levels. In 1975, employment by place of residence declined while the size of the labor force continued to increase, resulting in an unemployment rate of 11.2 percent. Unemployment rates remained high (above 8 percent) through 1978.

The marked fluctuation in unemployment rates during the 1970s reflected Oswego County's sensitivity to the state of the national economy. The effects of the severity and duration of the 1974-1975 national recession on Oswego County were demonstrated by the county's 1975 unemployment rate (11.2 percent), which was higher than that of both New York State (10.2 percent) and the United States (8.5 percent). The effects of this national recession were also evidenced by the persistence of unemployment rates well above those of the state or the nation for the rest of the decade.³

¹No similar data are available for the earlier period.

²Employment by place of residence in 1974 was 42,700 while employment by place of work was 30,700, a difference of 28 percent.

³The number of unemployed persons in Oswego County jumped from 3,100 in 1974 to 5,300 in 1975.

TABLE 4-4
NINE MILE POINT STATIONS
LABOR FORCE, EMPLOYMENT, UNEMPLOYMENT, AND LABOR FORCE PARTICIPATION
BY PLACE OF RESIDENCE
OSWEGO COUNTY, NEW YORK STATE, AND THE UNITED STATES
SELECTED YEARS

	1964	1966	1968	1970	1972	1974	1975	1976	1977	1978
OSWEGO COUNTY										
Labor Force	—	—	—	33,919	—	45,800	47,600	48,600	49,900	51,400
Employment	—	—	—	—	—	42,700	42,300	43,300	45,300	46,900
Unemployment	—	—	—	—	—	3,100	5,300	5,300	4,600	4,500
Unemployment Rate (percent)	8.8	6.4	7.1	9.3	8.8	6.8	11.2	10.9	9.2	8.8
Population	—	—	—	100,897	106,700	108,500	109,651	109,560	111,500	110,100
Labor Force Participation Rate ^a (percent)	—	—	—	33.6	—	42.2	43.4	44.4	44.8	46.7
NEW YORK STATE										
Labor force	—	—	—	—	—	—	—	—	—	—
Employment	—	—	—	—	—	—	—	—	—	—
Unemployment	—	—	—	—	—	—	—	—	—	—
Unemployment Rate (percent)	5.1	4.2	3.5	4.6	5.8	6.4	10.2	—	—	—
Population (000)	17,589	17,843	18,051	18,241	18,360	18,094	18,081	18,053	17,932	17,748
Labor Force Participation rate ^a (percent)	—	—	—	—	—	—	—	—	—	—
UNITED STATES										
Labor Force (000)	73,091	75,770	78,737	82,715	86,542	91,011	92,613	94,773	97,401	100,420
Employment (000)	69,305	72,895	75,920	78,627	81,702	85,935	84,783	87,485	90,546	94,373
Unemployment (000)	3,786	2,875	2,817	4,088	4,840	5,076	7,830	7,288	6,855	6,047
Unemployment Rate (percent)	5.2	3.8	3.6	4.9	5.6	5.6	8.5	7.7	7.0	6.0
Population (000)	191,085	195,501	199,312	203,810	208,322	211,371	213,623	214,675	216,383	218,059
Labor force Participation Rate ^a (percent)	38.3	38.8	39.5	40.6	41.5	43.1	43.5	44.1	45.0	46.1

^aLabor Force Participation Rate is equal to Labor Force divided by Population times 100.

Sources: Mountain West Research, Inc., 1980 (Bureau of Economic Analysis figures, unpublished data); Verway, 1979.

As shown in Table 4-5, male participation rates in both Oswego County and New York State changed very little during the decade of the 1960s although the county rates did show a slight decline (from 75.4 percent to 73.6 percent). The participation rate for women in Oswego County increased more rapidly between 1960 and 1970 (from 31.6 percent to 36.9 percent) than it did for women in New York State or the United States, but remained below both the state and national levels.

In Oswego County in 1970, the percentage of the population in the labor force was 33.6 percent; this was below the percentage in both New York State and the United States, as shown in Table 4-4. By 1974, the Oswego County figure had increased to 42.2 percent, still lower than that of either New York State or the United States but, by 1976, the county labor force participation rate had risen to 44.4 percent, slightly above the national rate of 44.1 percent.

The large service and manufacturing employment, the required skill levels, and the pay rates of local workers meant that the income and standard-of-living in Oswego County and the Study Area were traditionally high when compared to national figures. In 1969, Oswego County had an incidence of poverty of 9.1 percent, below the United States average of 13.7 percent but above the New York State rate of 8.5 percent. The median family income in Oswego County in 1969 was \$9,253, which was 87.2 percent of the New York State figure of \$10,609 and 120.2 percent of the national figure of \$7,699 (U.S. Bureau of the Census, 1970).

One measure of the standard-of-living is per capita income by place of residence (see Table 4-3). As in the case of county employment, the per capita income of county residents followed the employment trends in the manufacturing and construction sectors and decreased as work in those sectors declined. The overall trend, however, was for the per capita personal income of county residents to increase. Another measure is the average income of workers (see Table 4-3). Average income by place of work, per capita personal income, and average income per worker by place of residence all show the same trends.

The Study Area

Precise time-series figures were not available for the labor force or the sectoral employment of Study Area residents. Based on 1970 Census data, the labor force

TABLE 4-5

NINE MILE POINT STATIONS
 LABOR FORCE PARTICIPATION RATES BY SEX^a
 OSWEGO CITY, OSWEGO COUNTY, NEW YORK STATE, UNITED STATES
 1960 and 1970

	1960 ^b		1970 ^c	
	Male	Female	Male	Female
Oswego City ^d	70.1	30.8	63.7	34.6
Oswego County ^d	75.4	31.6	73.6	36.9
New York State	78.1	37.0	75.7	41.3
United States	77.4	34.5	72.9	39.6

^aNo data was available for Scriba Town and, therefore, the Study Area.

^bPercent fourteen years of age and older.

^cPercent sixteen years of age and older.

^dThese figures were influenced downward in 1970 by the presence of numerous university students.

Sources: U.S. Department of Commerce, Bureau of the Census, General Social and Economic Characteristics 1960, 1963; U.S. Department of Commerce, Bureau of the Census, Characteristics of the Population 1970, 1973.

in the Study Area was about 9,080 persons (U.S. Bureau of the Census, 1973).¹ During this period, services, manufacturing, and trade were the dominant employment sectors. Because limited employment opportunities were available in Scriba Town itself, many residents were employed in services, manufacturing, and trade jobs in Oswego City, Fulton, and elsewhere in the county. This pattern held throughout the study period, with the major fluctuations occurring in the construction sector.

As with most of the economic indicators, few data were available concerning the labor force or the labor force participation rates in the Study Area. For that reason, until data from the 1980 census become available, little can be said about the changes in total labor force, sectoral employment, or labor force participation. In general, the total labor force in the Study Area increased through the 1960s and mid-1970s. The expansion of SUNY-Oswego in the 1960s resulted in Oswego City having a lower labor force participation rate as the student population increased in size relative to the total population (see Table 4-5). In 1960 and 1970, Oswego City (and, therefore, the Study Area) had the lowest labor force participation rates for both males and females. The labor force participation rate for females in the Study Area was similar to that of the county, but the rate for males was markedly lower, especially in 1970.

Many of the local residents who were interviewed felt that the standard-of-living of Scriba Town residents was lower than that of Oswego City residents. However, this impression was not supported by the 1970 census data on incidence of poverty nor by the Bureau of the Census estimates of per capita income. The census estimates of per capita income from 1968 (earliest of this series available) to 1977 showed that there was little difference in per capita income among the residents of Oswego County, Oswego City, and Scriba Town. (Bureau of the Census, 1973, 1977, 1979, and 1980.) As previously discussed, these figures indicate that the Study Area average income was higher than the national average but lower than the New York State average.

¹It should be noted that the Bureau of Economic Analysis and the Census figures are from different series which are not entirely comparable. These figures should be used as an indication of the magnitude of the labor force in the Study Area in comparison with county figures.

4.4 Economic Changes in the Study Area and Oswego County due to the Project

The purpose of this section is to describe the economic consequences of the construction and operation of the Nine Mile Point Stations on the economic conditions in both the Study Area and Oswego County as a whole. In this context, it will address the effects of the projects on the economic activity (i.e., jobs and income on a place of work basis) and on the labor force status of residents (i.e., total labor force, employment, and income characteristics on a place of residence basis).

An economic base analysis (supplemented with an input-output analysis) is utilized. The premise of this approach is that the "basic" economic activities of the projects—the employment, the purchases of materials, and other market effects (for example, the consequences of the massive taxes paid by the project)—cause "nonbasic" or additional economic activity. The determination of the total effects of the project on employment and income in the Study Area is, therefore, a result of both direct project activity and induced activity.

4.4.1 Estimation of Project-Related Employment and Income Effects

The first step in this analysis is to describe the work force (the number of workers and their income) required to construct and operate the generating stations for each year of the study period. Workers employed in the actual construction or operation of the plant are referred to in this analysis as "direct" basic employees; their income is referred to as "direct" basic income.

The second step is to describe the utilities' purchases of local goods and services in the course of the projects, since such purchases will create local income and employment¹ and increase the rate of economic activity in the area. Income and employment generated by these local purchases are referred to as "indirect" basic income and employment.

¹For example, if \$1,000 of materials were purchased locally, some fraction of the purchase would accrue as income to labor or capital ownership. For materials produced locally, the ratio of locally-generated-income-to-total-purchases could be quite high. Materials produced elsewhere and only distributed locally would result in a lower ratio of income-to-purchases, which would reflect only the distributor's margin.

The third step is to identify any labor market effects--labor shortages, higher wages, or fiscally induced changes in activity--that resulted from the projects. Such responses in the income or employment of local residents are referred to as "other" basic income and employment. The information on the left side of Figure 4-2 summarizes the three major sources of change in basic income and employment considered in this analysis: direct basic, indirect basic, and "other" basic.

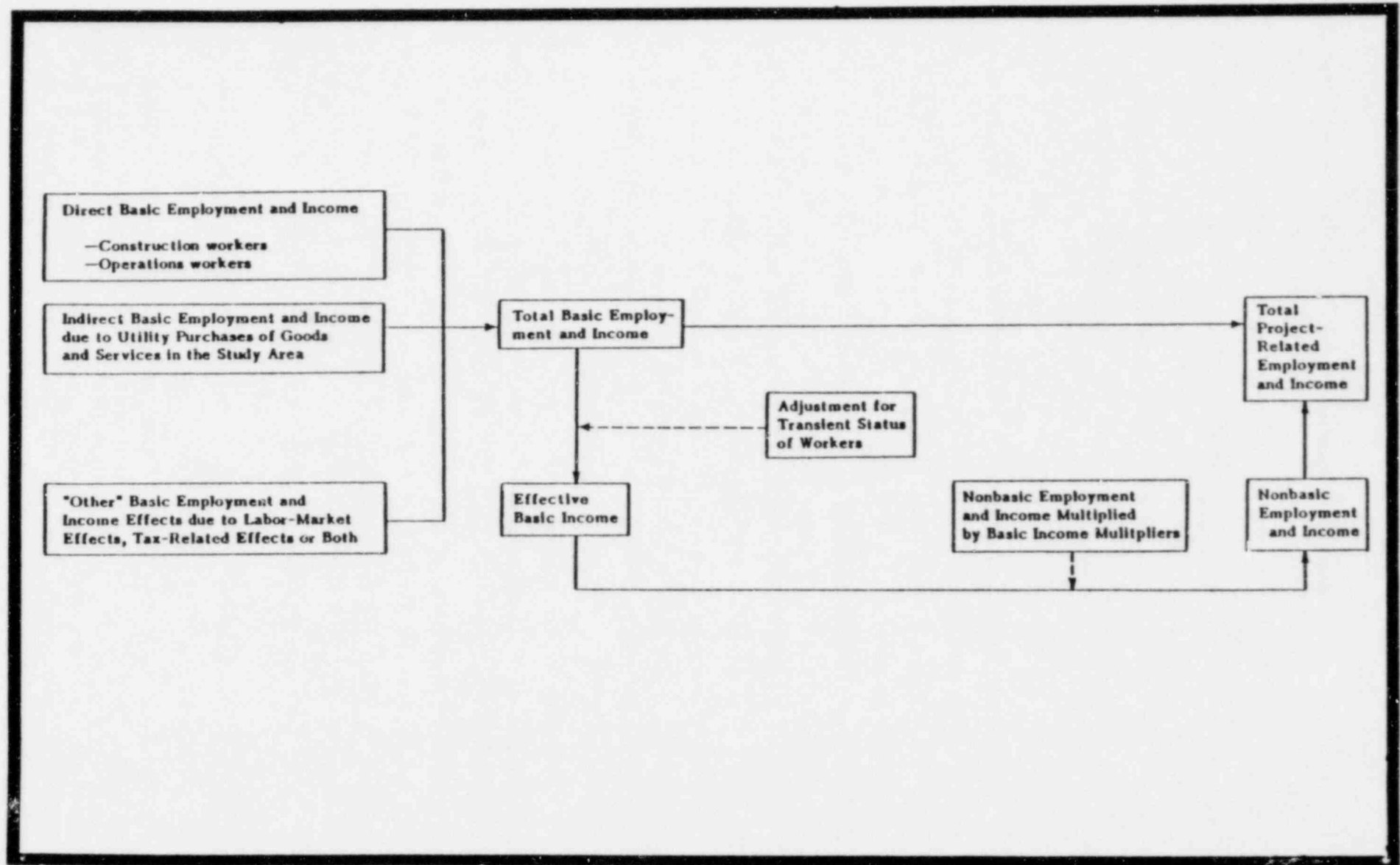
The fourth and final analytic step in this section is to determine the nonbasic employment and income effects of project activity. Since a significant portion of the project-related basic income was earned by workers who either lived outside the Study Area or resided in the Study Area only during the workweek, the basic income spent in the Study Area was less than would normally occur, given the structure of the area economy. To correctly estimate the nonbasic response, the project-related basic income earned by commuters was adjusted to make each dollar earned by commuters equivalent (in terms of its impact on the local economy) to each dollar earned by local residents. This adjusted basic income, referred to as "effective basic income," is used in conjunction with the basic income multipliers to calculate the nonbasic employment and income effects of the projects. The section concludes with a calculation of the total employment and income effects of the project by summing the four employment and income components--direct basic, indirect basic, "other" basic, and nonbasic (see Figure 4-2) and an examination of the project-related economic effects in terms of the overall characteristics of the local economy.

4.4.1.1 Basic Employment and Income due to the Projects

Direct Basic

The first of the three components of total project-related basic income and employment is direct basic income and employment. Throughout this analysis, the income and employment of workers are discussed in two ways: (1) on a place of work basis, to show the number of jobs and amount of income generated by the project and the effect of these jobs and income on the area economy, and (2) on a place of residence basis, to show the number of area residents employed at the project, their income, and the effect on the area labor force. In this study, the determination of direct basic income and direct basic employment by place of work is derived from project employment and wage data. Because of differences in residential and wage characteristics, the direct basic work force is considered as a composite of three types

**FIGURE 4-2. ESTIMATION OF PROJECT-RELATED
EMPLOYMENT & INCOME-RELATED EFFECTS**



of workers: (1) construction workers; (2) regular operations workers, and (3) repair maintenance refueling (RMR) workers.

Since the Nine Mile Point Stations are located in Scriba Town, a small community in Oswego County, New York, all direct basic employment and income generated by the stations (by place of work) accrued to the Study Area and the Oswego County economies. The number of workers and the total income earned by each type of worker for each year of the study period are shown in Table 4-6.

Determination of direct basic income and employment at place of residence in the Study Area required information about the wage rates and residential locations of each of the three types of direct basic employees. As shown in Table 4-7, not all of the direct basic employees resided in the Study Area or even Oswego County. Available data indicate that approximately 45 percent of the construction workers, 45 percent of the RMR workers, and 41 percent of the regular operations workers were residents of the Study Area. About 74 percent of the construction and RMR workers were residents of Oswego County,¹ as were 87 percent of the regular operations workers. In 1978, this came to 840 employees earning \$14 million in the Study Area, and about 1,480 employees earning \$24.4 million (constant 1972 dollars) in Oswego County.

Indirect Basic

The second component of total project-related basic income and employment is the indirect basic, here designated as the profits, earnings, and employment that result from the utilities' purchases of goods and additional services for plant construction and operation. The amount of indirect income produced by a given value of purchases is determined by the ratio of indirect income to product value, which varies according to the type of goods and type of establishment involved in the transaction. In this study, the indirect basic income and employment in the Study Area resulting from the project is calculated by applying the income-and-employment-to-value-of-purchases ratio derived

¹These data are probably most accurate for peak construction periods. The limited available data indicate that the residential distribution of workers maintained relatively constant proportions during each of the peak construction periods (1967-1968, 1971-1972, and 1977-1979); the proportion of workers residing in Oswego County probably increased during nonpeak years. However, sufficient information is not available to quantify this modification.

TABLE 4-6

NINE MILE POINT STATIONS
DIRECT BASIC EMPLOYMENT AND INCOME BY PLACE OF WORK^a
STUDY AREA AND OSWEGO COUNTY
1954-1979

Year	Construction		Regular Operations		Repair/Maintenance/Refueling		TOTAL	
	Number of Workers	Earnings of Workers	Number of Workers	Earnings of Workers	Number of Workers	Earnings of Workers	Number of Workers	Earnings of Workers
1964	60	\$660	N/A	N/A	N/A	N/A	60	\$660
1965	200	2,250	N/A	N/A	N/A	N/A	200	2,250
1966	500	6,120	N/A	N/A	N/A	N/A	500	6,120
1967	840	13,400	N/A	N/A	N/A	N/A	840	13,400
1968	790	12,060	50	\$610	N/A	N/A	840	12,670
1969	510	7,520	80	1,060	N/A	N/A	600	8,580
1970	350	5,300	90	1,160	120	\$1,920	550	8,370
1971	1,210	18,740	90	1,200	50	840	1,350	20,780
1972	1,450	23,170	140	1,970	50	860	1,640	26,000
1973	920	14,540	140	2,050	30	550	1,100	17,140
1974	390	6,100	270	3,810	50	860	710	10,760
1975	100	1,570	280	4,000	70	1,220	460	6,790
1976	300	4,820	300	4,290	20	410	620	9,520
1977	1,800	29,430	390	5,770	100	1,780	2,290	36,970
1978	1,440	24,380	420	6,350	60	1,140	1,920	31,870
1979	2,000	32,460	410	6,000	160	2,860	2,570	41,310

^aWork force figures are rounded to the nearest 10 and earnings figures are rounded to the nearest \$10,000; thus totals may not add exactly. Dollar amounts are in thousands of constant 1972 dollars. N/A means not available.

Source: Mountain West Research, Inc., 1980 (derived from Tables 2-1 and 2-2).

TABLE 4-7

NINE MILE POINT STATIONS
DIRECT BASIC EMPLOYMENT AND INCOME BY PLACE OF RESIDENCE^a
STUDY AREA AND OSWEGO COUNTY
1964-1979

Year	Study Area				Oswego County			
	Number of Workers	Percent of Total	Earnings of Workers	Percent of Total	Number of Workers	Percent of Total	Earnings of Workers	Percent of Total
1964	30	43.9	\$290	44.6	40	73.7	\$490	74.0
1965	90	44.7	1,000	44.6	150	73.9	1,660	74.0
1966	220	44.6	2,950	48.2	370	73.9	4,530	74.0
1967	370	44.6	5,980	44.6	620	74.0	9,920	74.0
1968	370	44.3	5,630	44.4	620	74.7	9,460	74.6
1969	260	44.0	3,780	44.1	450	75.8	6,490	75.6
1970	240	43.9	3,690	44.0	420	76.0	6,350	75.8
1971	600	44.3	9,220	44.4	1,010	74.8	15,530	74.7
1972	720	44.2	11,520	44.3	1,230	75.1	19,500	75.0
1973	480	44.1	7,560	44.1	830	75.7	12,950	75.5
1974	310	43.1	4,650	43.2	560	78.9	8,460	78.6
1975	190	42.2	2,870	42.2	370	82.2	5,540	81.6
1976	270	42.7	4,070	42.8	500	80.2	7,600	79.8
1977	1,010	43.9	16,260	44.0	1,740	76.2	28,100	76.0
1978	840	43.7	13,960	43.8	1,480	76.8	24,400	76.6
1979	1,130	43.9	18,180	44.0	1,960	76.1	31,340	75.9

^aFigures for low work force years may underestimate the number of workers and amount of income earned in the Study Area and Oswego County by place of residence since available data focus on peak construction years and union business agents indicated that preferential placement was given, where possible, to local union members. Work force figures are rounded to the nearest 10 and earnings figures are rounded to the nearest \$10,000; thus total may not add exactly. Dollar amounts are in thousands of constant 1972 dollars.

Source: Mountain West Research, Inc., 1980 (based on Tables 3-2 and 4-6).

from the Regional Industrial Multiplier System (RIMS)¹ to the total value of materials purchased by the utilities in the Study Area and in Oswego County. The RIMS approach is well documented elsewhere and is, therefore, not described in detail here. (U.S. Department of Commerce, 1977; Anderson, 1980.)

In 1978, the value of the goods and materials purchased by the utility in the Study Area was approximately \$6.2 million; the value in Oswego County was approximately \$14.1 million (Burtch, personal communication, December 1980; Leonard, 1978; Patrick, personal communication, 1980; Guinta, personal communication, July 1980; Bradshaw, personal communication, July 1980). Based on the ratios of indirect-basic-employment-and-income-to-value-of-purchases derived from RIMS², these purchases resulted in about 70 indirect basic jobs and \$560 thousand in indirect basic income in the Study Area, and 160 indirect basic jobs and \$1,280 thousand in indirect basic income in Oswego County. About 50 (66 percent) of the 70 indirect basic jobs were estimated to have been filled by Study Area residents whose indirect basic income was roughly \$380 thousand. Of the 160 indirect basic jobs in Oswego County, 150 (95 percent) were assumed to be filled by county residents who earned \$1,220 thousand. The remaining 5 percent of the jobs and their \$60 thousand in earnings were assumed to go to commuters who lived outside the county. As discussed in Chapter 3, the information on utility purchases is scanty and very likely underestimates the total value of purchases made in both the Study Area and Oswego County. Lacking other information, it is assumed that the value of materials purchased by the utilities in the Study Area and Oswego County maintained a constant

¹In general, the RIMS technique develops industry-specific input-output types of multipliers based on national interindustry relationships at the 496-sector level of disaggregation, adjusted to reflect the availability of required inputs from suppliers in the county. In the simplest case, if an industry does not exist in the county economy, any requirements from that industry are assumed to be supplied by imports from outside the county economy. If an industry does exist in the county at the same, or greater, proportion to the county economy as the industry is to the national economy, the county demands from that industry are assumed to be met within the county economy. If an industry represents a smaller proportion of the county economy than it does of the national economy, some of the county demand is assumed to be supplied from within the county and some is assumed to be imported.

²In estimating the indirect basic employment and income effects of the utility purchases in the Study Area and the county, these purchases were assumed to have been made in the wholesale trade sector. The RIMS multipliers indicate that \$1 million of utility purchases resulted in \$91,000 in indirect basic income and 11.6 indirect basic jobs. (Drake, personal communication, 1980.)

relationship to the total on-site work force throughout the study period.¹ The estimated indirect basic employment and income over the study period are shown in Table 4-8.

"Other" Basic

The third component of the project's basic income and employment effects is categorized as "other" basic income and employment. Throughout the study period, the project site was within easy commuting distance of a labor force of well over 100,000, many of whom were employed in industrial sector and union-organized jobs. There is no evidence that the projects caused noticeable wage-induced effects. (Guinta, personal communication, July 1980; Thorpe, personal communication, August 1980.)

As indicated in Chapter 3, the Niagara Mohawk Corporation paid both property and sales taxes in the Study Area and Oswego County.² In 1978, it paid \$0.2 million in property taxes to Scriba Town; \$2.1 million to the Oswego City Consolidated School District; and \$1.7 million to Oswego County. Sales taxes paid to municipalities in the Study Area totalled over \$180 thousand (constant 1972 dollars).

Although government employment expanded in both the Study Area and Oswego County, interviews with local government officials and comparisons with neighboring governmental units indicated that this expansion was not atypical. Interviewers also indicated that a substantial proportion of the increase in government employment was due to the expansion of SUNY-Oswego during this period. Consequently, there does not appear to be evidence for attributing any significant "basic" expansion in government employment to the projects. It is clear, nonetheless, that the increased revenues contributed to the ability of the local government units to expand their staffs and programs. (These aspects of the project effects are discussed in more detail in Chapter 7).

Total "other" basic employment and income was, therefore, estimated to be negligible throughout the study period.

¹This assumption yields indirect-to-direct-basic factors of 0.037 for employment and 0.29 for income in the Study Area, and 0.085 for employment and 0.67 for income in Oswego County.

²PASNY is tax exempt and pays no sales or property taxes on its facilities.

TABLE 4-8

NINE MILE POINT STATIONS
ESTIMATED INDIRECT BASIC EMPLOYMENT AND INCOME^a
STUDY AREA AND OSWEGO COUNTY
1964-1979

Year	Study Area				Oswego County			
	Place of Work		Place of Residence ^b		Place of Work		Place of Residence ^b	
	Workers	Income	Workers	Income	Workers	Income	Workers	Income
1964	10	\$20	10	\$10	10	\$40	10	\$40
1965	10	60	10	40	20	130	20	130
1966	20	150	10	100	40	330	40	310
1967	30	250	20	160	70	560	70	530
1968	30	250	20	160	70	560	70	530
1969	20	180	20	120	50	400	50	380
1970	20	160	10	110	50	370	50	350
1971	50	400	30	260	110	900	110	850
1972	60	480	40	320	140	1,090	130	1,040
1973	40	320	30	220	90	730	90	700
1974	30	210	20	140	60	480	60	450
1975	20	130	10	90	40	300	40	290
1976	20	180	20	120	50	410	50	390
1977	90	670	60	450	200	1,530	190	1,450
1978	70	560	50	380	160	1,280	160	1,220
1979	100	760	60	500	220	1,720	210	1,630

^aAssumes a constant ratio of indirect-to-direct basic employment and a constant wage for indirect basic workers over the study period. These figures are conservative estimates. Number of workers and amount of dollars have been rounded to nearest ten. Dollar amounts are in thousands of constant 1972 dollars.

^bAssumes a constant ratio of indirect basic workers by place of residence to indirect workers by place of employment over the study period of 0.67 in the Study Area and 0.95 in Oswego County.

Source: Mountain West Research, Inc., 1980.

Total Basic Employment and Income due to the Projects

Total basic employment and income is the sum of the three basic components—direct basic, indirect basic, and "other" basic. In 1978, for example, total basic employment and income in the Study Area by place of work was about 1,990 jobs and \$32.4 million in income. In Oswego County, it was nearly 2,090 jobs and \$33.1 million in income. Some of the basic jobs were filled by workers residing outside the Study Area and the county. In all, about 890 project-related basic workers, earning \$14.3 million, were residents of the Study Area; about 1,637 workers, earning \$25.6 million, were residents of Oswego County.

4.4.1.2 Nonbasic Employment and Income due to the Projects

Nonbasic employment and income, the final component of project-related employment and income effects, result from the expenditure (and re-expenditure) of basic income in the local economy. The amount of project-related nonbasic employment and income in the local economy is determined by the interaction of two factors: (1) the amount of "effective" basic income created by the project, and (2) the size of the nonbasic-to-basic employment and income multipliers in the local economy. Both of these factors are influenced by the characteristics of the local economy. A larger, more diverse economy generally results in a higher ratio of effective basic income to total basic income and larger income and employment multipliers.

Effective Basic Income

A proportion of the project-related basic income was earned by workers who were transient residents or who lived outside the Study Area and Oswego County. These transient residents generally spent a smaller proportion of their income in the local area than did resident workers earning the same income who lived "full-time" in the Study Area or the county. This reduced the effects of the project-related basic income on the local economy by diminishing the amount available for multiplication. To account for this, the project-related basic income earned by transient residents and commuters must be adjusted to make each dollar of project-related basic income equivalent in effect on the economy of the Study Area and Oswego County.

Two principal factors affect the amount of effective basic income resulting from the project: (1) the residential location of the workers earning the basic income, and (2) the incidence of outside financial commitments (i.e., the maintenance of a household)

among workers residing in the Study Area or the county. The effects of these factors were analyzed by dividing the project-related basic workers into four groups:¹

1. Nonmovers--employees who were residents in the Study Area prior to employment on the project and who did not move because of this employment;
2. Movers accompanied by families--employees who moved into the Study Area because of employment on the project and who were accompanied by families;
3. Movers unaccompanied by families (or single)--employees who moved into the Study Area because of employment on the project and who were not accompanied by families; and,
4. Daily long-distance commuters--employees living outside the Study Area who commuted daily into the Study Area to work at the project.

Based on information concerning residential location, commuting patterns, and outside financial commitments, as well as examination of the availability of goods and services in the local economy, the basic income of each of the four groups was weighted so that its effect, in terms of generating induced economic activity within the Study Area, would be commensurate across groups. The resulting weighted income estimate is referred to as "effective" basic income. Because the county-specific multipliers are based on the consumption patterns of average county residents who are principally nonmovers, nonmovers serve as the standard for defining effective basic income, and all of their income is treated as effective (i.e., their income is weighted by a factor of 1.0). For each of the remaining categories of workers, data outlined by the Consumer Expenditure Survey, 1972-1973 (U.S. Bureau of Labor Statistics) were utilized to determine the proportion of income spent in the local area by these workers compared to that spent by nonmovers. Averages in this survey included annual family expenditures for major items (i.e., homes, clothing, health care, and recreation) for a family of four in the \$20,000-24,999 income bracket (appropriate to the income levels of basic workers in the Study Area). Examination of the local economy and discussions with workers, local planners, and area residents were used to estimate the percentage of local expenditures for each of the major consumer items.

¹Because the basis for these groupings is residential location, a separate but similar analysis was made for Oswego County. To avoid confusion, the description of the groups is presented in terms of the Study Area only.

This analysis indicated that nonmovers and movers with families present had a similar level of local expenditure—approximately \$11,200—out of a total consumption of \$15,300. This means, therefore, that of all consumption expenditures, 73.2 percent would be made within the Study Area. Movers unaccompanied by families and daily long-distance commuters are estimated to have spent substantially less in the local area; unaccompanied movers spent approximately 22.3 percent of the \$15,300, and the commuters spent only 0.8 percent of the \$15,300.¹

From these estimates, the relative effect on the local economy of income paid to each of the four groups was calculated.² Based on these calculations, the income of nonmovers and movers accompanied by families was weighted by a factor of 1.0. The income of unaccompanied movers and daily long-distance commuters was weighted by a factor of 0.305 and 0.011, respectively, to estimate the total effective basic income in the Study Area generated by the Nine Mile Point Stations.

Table 4-9 shows the distribution of direct basic workers (construction, regular operations, and repair/maintenance/refueling) and indirect basic workers among the four groups—nonmovers, accompanied movers, unaccompanied movers, and daily long-distance commuters. It also shows the income weighting factors. Although the distribution and weights were based on data for 1978, evidence indicated that they represent the best estimate for the distribution of workers and conversion factors for income throughout the study period.

Applying the Table 4-9 data to the Table 4-6 and Table 4-8 data (on direct and indirect basic work force and income) gives the effective basic income in the Study Area

¹In Oswego County, the estimates were the same for nonmovers and movers, but daily long-distance commuters were estimated to spend more (3 percent), largely because of the greater distances involved. This resulted in weights of 1.0 for nonmovers and movers accompanied by families; 0.305 for unaccompanied movers; and 0.041 for daily long-distance commuters.

²Calculated by dividing the percentage of total expenditures made locally by each group by the percentage of total expenditures made locally by nonmovers.

TABLE 4-9
NINE MILE POINT STATIONS
DISTRIBUTION OF PROJECT-RELATED BASIC WORKERS AND INCOME AND
INCOME WEIGHTING FACTORS AMONG NONMOVERS, MOVERS,
AND DAILY LONG-DISTANCE COMMUTERS^a
STUDY AREA AND OSWEGO COUNTY

	Direct Basic			Indirect Basic	Income Weighting Factor
	Construction	Regular Operations	Repair/ Maintenance/ Refueling		
STUDY AREA					
Nonmovers	30.6	18.7	34.6	63.3	1.0
Movers Accompanied by Families	7.0	15.4	—	2.4	1.0
Movers Unaccompanied by Families	7.0	6.6	10.0	1.0	0.305
Daily Long-Distance Commuters	55.4	59.3	55.4	33.3	0.011
TOTAL	100.0	100.0	100.0	100.0	—
Number in 1978	1,440.	420.	60.	70.	—
Overall Income Weighting Factor	0.403	0.368	0.383	0.664	—
OSWEGO COUNTY					
Nonmovers	54.8	37.9	59.8	90.0	1.0
Movers Accompanied by Families	10.1	34.3	—	3.5	1.0
Movers Unaccompanied by Families	9.1	14.7	14.2	1.5	0.305
Daily Long-Distance Commuters	26.0	13.1	26.0	5.0	0.041
TOTAL	100.0	100.0	100.0	100.0	—
Number in 1978	1,440.	420.	60.	160.	—
Overall Income Weighting Factor	0.687	0.772	0.652	0.942	—

^aThe category of "other" basic has not been included in this table since there was no "other" basic employment or income. Totals may not add due to rounding. All data is given in percentages except "Number in 1978."

Sources: Mountain West Research, Inc., 1980 (based on Malhotra and Manninen, 1979:168, 207); VanderWees, personal communication, November 1980; Manninen, personal communications, October 1979 and November 1980; Business agents for local construction trade unions, personal communication, 1980.

and Oswego County for each year of the study period.¹ In 1978, the estimated effective basic income in the Study Area was approximately \$13 million, 40 percent of the total basic income due to the project. In Oswego County, the estimated effective basic income was \$23.6 million, 71.3 percent of the total basic income.

Nonbasic-to-Basic Multipliers

The second set of factors used in determining the nonbasic employment and income effects of the project in the Study Area are the nonbasic-to-basic employment and income multipliers. The size and characteristics of the economy being analyzed determine the size of the multipliers—the larger and more diversified the economy, the larger the multiplier. The nonbasic income and employment to effective basic income multipliers employed in the analysis of the Study Area and Oswego County were derived from the county specific input-output analysis of the Regional Interindustry Multiplier System (RIMS) which was described in Section 4.4.1.1. Here, RIMS multipliers are used to estimate the employment and income effects of an increase in final demand in the household sector caused by basic income from the project. They employ both county-specific industrial sector and national household data (Drake, personal communication, 1980).

Based on the RIMS analysis, the appropriate multipliers for the Study Area and Oswego County were for \$1,000 of effective basic income to result in 0.0314 nonbasic jobs and \$176 in nonbasic income in the Study Area and county (by place of work).² When applied to the estimated project-related effective basic income in Table 4-10, these multipliers yield the project-caused nonbasic jobs and nonbasic income estimated for the Study Area and Oswego County.

As shown in Table 4-10, the estimated 1978 nonbasic employment and income (by place of work) in the Study Area was about 410 jobs and \$2.2 million (constant 1972 dollars). In Oswego County, the nonbasic employment was estimated at about 740 jobs

¹Effective basic income is shown in Table 4-10.

²Because Oswego City is a major retail/wholesale center in Oswego County and is located in the county in such a way that residents in the Study Area are likely to fully utilize the economic resources of the city rather than shopping elsewhere, the Study Area was assumed to demonstrate multipliers equivalent to those calculated for Oswego County as a whole.

TABLE 4-10

NINE MILE POINT STATIONS
EFFECTIVE BASIC INCOME AND NONBASIC EMPLOYMENT
AND INCOME BY PLACE OF WORK
STUDY AREA AND OSWEGO COUNTY
1964-1979

Year	Study Area ^a			Oswego County ^a		
	Effective Basic Income	Nonbasic ^b Employment	Nonbasic Income ^c	Effective Basic Income	Nonbasic ^b Employment	Nonbasic Income ^c
1964	\$280	10	\$50	\$490	20	\$90
1965	940	30	170	1,670	50	290
1966	2,560	80	450	4,510	140	790
1967	5,560	180	980	9,730	310	1,710
1968	5,250	170	920	9,280	290	1,630
1969	3,540	110	620	6,360	200	1,120
1970	3,400	110	600	6,133	190	1,080
1971	8,580	270	1,510	15,200	480	2,670
1972	10,710	340	1,890	19,030	600	3,350
1973	7,040	220	1,240	12,620	400	2,220
1974	4,330	140	760	8,140	260	1,430
1975	2,660	80	470	5,240	170	920
1976	3,800	120	670	7,280	230	1,280
1977	15,110	470	2,660	27,270	860	4,800
1978	12,970	410	2,280	23,600	740	4,150
1979	16,880	530	2,970	30,410	960	5,350

^aDollar amounts are expressed in thousands of constant 1972 dollars, and have been rounded to the nearest ten.

^bObtained by multiplying effective basic income by the RIMS nonbasic-employment-to-basic-income multiplier of .0000314 jobs/dollar. Numbers rounded to the nearest ten.

^cObtained by multiplying effective basic income by the RIMS nonbasic-income-to-basic-income multiplier of 0.176.

Source: Mountain West Research, Inc., 1980.

and nonbasic income at \$4.2 million. The distribution of the nonbasic workers among the four groups of workers—nonmovers, movers accompanied by families, movers unaccompanied by families, and daily long-distance commuters—was assumed to be similar to that of the indirect basic workers described earlier (see Table 4-9). This meant that, in 1978, the projects provided nonbasic employment to about 270 Study Area residents who earned \$1.5 million in income. In Oswego County, approximately 700 residents obtained project-related nonbasic jobs in which they earned \$3.9 million in income.

4.4.1.3 Total Employment and Income due to the Project

The total employment and income effects due to the Nine Mile Point projects during each year of the study period are shown in Table 4-11. As can be seen in this table, the magnitude of these effects fluctuated substantially during the course of the construction of the three nuclear stations, with three peaks and two troughs occurring during the 1964-1979 period. The maximum project-related employment level during the study period was reached in 1979 when an average of 3,200 project-related jobs were located in the Study Area (place of work) and 1,550 Study Area residents were employed in project-related jobs (place of residence). If construction resumes on Nine Mile Point Unit 2 in 1981, project-related employment and income will undoubtedly exceed these levels for at least several years (Burtch, personal communication, December 1980).

The effects of this project-related employment and income on the economy and residents of the Study Area and Oswego County are discussed in the following sections.

4.4.2 Effects of the Projects on the Study Area and Oswego County Economies, 1963-1978

Many changes occurred in the economies of the Study Area and Oswego County during the fifteen years of the study period. Despite this, and despite the magnitude of the economic effects caused by the projects, the overall character of the economy in both the Study Area and Oswego County remained surprisingly unchanged. The county area comprised an old, industrialized economy which had experienced the expansion and decline of many economic enterprises during its history (see Section 4.2). The size and diversity of the Study Area economy prevented it from being overwhelmed by the

TABLE 4-11

NINE MILE POINT STATIONS
TOTAL EMPLOYMENT AND INCOME DUE TO THE PROJECT'S
STUDY AREA AND OSWEGO COUNTY
1964-1979

Year	Study Area				Oswego County			
	Place of Work		Place of Residence		Place of Work		Place of Residence	
	Workers ^a	Income ^b	Workers ^a	Income ^b	Workers ^a	Income ^b	Workers ^a	Income ^b
1964	70	\$720	30	\$340	80	\$780	60	\$500
1965	240	2,470	110	1,150	270	2,670	210	2,070
1966	590	6,710	290	3,350	680	7,240	540	5,600
1967	1,040	14,630	510	6,790	1,220	15,670	980	12,070
1968	1,030	13,840	500	6,410	1,200	14,860	970	11,540
1969	730	9,380	350	4,320	850	10,100	690	7,930
1970	680	9,130	330	4,200	800	9,820	650	7,720
1971	1,660	22,690	810	10,490	1,940	24,350	1,570	18,930
1972	2,030	28,370	990	13,100	2,370	30,450	1,930	23,720
1973	1,360	18,710	660	8,610	1,590	20,100	1,300	15,760
1974	880	11,740	420	5,300	1,030	12,670	860	10,270
1975	560	7,390	260	3,270	660	8,010	570	6,700
1976	760	10,370	360	4,640	900	11,210	770	9,210
1977	2,850	40,310	1,380	18,480	3,340	43,300	2,750	34,110
1978	2,400	34,710	1,160	15,860	2,830	37,300	2,340	29,560
1979	3,200	45,040	1,550	20,670	3,750	48,780	3,080	38,060

^aRounded to nearest ten.

^bExpressed in thousands of constant 1972 dollars, and rounded to nearest ten.

Source: Mountain West Research, Inc., 1980.

activity generated by the nuclear stations.¹ The trends in population, labor force, employment by place of residence, employment by place of work, and total project-related employment for Oswego County from 1970 to 1979 are shown in Figure 4-3. The relative effect of the Nine Mile Point Stations on the Study Area economy was also tempered by the prior presence in the area of the Niagara Mohawk Power Corporation as a major employer. Even prior to the study period, jobs in the local area included those at the Niagara Mohawk service branch as well as jobs in the construction and operation of the Oswego hydroelectric station and the steam stations. The nuclear facilities, therefore, introduced neither a new type of employment nor a new employer into the area; they only increased the number of these types of jobs.

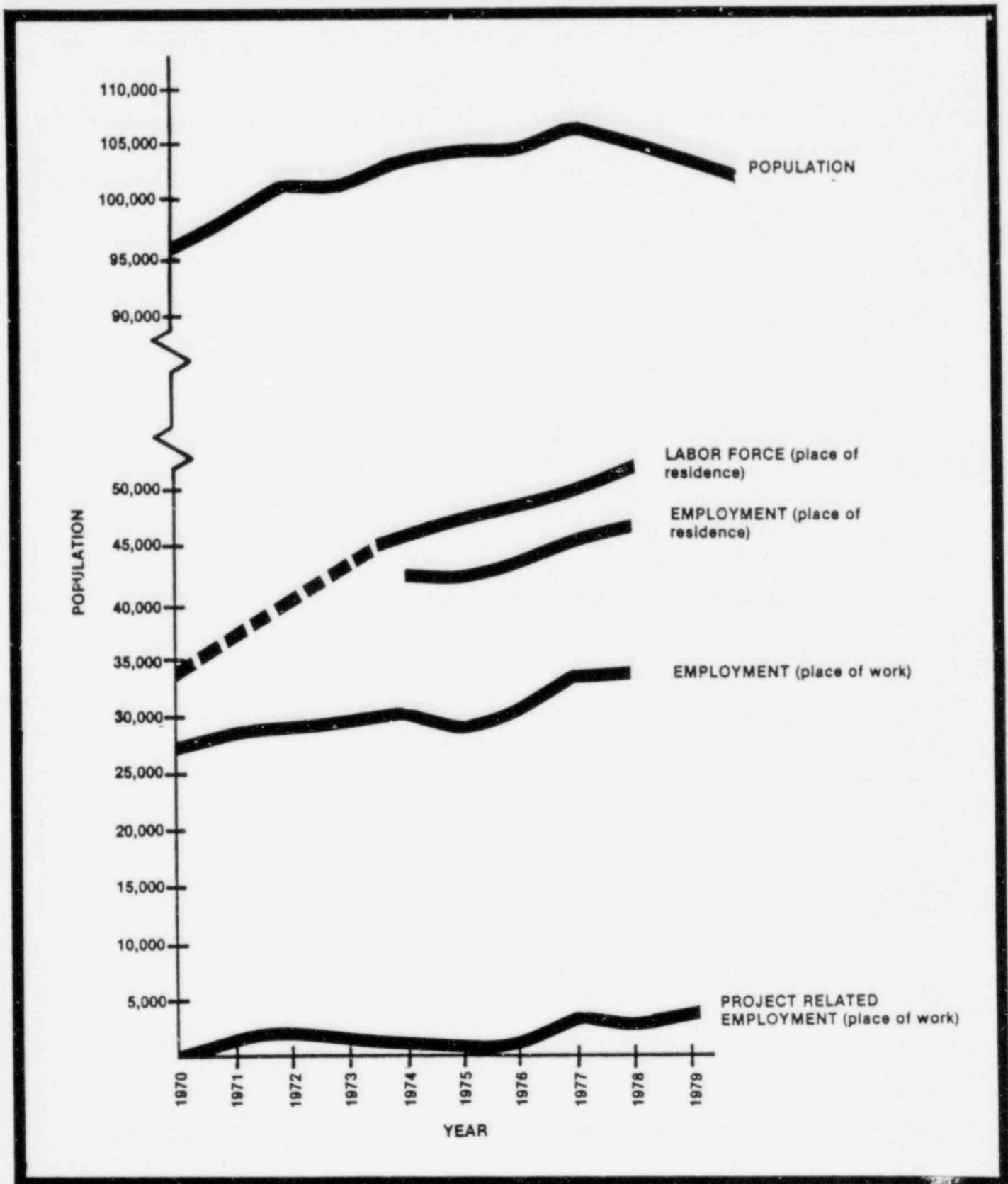
As seen in Figure 4-4, the employment created by the Nine Mile Point Stations accounted for about 10 percent of the estimated employment in the Study Area in 1967 and about 18 percent in 1978. It should be emphasized that the employment figures for Oswego City and Scriba Town are estimates. Figure 4-3 illustrates the relative importance of the projects to the number of jobs in the Study Area. Nevertheless, it was always recognized that the construction activity was temporary and that, once the projects were completed, a large proportion of these jobs would no longer exist.

Figure 4-4 also shows a similar analysis for Oswego County although the time series data for it were available only from 1967 to 1978. The effects of project-related employment was less pronounced in the county as a whole than in the Study Area. In 1967, the project employment accounted for about 4 percent of total employment in the county on a place of work basis. This rose to 8 percent in 1972 and 10 percent in 1977. In 1978, project-related employment accounted for approximately 8 percent of the total jobs (33,720) in the county.

In 1967, total labor and proprietor earnings by place of work in Oswego County were \$193.8 million of which the Nine Mile Point projects were estimated to have contributed about 8 percent (\$15.7 million). In 1972 and 1978, project-related employment accounted for approximately 13 percent of the total labor and proprietor

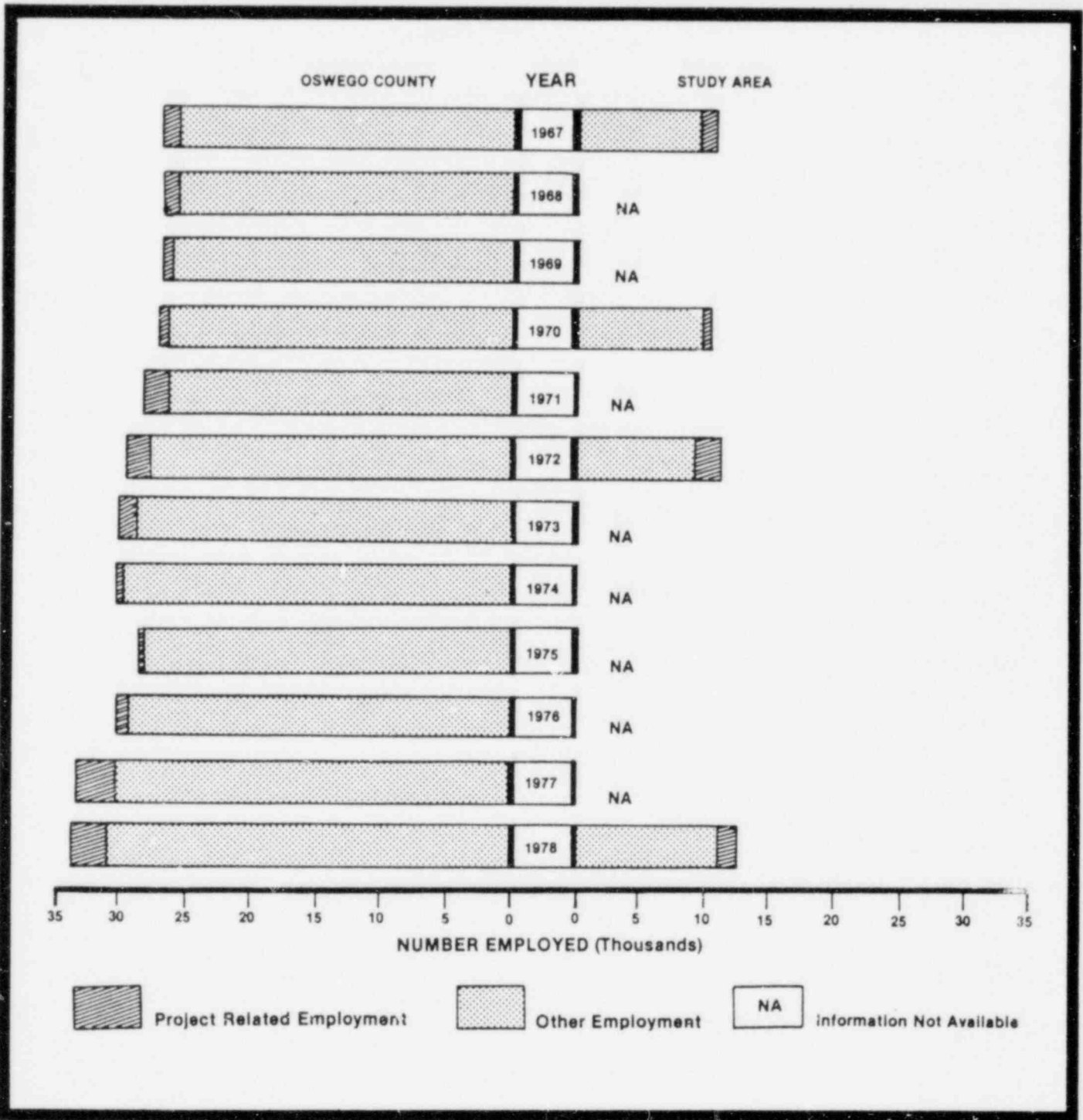
¹This was not true, however, of Scriba Town which, at the start of the Nine Mile Point projects, had an undeveloped economy dominated by a single industry (Alcan). Nevertheless, Scriba's relationship with Oswego City affected its character, as did the number of Scriba residents working in more diversified economies nearby.

FIGURE 4-3. NINE MILE POINT - FITZPATRICK, POPULATION, LABOR FORCE AND EMPLOYMENT TRENDS. OSWEGO COUNTY, 1970-1979



SOURCE: Mountain West Research, Inc., 1980.

FIGURE 4-4. PROJECT-RELATED EMPLOYMENT BY PLACE OF WORK. THE STUDY AREA & OSWEGO COUNTY. 1967-1978



SOURCE: Mountain West Research, Inc., 1980.

earnings in the county (\$233.6 million in 1972 and \$277.4 million in 1978). The fact that the projects made a greater contribution to income than they did to employment was due to the relatively high wages paid to project-related employees.

4.4.3 Effects of the Projects on the Residents of the Study Area and Oswego County, 1963-1978

The employment effects of the Nine Mile Point Stations on residents of both the Study Area and Oswego County as a whole were shown earlier (see Table 4-11). Between 250 and 1,550 residents of the Study Area were employed in project-related jobs in the years between 1966 and 1978. It is estimated that almost half of the total project-related jobs were captured by Study Area residents (including movers) and that over 35 percent were obtained by nonmovers alone. These data indicate that the labor force in the Study Area may have increased due to the in-migration of approximately 120 workers in 1967, 250 workers in 1972, and 320 workers in 1978. In 1978, this would have been less than 3 percent of the resident labor force.

In Oswego County, between 550 and 3,000 residents were employed in project-related jobs in the years between 1966 and 1979. Residents of the county generally held more than 80 percent of all project-related jobs. In-migration for project-related work may have increased the county's labor force by about 180 workers in 1967, 390 workers in 1972, and 530 workers in 1978. Since the total 1978 labor force in the county was 51,400, this increase was not significant, accounting for only about 1 percent of the total.

Nevertheless, the projects did provide about 6 percent of the jobs held by Study Area residents and about 5 percent of those held by county residents. Interviews with local business leaders and union officials indicated that the economic effects of the projects were highly salient and perceived as important to the economic vitality of the area.

Only a relatively small proportion of Study Area or county residents were employed in the high-paying direct basic jobs created by the nuclear stations. Consequently, although some individuals were affected to a large degree and the economy as a whole was more active, the income generated by the projects did not substantially affect the median family income or per capita income levels of area residents.

CHAPTER 5: POPULATION

5.1 Introduction

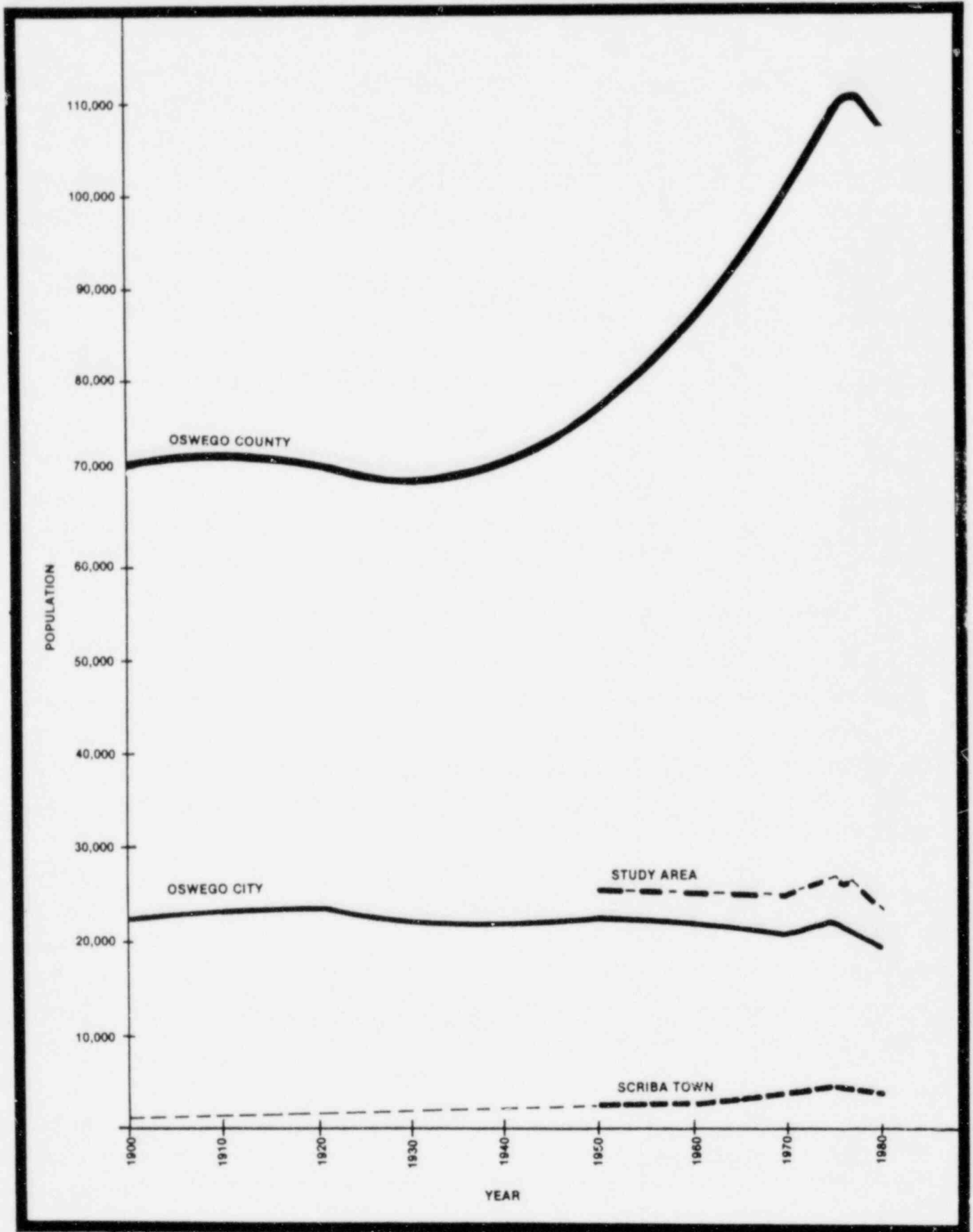
Chapter 5 describes the demographic characteristics of the Study Area (Scriba Town and Oswego City) and the study region (Oswego County) and identifies the population effects of the Nine Mile Point Stations in these places. These effects are assumed to result primarily from the basic and nonbasic employment created by the projects. Two sources of employment-related population increase are considered: (1) increases from the in-migration of workers and their household members for project-related employment, and (2) increases from the diminished out-migration of local residents and their household members due to project-related employment. In addition, the population effects of the project due to increased competition for housing are considered in qualitative terms. The population effects of the projects are then compared to the total Study Area and county population to examine the relative magnitude of the effects. The implications of project-related population changes in such areas as the demand for housing, the provision of government services, and alterations in the social structure of the Study Area are examined in subsequent chapters.

5.2 Demographic Trends

The population trends of Oswego County and the Study Area from 1900 to 1980 are shown in Figure 5-1 and Table 5-1. The population of Oswego County increased very little from 1900 through 1940—rising only from 70,880 to 71,280. According to United States Census data, during this period the average annual growth rate in Oswego County was 0.1 percent. Between 1940 and 1950, the population in Oswego County grew at a rate of 0.8 percent per year and, by 1950, numbered about 77,200. It then increased to 86,100 in 1960, 100,900 in 1970, and an estimated 107,900 in 1980 (U.S. Bureau of the Census, 1973; Cornell Agricultural Research Station, 1963; U.S. Bureau of the Census, 1980). Between 1960 and 1970, the average annual growth rate of the county population was about 1.6 percent, the highest of any decade between 1900 and 1980. The county's rate of growth declined to less than one percent per year between 1970 and 1980, according to the preliminary 1980 census estimates.

Between 1950 and 1960, the population of Oswego County increased by nearly 9,000 persons. This was due to an excess of births over deaths (net natural increase) as the net migration during this decade was negative, with a net loss through out-migration

FIGURE 5-1. POPULATION TRENDS 1900-1980. OSWEGO COUNTY, OSWEGO CITY & SCRIBA TOWN



SOURCES: See Table 5-1.

TABLE 5-1
NINE MILE POINT STATIONS
POPULATION ESTIMATES
OSWEGO COUNTY AND THE STUDY AREA (OSWEGO CITY/SCRIBA TOWN)
SELECTED YEARS
1900-1980

	Scriba Town	Oswego City	Study Area Total ^a	Average Annual Percent Change	Oswego County	Average Annual Percent Change
1900	—	22,199	—	—	70,881	—
1910	—	23,368	—	—	71,664	-0.1
1920	—	23,626	—	—	71,045	-0.1
1930	—	22,652	—	—	69,645	0.2
1940	—	22,062	—	—	71,275	0.2
1950	2,248	22,647	24,895	—	77,181	0.8
1960	2,489	22,155	24,644	-0.1	86,118	1.1
1970	3,609 ^b	20,923 ^b	24,532	0.0	100,987	1.6
1971	3,707	21,183	24,890	1.5	103,400	2.5
1972	3,808	21,445	25,253	1.5	106,700	3.2
1973	3,912	21,710	25,622	1.5	106,321	-0.4
1974	3,973	21,953	25,929	1.2	108,500	2.0
1975	4,177	22,062	26,239	1.2	109,651	-1.1
1976	4,156	21,445	25,601	2.4	109,560	0.0
1977	4,281	21,400	25,681	0.3	111,500	-1.8
1978	4,340	20,569	24,909	-3.0	110,100	-1.3
1979	4,400	19,761	24,161	-3.0	109,000	-1.0
1980	3,696	19,739	23,435	3.0	107,885	1.0

^aPopulation estimated for years of missing data based on annual average rate of change between known points.

^bRevised estimates for 1970: Scriba Town—3,619, and Oswego City—23,844; higher figures are those reported in published 1970 Census results.

Sources: U.S. Bureau of the Census, Census of the Population: 1960, Characteristics of the Population, Volume 1, Part 1, 1963; U.S. Bureau of the Census, 1970 Census of the Population, Characteristics of the Population, Volume 1, Part 34, 1973; U.S. Bureau of the Census, preliminary estimates, Census of the Population, 1980; U.S. Bureau of the Census, Series P-26, May 1977, and Series P-25, November 1978 and January 1979; Oswego County Planning Office, CEIP Summary, 1980; Oswego County Planning Board, Oswego County Data Book, 1977:14; Cornell Agricultural Research Station, The People of Oswego County, 1963:2.

of about 1,400 persons. As shown in Table 5-2, a net out-migration of persons aged 20 and older and a net in-migration of persons age 0-19 occurred during this period.

From 1960 to 1970, the county experienced a population increase of about 14,800 persons. According to census figures, the net natural increase during this period was about 10,360 persons (20,408 births and 10,051 deaths, adjusted for under-registration) (U.S. Bureau of the Census, Series P-25, 1971), and a net in-migration of about 4,400 persons (primarily due to a gain of almost 3,300 persons in the 0-19 age category).

Consistent with these figures, the population of Oswego City also showed very little growth during the 1900-1940 period. The city population increased from about 22,200 persons in 1900 to about 23,600 in 1920 and 1930, then fell to 22,100 in 1940. Between 1940 and 1950, the population of the city rose slightly (22,600 persons) before declining in 1960 (22,200 persons) and again in 1970 (20,900 persons). The city population fluctuated slightly during the 1970s and was estimated at about 22,060 in 1975 and 19,740 in 1980. Throughout the period, the average rate of growth for the city did not exceed 0.5 percent in any decade.

The town of Scriba had a population of approximately 2,250 in 1950, the earliest date for which data are available. By 1960 it had increased to 2,500. Between 1960 and 1970, the town's population increased by 44 percent to 3,600, representing an average annual growth rate of 3.7 percent. According to the interim census estimates, the population continued to grow until the mid-1970s, when it reached almost 4,200. By 1980, however, the estimated population of Scriba Town had declined to about 3,700 (see Table 5-1 and Figure 5-1).

5.3 Changes in the Population during the Study Period

The study period for the Nine Mile Point Stations is from 1963 (the year Nine Mile Point Unit 1 was announced) through 1978. Where available, data for 1979 and 1980 will also be presented. Annual population figures and data on the demographic characteristics are largely unavailable. The population figures and data that are most reliable—the decennial census figures—do not correspond with the periods of peak work force on the Nine Mile Point Stations. Ambiguity concerning the inclusion of college students at SUNY-Oswego and uncertainties regarding the accuracy of the intercensal population estimates makes determination of actual population change during the study period problematic. Consequently, the principal focus in this section is on the

TABLE 5-2

NINE MILE POINT STATIONS
COMPONENTS OF POPULATION CHANGE
OSWEGO COUNTY
1950-1977

Time Frame	County Population	Population Changes			Net Migration by Age Group ^a						County Total Population Change
		Births	Deaths	Net Migration	0-14	15-19	20-24	25-44	45-59	60+	
1950-1960	77,181- 86,118			-1,434	767	153	-706	-1,128	-16	-504	8,937
1960-1970	86,118- 100,897	20,408	10,051	4,422 ^b	1,920	1,375	181 ^b	-579 ^b	789	-396	14,779
1965-1970	100,897			3,774 ^c	1,409	1,562	-25	826	-113	-111	—
1970-1977	100,897- 111,500	13,100	7,000	4,600							10,603

^a Age in recent year.

^b Between 1960 and 1970, ages 20-29 had net migration of 82 males and -857 females. Numbers do not add. Age specific figures total 4,443. The age distribution of the extra 26 persons is not known.

^c Gross migration figures were in-migration 18,064 and out-migration 14,290. Between 1965 and 1970, net migration of persons not in military or college was 2,569 (12,511 in; 9,942 out).

Sources: U.S. Bureau of the Census, *Current Population Reports, Population Estimates and Projections*, Series P-25, No. 461, 1971; U.S. Department of Agriculture, Economic Research Service, *Net Migration of the Population, 1950-1960 by Age, Sex, and Color*, Vol. I, Part 1, pp. 43, 48, n.d.; U.S. Department of Agriculture, Economic Research Service, *Net Migration of the Population, 1960-1970 by Age, Sex, and Color*, Part 1, pp. 46, 51, n.d.; U.S. Bureau of the Census, *Current Population Reports, Gross Migration by County: 1965 to 1970*; Series P-25, No. 701, May 1977; U.S. Bureau of the Census, *Current Population Reports, Estimates of the Population of New York Counties and Metropolitan Areas*. Series P-25, July 1972, July 1973, September 1974, February 1976, September 1977, November 1978, and November 1978; U.S. Bureau of the Census, *Current Population Reports*, Series P-26, September 1979.

demographic characteristics of the populations in Oswego County and the Study Area in 1960 and 1970, with discussion of the direction and magnitude of change that is thought to have occurred during the intercensal years.

5.3.1 Population Growth

Limited information is available on the changes in population size during the intercensal period between 1960 and 1970. The population of Oswego County continued its post-war growth during this period, but annual data which would specify the shape of this curve are lacking. Preliminary census data indicate that Oswego County continued to gain population until approximately 1975, when it reached a peak of about 109,650. County population then declined, falling in 1980 to an estimated 107,900. The changes in population size in the county subdivisions between 1960 and 1970 were shown previously (see Table 3-1).

According to United States Census figures, the population of Oswego City declined by about 1,200 between 1960 and 1970; it then rose again by 1975 (to almost the 1960 level) before declining through the end of the decade. Scriba Town showed population trends similar to those of the county, though less pronounced. The town's population increased from 1960 through 1975, then declined to 1970 levels in 1980. The Oswego County population growth between 1950 and 1975 was not due to growth in the Study Area, which actually declined in population between 1950 and 1970 (see Figure 5-1).

5.3.2 Race, Age and Ethnicity

The outstanding demographic characteristics of Oswego County and the Study Area in the 1960s and 1970s were the low percentage of nonwhites, the high percentage of young adults in the population, and the ethnic mix. In both 1960 and 1970, less than 1 percent of the population of all Oswego County, including Oswego City and Scriba Town, was nonwhite. This low percentage of nonwhites was consistent with the demographic history of the area.

In 1950, the median age in Oswego County was about 30.7 years (U.S. Bureau of the Census, 1952:Table 41), and about 31 percent of the total county population was between 20 and 44 years of age. By 1960, this percentage had declined to 29.3, and the median age had fallen to 28.5 years. These figures reflect an increase in both the young (0-19 years) and the elderly (over 64 years) without a proportional increase in those 20-44

years of age (U.S. Bureau of the Census, 1963:34, 89; Cornell University, 1963:11). In 1960, 10.9 percent of the county population was over 64 years of age. By 1970, although the proportion of the population in the 20-44 age category had remained nearly constant at 29.8 percent, the proportion of the population over 64 had declined to 9.4 percent and the median age in the county had declined to 25.0 years (U.S. Bureau of the Census, 1973: Table 35; Oswego County Planning Board, 1977:18).

In Oswego City in 1970, 10.4 percent of the population was over 64 years of age, giving the city a slightly higher proportion of elderly than the county. Almost 20 percent of the city residents were between 19 and 24 years of age in 1970, compared to 10.8 percent in the county as a whole, reflecting the presence of the SUNY-Oswego students. The median age of the city population in 1970 was 23.8 years.

In Scriba Town in 1970, 7.5 percent of the residents were over 64 years of age, a substantially lower percentage than in either Oswego City or Oswego County. The 19-24 age group accounted for 8.2 percent of Scriba Town's population in 1970, well below the Oswego City and Oswego County levels (Oswego County Planning Board, 1977:17). The median age of Scriba Town residents in 1970 was 24.0 years.

These figures reflect a net out-migration of the elderly from both the county and the Study Area, and a net in-migration of young adults to Oswego City and Oswego County. These figures are consistent with the characteristics of the area and the expansion of the SUNY-Oswego college. Despite its location along Lake Ontario, Oswego County was not an area which attracted an in-migrating retirement population.

According to Census figures, the percentage of persons with distinct ethnic identity declined between 1960 and 1970. In 1960, 17 percent of the population of Oswego County were of foreign stock, as defined by the United States Census (U.S. Bureau of the Census, 1963). By 1970, residents of foreign stock had declined to 13.6 percent of the population. In Oswego City, the percentages were considerably higher—23.4 in 1960 and 17.4 in 1970. Scriba Town had fewer residents of foreign stock—9.5 percent in 1970. As shown in Table 5-3, the dominant ethnic group in both Oswego County and Oswego City was Italian. In 1970, about 3,340 persons of direct Italian descent were residents of Oswego County, 1,300 of whom lived in Oswego City. This was about 30.5 percent of all persons of foreign stock in the city at that time. The figures for 1960 were similar. In 1970, Canadians comprised the largest component (32.9

TABLE 5-3

NINE MILE POINT STATIONS
COUNTRY OF ORIGIN OF FOREIGN BORN AND NATIVES OF
FOREIGN OR MIXED PARENTAGE
OSWEGO CITY, SCRIBA TOWN, AND OSWEGO COUNTY
1960 AND 1970

	<u>Oswego City</u>		<u>Scrība Town</u>		<u>Oswego County</u>	
	1960	1970	1960 ^a	1970	1960	1970
Total Population (as reported in 5th Count data)	22,155	23,844	2,489	3,619	86,118	100,897
Total Foreign Stock	5,195	4,155	N/A	343	14,697	13,725
Total Foreign Stock as Percent of Total Population	23.4	17.4	N/A	9.5	17.1	13.6
Percentage Distribution of Foreign Stock						
Italy	30.5	30.5	N/A	15.2	23.2	24.3
Canada	16.9	15.9	N/A	32.9	21.6	20.8
Poland	11.8	11.8	N/A	2.0	11.2	10.8
Germany	10.5	8.4	N/A	16.6	11.2	8.8
United Kingdom	11.6	9.9	N/A	8.7	12.5	10.8
Ireland	8.5	5.3	N/A	4.1	5.3	3.4
Other	10.2	18.2	N/A	20.4	14.9	21.1

^aN/A means not available.

Source: U.S. Bureau of the Census, 1970 Census of Population, Vol. I, Part 34, Section 1, March 1973.

percent) of foreign stock in Scriba Town and were the second largest group in both Oswego City and Oswego County (2,853 in Oswego County). The United Kingdom, Poland, and Germany were the other major countries of origin for residents of foreign stock in Oswego County. Although the number of persons identified as of Irish descent was relatively small (220 in Oswego City in 1970), they had been historically important and their presence was still felt in the community. Neither Oswego County nor Oswego City grew in population between 1970 and 1980. Consequently, although detailed 1980 Census figures were not yet available at the time of the study, it appeared that little change in ethnic composition had occurred during the decade of the 1970s.

5.3.3 Other Demographic Characteristics

Other demographic characteristics of interest to this study include household size, educational attainment, and length of residency.

Between 1960 and 1970, the average household size declined in each of the areas examined. In Oswego County, the average household size in 1960 was 3.45 persons; in 1970 it was 3.31 persons. Oswego City showed a similar decline in household size, from 3.31 in 1960 to 3.05 in 1970. In Scriba Town during this same time frame, the average household size declined from 3.85 to 3.54 persons, but remained above both the city and the county levels. These figures compared to the New York State averages of 3.20 persons per household in 1960 and 3.10 persons in 1970 (U.S. Bureau of the Census, October 1977). Based on preliminary 1980 Census figures, by 1980 the average household size in Oswego County had declined to 2.94, while the average in Oswego City and Scriba Town had fallen to 2.70 and 3.22, respectively. In 1976, the most recent year for which data are available, average household size in New York State was 2.81 persons. (U.S. Bureau of the Census, 1977.)

Educational attainment in Oswego County, Oswego City, and Scriba Town was below the state level in 1970, despite the presence of SUNY-Oswego. The median years of school completed by residents 25 years of age and older was 11.7 for Oswego County, 11.8 for Oswego City, and 11.9 for Scriba Town. The median number of years of school completed by residents of New York State as a whole was 12.1.

The majority of Oswego County residents were natives of New York State (86.5 percent in 1960; 87.9 percent in 1970). In 1960, 85.7 percent of those persons 5 years of age and older had lived in the county at least 5 years; 60.7 percent had lived in the same

house for at least 5 years. By 1970, these figures had declined to 78.1 percent and 58.4 percent, respectively. Oswego City showed greater change during this period: those persons residing in the county for 5 years or more dropped from 85.7 percent of the population in 1960 to 69.2 percent in 1970; those living in the same house for at least 5 years dropped from 62.2 percent to 52.4 percent. The residential patterns of Scrita Town residents showed somewhat greater residential stability. In 1970, 87.6 percent of those over the age of 5 had lived in the county for at least 5 years and 60.6 percent had lived in the same house for at least 5 years. There are few indications that any of these characteristics were significantly altered during the 1970-1980 period although confirmation awaits the 1980 Census data.

5.4 Population Effects due to the Projects

5.4.1 Introduction

The quantitative population effects attributable to the construction and operation of the Nine Mile Point Stations include population changes due to in-migration and diminished out-migration resulting from project employment. Another possibility is that competition for housing, with the resulting increases in housing costs, may have encouraged out-migration and discouraged in-migration.

5.4.2 Population Effects of the Projects

5.4.2.1 Population Change due to In-migration

The project-related population increase from in-migration to the Study Area and Oswego County was composed of "movers" and their accompanying household members. The June 1978 Battelle Survey provided data on the number of movers unaccompanied by families, the number of movers accompanied by families, and the average size of construction work force families (Malhotra and Manninen, 1979; Manninen, personal communication, 1980; Vander Wees, personal communication, September 1980). Utility data on the residential location and mover-nonmover status of operations workers were combined with the 1970 Census data for New York State and the Battelle Survey figures on percent married and average household size to estimate these parameters for the operations workers. For indirect basic and nonbasic workers, the estimate of mover-nonmover-commuter status was based on county employment and commuting data and interviews with local employers. An estimate of the average number of persons accompanying each nonbasic mover was derived from Census data on average household size in New York State (3.10 persons per household in 1970).

Table 5-4 shows the proportion of project-related workers in each of the four categories—nonmovers, movers accompanied by families, movers unaccompanied by families, and daily outside commuters—in the Study Area and Oswego County. This table also shows the average number of accompanying household members for each category and the in-migration factors for each type of work force.

Regarding in-migration, the estimated number of in-migrants to the Study Area for each type of worker ranged from 0.084 for indirect basic and nonbasic workers (who were primarily already local residents or commuters) to 0.543 for regular operations workers (who tended to have the highest percentage of movers accompanied by families).¹ In general, the factors were higher for Oswego County, ranging from 0.124 for indirect basic and nonbasic workers to 1.210 for regular operations workers. The factors for the construction work force were 0.301 in-migrants per worker in the Study Area and 0.424 in Oswego County. These figures were estimated primarily from 1978 data, but interviews and other surveys of workers at the site indicate that these proportions held reasonably constant throughout the study period. (Markham, 1978; union representatives, personal communications, 1980.) They are, therefore, considered the best basis upon which to estimate the magnitude and duration of the demographic effects of the Nine Mile Point Stations throughout the study period.

Applying the appropriate population in-migration factors to the project-related employment data from Chapter 4 (Tables 4-6, 4-8, and 4-10) gives the project-related population in-migration for each year of the study period as shown in Table 5-5. In 1978, for example, this analysis shows that project-related employment was responsible for the in-migration of almost 710 persons to the Study Area and about 1,240 persons to Oswego County.²

¹This means that an operations work force of 100 workers would result in an in-migration of 54 persons to the Study Area (0.543×100) of which 22 would be workers and 32 would be accompanying family members.

²It should be noted that these numbers indicate the total numbers of movers present in a given year, not the number of persons moving in that year.

TABLE 5-4
NINE MILE POINT STATIONS
WORKER DISTRIBUTION AND POPULATION EFFECTS

Worker Type and Category	Study Area				Oswego County			
	Percent of Worker Type	Additional Household Members	Total Population Associated with Each Worker in Study Area	Population In-migration Factor (In-migrants Per Worker)	Percent of Worker Type	Additional Household Members	Total Population Associated with Each Worker in Study Area	Population In-Migration Factor (In-migrants Per Worker)
Construction				0.301				0.424
Nonmovers	30.6	2.7	3.7 ^a		54.8	2.7	3.7 ^a	
Movers-Accompanied by Families	7.0	2.3	3.3 ^a		10.1	2.3	3.3 ^a	
Movers-Unaccompanied by Families	7.0	0.0	1.0		9.1	0.0	1.0	
Daily Long Distance Commuters	55.4	0.0	0.0		26.0	0.0	0.0	
Regular Operations				0.543				1.210
Nonmovers	18.7	2.10	3.05 ^b		37.9	2.31	3.31 ^c	
Movers-Accompanied by Families	15.4	2.10	3.10 ^d		34.3	2.10	3.10 ^d	
Movers-Unaccompanied by Families	6.6	0.0	1.0		14.7	0.0	1.0	
Daily Long Distance Commuters	59.3	0.0	0.0		13.1	0.0	0.0	
Repair-Maintenance-Refuel				0.100				0.142
Nonmovers	34.6	2.7	3.7 ^a		59.8	2.7	3.7 ^a	
Movers-Accompanied by Families	0.0				0.0			
Movers-Unaccompanied by Families	10.0	0.0	1.0		14.2	0.0	1.0	
Daily Long Distance Commuters	55.4	0.0	0.0		26.0	0.0	0.0	
Indirect Basic & Nonbasic				0.084				0.124
Nonmovers	63.3	2.05	3.05 ^b		90.0	2.31	3.31 ^c	
Movers-Accompanied by Families	2.4	2.10	3.10 ^d		3.5	2.10	3.10 ^d	
Movers-Unaccompanied by Families	1.0	0.0	1.0		1.5	0.0	1.0	
Daily Long Distance Commuters	33.3	0.0	0.0		5.0	0.0	0.0	

^a Average household size of construction workers in Battelle survey, (Malhotra and Manninen, 1979:210).

^b Average household size in Oswego City in 1970. (Probably a low estimate due to presence of college students.)

^c Average household size in Oswego County in 1970.

^d Average household size in New York State in 1970—used based on the assumption that movers tend to be relatively young with smaller families and that the percentage of multiworker families would be sufficient to reduce the population effect to this figure. If the average family size (3.3) of accompanied non-construction workers (in construction work force) found in the Battelle Study is used instead, the factor become 0.574 for operations and 0.089 for indirect basic and nonbasic work force in the Study Area, and 1.279 for operations and 0.130 for indirect and nonbasic workers in the county. These higher figures would give an in-migration to the Study Area in 1978 of 724 rather than 708, and to the county of 1,277 rather than 1,242.

Source: Mountain West Research, Inc., 1980.

TABLE 5-5

**NINE MILE POINT STATIONS
ESTIMATED TOTAL IN-MIGRATION DUE TO THE PROJECTS^a
STUDY AREA AND OSWEGO COUNTY
1964-1979**

	Study Area	Oswego County
1964	20	30
1965	60	90
1966	160	230
1967	270	400
1968	280	440
1969	210	350
1970	180	300
1971	440	700
1972	550	880
1973	380	630
1974	280	540
1975	200	420
1976	270	520
1977	810	1,380
1978	710	1,240
1979	900	1,510

^aNumbers rounded to nearest ten.

Source: Mountain West Research, Inc., 1980.

5.4.2.2 Population Change due to Diminished Out-Migration

Workers and their household members who would normally have left to obtain employment elsewhere, but who stayed because they found work in project-related jobs, comprise the second principal component of project-caused population increase in the Study Area and Oswego County. The analysis here focuses on the role of project-related employment in preventing the out-migration of area residents. To estimate the magnitude of this project-induced population effect, the number of nonmovers employed in project-related jobs,¹ the availability of other employment opportunities to the nonmovers during the study period, and the commuting, unemployment, and migration patterns for Oswego County and the Study Area were examined.

Except for a few years in the early 1970s, the population of the Study Area declined throughout the study period while the population of Oswego County increased substantially. There were three principal reasons for the lack of population growth in the Study Area² and particularly in Oswego City during these years: (1) lack of available space for expansion of housing in Oswego City, (2) comparatively high housing costs in Oswego City, and (3) amenity moves to more rural areas.³ None of these factors substantially affected the analysis of employment-related residential retention.⁴ Since the principal factor in the analysis was employment-related retention, the absence of the project-related jobs would have affected nonmovers in both the Study Area and Oswego County in a similar manner. Because much better data existed at the county level than at the Study Area level, the analysis of project-related reduced out-migration focused on

¹The number of nonmovers among the project-related employees was calculated based on the distribution of nonmovers among the different types of workers. The number of nonmovers in the Study Area (place of residence) was 20 in 1964; 390 in 1967; 740 in 1972; and 840 in 1978. In Oswego County the number of nonmovers was approximately 50 in 1964; 800 in 1967; 1,540 in 1972; and 1,800 in 1978.

²The population of Scriba Town (one of the rural "peripheries") did increase during the study period, but this increase was overwhelmed by the trends in Oswego City.

³The population growth in Oswego County was exclusively in the towns and villages (see Table 3-1).

⁴This was the consensus of local residents who were questioned concerning population and housing patterns. There is an indication, however, that the combined pressure on housing resulting from the project and the college may have affected housing costs and thus could have encouraged increased out-migration and prevented some in-migration. These effects are considered in the next section.

the county, with the results then applied to the Study Area nonmover employment estimates.

In 1970, nonmovers were employed in approximately 510 project-related jobs in Oswego County. These jobs accounted for 1.9 percent of total nonproject-related employment in Oswego County (by place of work) and 1.7 percent of the total nonproject-related jobs held by workers residing in Oswego County (by place of residence). In 1972, the number of jobs held by nonmovers had increased in number to about 1,540 and, by 1978, had increased to about 1,800 (5.8 percent of total non-project-related employment and 4.0 percent of non-project-related jobs held by workers residing in Oswego County).

The first step in the analysis was to account for dominant commuting and unemployment patterns of the local labor force to determine whether local residents who became unemployed were likely to leave the county. Throughout the study period, approximately 30 percent of the employed persons residing in Oswego County were commuting outside the county for work, and approximately 9 percent of the labor force was unemployed. In 1970, assuming that a similar pattern would have been followed by the county residents had they not obtained project-related employment, about 150 of the 510 nonmovers would have commuted out of the county for work (while still remaining residents of the county) and about 50 would have been unemployed.

The next step was to account for the migration patterns to determine whether local residents who were unemployed could have obtained jobs that were filled by in-migrants. In 1970, the county experienced non-project-related in-migration of an estimated 1,500 (total migration minus project-related migration), of which approximately 610 were workers.¹ About two-thirds (410) of these in-migrants held jobs in Oswego County. In the absence of the project, local residents with project-related employment would have been competitive for about one-third or 136 of those jobs.

¹Assuming national labor force participation rates prevailed among the in-migrants. The national average labor force participation rate in 1970 was 40.6 percent of the total population, which gives 610 jobs (1,503 x 0.406).

From this analysis, it appears that approximately 330 of the 510 nonmovers would have remained in the county even in the absence of the project.

Considering the other economic activity occurring in the county during the study period, it appeared realistic to assume that no other substantial project-related adjustments in the employment or labor force affected the employment of nonmovers. Taking into account the relatively small percentage of the county labor force affected by the project and other pertinent data,¹ it was estimated that the remaining 180 workers would have out-migrated in the absence of the project. This was 34 percent of the total 510 nonmovers employed in project-related jobs in 1970.

A similar analysis for 1972 (when 1,540 nonmovers held project-related jobs) gave an estimate that 920 nonmovers (59.8 percent) would have out-migrated by 1972 in the absence of the project. By 1978, when the entire county was experiencing net out-migration, the number of nonmovers who would have left in the absence of the project was estimated at 1,100 (61 percent) of the total 1,800 nonmovers employed in project-related jobs in that year.

To estimate the total population effects of the diminished out-migration of these workers, the average for persons-per-worker (2.43) for New York State was applied to the total number of nonmover workers estimated to have stayed in the county because of the Nine Mile Point projects (U.S. Bureau of the Census, 1972). As shown in Table 5-6, the estimated increase in the Oswego County population due to employment related to the Nine Mile Point Stations was 669 persons in 1967; 2,236 in 1972; and over 3,000 between 1977 and 1979.

¹There is little evidence that the project-related employment had a measurable effect on the labor force participation rates in the county. County labor force participation rates increased from 83 percent of the national rate in 1970 to 101 percent of the national rate in 1978 (see Table 4-4) on a total population basis. However, when only those persons aged 16 and older are considered, and the persons enrolled in college are removed from the population base, the labor force participation rate of females in Oswego County shows no gain relative to that of the United States (U.S. Bureau of the Census, 1972 and 1973). It is possible that the absence of project-related employment would have inhibited the labor force participation of some nonmovers who would then have remained as non-labor-force participant residents of the county. Due to a lack of available data, it was not possible to estimate the magnitude of this effect but it does not appear to have been an important factor.

TABLE 5-6

NINE MILE POINT STATIONS
ESTIMATED POPULATION INCREASE DUE TO DIMINISHED OUT-MIGRATION
STUDY AREA AND OSWEGO COUNTY
1964-1979

	Study Area ^a			Oswego County ^a		
	Project-Related Workers (nonmovers)	Reduced Out-migration Workers ^c	Total Population ^d	Project-Related Workers (nonmovers)	Reduced ^b Out-migration Workers	Total Population ^c
1964	20	10	20	50	20	40
1965	80	30	70	170	60	140
1966	210	70	180	440	150	370
1967	390	130	320	800	280	670
1968	370	130	310	780	270	650
1969	260	90	220	540	190	450
1970	250	80	210	510	180	430
1971	610	290	700	1,260	600	1,450
1972	740	440	1,070	1,540	920	2,240
1973	490	260	630	1,020	550	1,320
1974	290	180	430	630	390	930
1975	170	90	210	390	190	470
1976	250	120	300	540	280	670
1977	1,010	620	1,500	2,140	1,310	3,170
1978 ^e	840	520	1,500 ^e	1,800	1,100	3,170 ^e
1979	1,140	700	1,690	2,410	1,470	3,570

^aNumbers rounded to nearest ten.

^bEstimates for 1964 to 1970 are based on 1970 calculation since migration data were not available, rate of population growth was comparable, and number of nonmovers was similar.

^cAssumes that if nonmovers are moving for lack of employment reasons they will move out of the county, and that the county percentages therefore hold for the Study Area (see text).

^dBased on the 1970 New York State nonworkers-to-workers ratio of 1.43 (county figure of 1.73 is artificially high because of the college students). (Source: U.S. Bureau of the Census, Statistical Abstract of the United States, 1972.)

^eIn 1978, the three month strike lowered the average annual employment figures. However, union officials and local residents indicated that very few of the local residents employed on the project, including those who had moved with their families into the area, moved out of the area during this period (although workers worked elsewhere and commuted on a weekly basis). Rather than adjust both in-migration and diminished out-migration figures, the adjustment has been made here to account for both (i.e., number of people present was greater than estimated by the annual average number of workers employed). Based solely on annual average work force and income data, the 1978 population estimate was 1,250 in the Study Area and 2,670 in Oswego County.

Source: Mountain West Research, Inc., 1980.

The percentages derived from this analysis were applied to the number of nonmovers in the Study Area. The number of nonmovers estimated to have remained as residents of the Study Area due to project-related employment ranged from 10 in 1964, to 440 in 1972, to 700 in 1979 (see Table 5-6). Assuming a worker-to-nonworker relationship similar to that utilized in the analysis for the county (2.43 persons per worker), the total population effect in the Study Area due to diminished out-migration reached peaks of 320 persons in 1967; 1,070 persons in 1972; and 1,690 persons in 1979.

5.4.2.3 Population Change due to Housing Constraints

By contributing to increased housing costs and reduced housing availability, the project may have reduced in-migration to the Study Area and increased out-migration from the Study Area. These factors may have been discouraged non-project-related persons from moving into the Study Area or prompted them to move out of the Study Area.¹

It was consistently noted by both Study Area residents and housing officials, and confirmed by examination of advertisements for housing, that the availability of housing greatly decreased and the cost of housing substantially increased during the late 1960s and the early 1970s. This effect was primarily attributed to the increased housing demand generated by the presence of SUNY-Oswego students for whom dormitory space was not available. (Sullivan, personal communication, December 1980; LaPatino, personal communication, July, 1980.) However, the simultaneous increase in demand due to the presence of Nine Mile Point project-related workers as well as workers on other projects was also identified as a contributing factor.

Quantification of the effects of the Nine Mile Point plants on Study Area housing was not possible due to the lack of data concerning: (1) the relative importance of housing costs on decisions either to move out of the city or to not move into the city, and (2) the number of persons who made such decisions. However, some perspective on the role of the project in this process can be provided. According to the earlier analysis, it was estimated that, in 1967 for example, about 510 project-related workers sought housing in the area. This was about 34 percent of the combined housing demand of

¹No similar effect appears to have occurred in Oswego County as a whole, so this analysis is not pursued at the county level.

project-related workers and college students, and perhaps 15-20 percent of the total demand from expanding basic economic activities at that time.¹ This meant that the project contributed a moderate proportion of the increased demand. To the extent that housing effects due to the Nine Mile Point Stations significantly increased out-migration or reduced in-migration into the Study Area, the effects of the project calculated in Sections 5.4.2.1 and 5.4.2.2 will to be overstated.

5.4.2.4 Magnitude of the Total Population Effects during the Study Period

The quantifiable population effects of the project are the sum of the increases due to in-migration and diminished out-migration. These figures are shown in Table 5-7 for each year of the study period. To give an indication of the relationship between estimated population increase and total direct basic employment on the project, the table also includes the ratio of estimated population increase to direct basic work force for each year and the ratio of estimated population increase to total population.

The estimated project-related population increases in the Study Area were: 40 persons in 1964; 590 persons in 1967; 1,620 persons in 1972; and about 1,500 persons in 1978. The increases were higher for Oswego County: 70 in 1964; 1,070 in 1967; 3,120 in 1972; and 4,410 in 1978. In the years for which Census estimates of the population were available, project-related population accounted for 1.6 percent of the total Study Area population in 1970; 4.0 percent in 1973; and 9.0 percent in 1977. In Oswego County, the project-related population was less important. Of the total population, the project-related population accounted for 0.7 percent in 1970; 2.9 percent in 1972; 1.8 percent in 1973; and 4.1 percent in 1977.

According to these estimates, the project-related population increased as a proportion of the direct basic work force during the course of the projects. In the Study Area, the estimated project-related population rose from about 0.67 of the direct basic work force in the years prior to the peak of NMP-1 (1964-1966); to about 0.71 of the work force at the peak of NMP-1; 0.99 at the peak of FitzPatrick (1972); and 1.01 during the highest employment period of NMP-2 (1972-1979). In Oswego County, the trend was similar although the numbers were higher, starting at 1.19 in 1964 and rising to 1.28 in

¹About 1,000 of the college staff and 300 workers at the Oswego steam plants plus Alcan workers and executives, etc.

TABLE 5-7
NINE MILE POINT STATIONS
POPULATION EFFECTS OF THE PROJECTS^a
1964-1979

	Study Area					Oswego County				
	In-migration	Diminished Out-migration	Total	Percent of Direct Basic Work Force	Percent of Total Population ^b	In-migration	Diminished Out-migration	Total	Percent of Direct Basic Work Force	Percent of Total Population ^b
1964	20	20	40	66.7	0.2	30	40	70	119.3	0.1
1965	60	70	130	66.8	0.5	90	140	240	118.1	0.2
1966	160	180	340	68.0	1.4	230	370	600	121.2	0.6
1967	270	320	590	70.8	2.4	400	670	1,070	127.8	1.1
1968	280	310	590	70.2	2.4	440	550	1,090	130.3	1.1
1969	210	220	430	71.6	1.7	350	450	800	134.4	0.8
1970	180	210	380	68.8	1.6	300	430	730	131.4	0.7
1971	440	700	1,140	84.8	4.6	700	1,450	2,150	159.5	2.1
1972	550	1,070	1,620	99.0	6.4	880	2,240	3,120	190.4	2.9
1973	380	630	1,010	92.2	4.0	630	1,320	1,950	177.9	1.8
1974	280	430	720	100.4	2.8	540	930	1,470	205.8	1.4
1975	200	210	410	89.7	1.6	420	470	890	195.8	0.8
1976	270	300	570	91.6	2.2	520	670	1,200	192.7	1.1
1977	810	1,500	2,310	101.0	9.0	1,380	3,170	4,550	198.7	4.1
1978 ^c	710	1,500	2,210	—	8.9	1,240	3,170	4,410	—	4.0
1979	900	1,690	2,590	100.5	10.7	1,510	3,570	5,080	197.3	4.7

^aExcept for percentages, numbers have been rounded to nearest ten.

^bTotal population data for intercensal years estimated as shown in Table 5-1.

^cProject-related population in 1978 was adjusted for the effect of the three month strike.

Source: Mountain West Research, Inc., 1980.

1967; 1.90 in 1972; and 1.99 in 1977.¹ The population effects of the project were driven in large part by the construction workers and their income and, therefore, fluctuated as the construction work forces of NMP-1, FitzPatrick, and NMP-2 peaked in 1967, 1972, and 1977-1978, and declined in 1970 and 1975.

This analysis demonstrates that the numeric population effects of the projects on the Study Area and Oswego County were relatively small, and that they built up gradually and cyclically from 1964 to peak in 1977-1978. The overall population trends in both the Study Area and Oswego County do not appear to have been heavily influenced by the projects. The population effects of the projects were moderated by the large, skilled labor pool that was within commuting distance and by the density of settlement in the region that dispersed project-related population among a number of communities.

Of particular importance to the social effects of the project and to the public's response to it was the very high proportion of the overall population effects that resulted from diminished out-migration. This enabled a substantial number of area residents to stay in the area, and reduced the disruptive effects of migration.

5.4.2.5 Characteristics of the Project-related Population

Data from the 1978 Battelle Survey² provided information on some of the demographic characteristics of the construction work force at NMP-2. A special tabulation of these data was made to provide basic information concerning the workers residing in the Study Area. It should be noted that these data, shown in Table 5-8, characterize the work force rather than the entire associated population, and that the data for the total work force sample included workers residing outside the study region.³

The vast majority of the construction work force was male, although 53 percent of the nonmovers employed in nonconstruction jobs were female. Almost no females held construction type (i.e., craft) jobs. A large majority of the workers were married.

¹The year 1974 is an anomaly—the proportion is higher in 1974 than in the peak period in 1972.

²The survey obtained an 88.4 percent response rate.

³It does not appear that any substantial differences would be shown by data for only workers residing within Oswego County.

TABLE 5-8
NINE MILE POINT STATIONS
DEMOGRAPHIC CHARACTERISTICS OF THE CONSTRUCTION PHASE WORK FORCE
1978

Characteristic	Total Work Force Sample ^a						Sample Residing in Study Area ^c
	Nonmovers ^b			Movers ^b			
	Overall	Construction	Nonconstruction	Overall	Construction	Nonconstruction	
Percent Male	88.8	99.1	47.0	97.4	100.0	95.5	88.4
Percent Married	76.2	81.2	54.5	69.9	70.4	69.4	69.4
Average Family Size for Workers with Family Present	3.7	3.8	3.3	3.3	3.3	3.3	N/A
Average Number of School-Age Children for Workers with Family Present	1.4	1.4	1.0	0.9	0.8	0.9	N/A
Average Age	36.6	38.4	29.2	36.0	37.7	34.7	N/A
Average Number of Years of School Completed	12.1	11.8	13.4	13.4	11.9	14.5	N/A
Average Number of Moves in Last Five Years	0.3	0.3	0.2	2.5	3.2	2.0	N/A
Proportion of Workers Belonging to a Union	82.5	99.1	10.9	49.3	100.0	7.8	N/A
Average Years of Union Membership in Locals with Jurisdiction Over Project (union members only)	10.3	10.2	12.2 ^d	6.8	7.0	4.7 ^d	N/A

^aResults of the Battelle survey administered to entire construction phase work force in June 1978. Response rate was 88.4 percent.

^bThe work force was composed of 30.6 percent nonmovers and 14.0 percent movers.

^cN/A means not available.

^dSmall sample, based on fewer than 30 observations.

Source: Malhotra and Manninen, Socioeconomic Impact Assessments: Profile Analysis of Worker Surveys Conducted at Nuclear Power Plant Construction Sites, pp. 205-228, 1979.

Nonmovers holding nonconstruction jobs reported the lowest incidence of marriage (54.5 percent); nonmovers holding construction jobs who reported the highest (81.2 percent). Of the four categories of workers, nonmovers holding construction jobs also had the largest average family size (3.8), the greatest number of school-age children (1.4), and the highest average age (38.4).

In 1970, the educational attainment of project-related workers was slightly higher than that of the county, with movers holding nonconstruction jobs possessing the highest average educational level (14.5 years).

As expected on a union job, virtually all of the workers holding construction jobs were members of a union. Not surprisingly, nonmovers showed the longest membership (10.3 years overall) in the local union.

Interviews with union business agents, project employees/families, and area residents indicated that the local people were accepting of the construction work force (workers plus their families), and that the construction worker families did not manifest any particular characteristics that made them distinctive or noticeable, aside from their occupation and, potentially, their transient status. (Guinta, personal communication, July 1980; Thorpe, personal communication, July 1980; Weiss, personal communication, December 1980).

No equivalent data were available for the operations work force. Analysis of the 1978 employee roster indicated that females comprised a higher percentage (11.4 percent) of operations workers than of construction workers (Patrick, personal communication, October 1980). The indirect basic and nonbasic workers and associated population are thought to have been similar in demographic characteristics to the average country resident.

These data indicate that little change could have occurred in the demographic characteristics of the Study Area/Oswego County population as a result of the Nine Mile Point Stations.

CHAPTER 6: SETTLEMENT PATTERNS AND HOUSING

6.1 Introduction

The purpose of Chapter 6 is to identify the effects of the Nine Mile Point Stations on settlement patterns and housing in the Study Area and Oswego County. In this chapter, the historical trends are examined, with particular attention to the changes that took place during the study period, 1963-1979. Based upon the analyses made in the preceding chapters, estimates are made of the Nine Mile Point Stations' effects on the housing stock in terms of new construction, upgrading or conversion of existing units, and increased use of mobile homes or apartments. The effects of the projects on the cost and availability of housing are examined, utilizing key informant interviews and available secondary data. The chapter concludes with a summary of project-related effects on the settlement patterns and housing in the Study Area and Oswego County.

6.2 Settlement Patterns

The settlement patterns in Oswego County and the Study Area were influenced by a number of factors, the most important of which were geographic location, transportation routes/facilities, climate, soil conditions, New York State policies, and historical, social and economic trends. As discussed previously, Oswego County, Oswego City, and Scriba Town are located on the southern shore of Lake Ontario in central upstate New York. Oswego City is bisected by the Oswego River which links Lake Ontario and the St. Lawrence Seaway with the New York State barge canal system. A portion of the southern border of Oswego County is formed by Lake Oneida and the Oneida River. Other major bodies of water in the county include the Salmon River and the Salmon River Reservoir in the northeastern quadrant of the county, and North Pond in the northern portion of the county along Lake Ontario.

Oswego County

The transportation routes provided by the Oswego and Oneida Rivers and the Great Lakes/St. Lawrence Seaway were among the most influential factors in the development of the county. Both industrial centers in the county (Oswego City and Fulton) developed along the Oswego River. The effect of the rise and decline of water transport on the economy and organization of the county were discussed in Chapter 4. Oswego City and Fulton became established as the population and commercial centers of the county, largely because of their strategic positions along the developing transportation system, which also served to attract industry. Oswego developed as the

county seat and trade center of the western portion of the county. Minor commercial developments were scattered throughout the county to serve the dispersed agricultural population. This pattern persisted through the middle of the twentieth century.

From the mid-1900s to the time of the study, residential and industrial growth in the county occurred primarily outside the two urban centers, in neighboring towns and villages. Despite this shift, residential, commercial, industrial, and governmental activities remained concentrated in the Oswego City/Fulton urban areas, and along the transportation corridor to Syracuse. The state's decision to expand the teacher's college in Oswego City/Oswego Town as part of the state university system further served to enhance the influence of the city as a residential and cultural center of the county.

The remainder of the county was indirectly affected by the transportation systems and passed successively through periods of lumbering, grain production, dairy farming, and truck farming before reverting to natural forest during the nineteenth and twentieth centuries. The swampy and relatively poor soil conditions¹ of the area made intensive agriculture noncompetitive, although truck farming remained a significant economic activity well into the 1900s, especially in the southeastern portion of the county. Soil characteristics and transportation routes favored economic development and settlement in the western half of the county. With poor soils, limited natural resources, few transportation links, and an even more severe snowfall (averaging 200 inches per year) than the western portion of the county, the eastern portion, known as the Tug Hill region, remained sparsely settled and largely rural. (Oswego County Planning Board, 1977:7.)

The location of Syracuse, Rome, Utica, and Rochester (the major metropolitan centers of the region) also influenced the transportation and settlement patterns in Oswego County. The major north-south roads radiated from Syracuse. The most prominent of these roads at the time of the study were I-81 and I-481. Oswego County was bisected by I-81 which connected Syracuse and the New York throughway with Oswego County, Jefferson County, and Canada. Syracuse was connected to Fulton by I-481 and, indirectly, to Oswego City (see Figure 3-1). The greatest density of

¹Oswego County contains half of central New York's wetland acreage. The largest swamps lie between I-81 and the Oswego River (Oswego County Planning Board, 1977:8).

population, economic activity, and transportation routes developed in the triangle between I-481, I-81, and Lake Ontario. New York Highway 104 (NY-104), which ran from Rochester through Oswego City and down to Rome and Utica, was once a major transportation link, but it had been superceded by the interstate highways during the early 1950s.

The outcome of these forces was shown in the resulting pattern of land use. Oswego County was originally heavily forested but much of the forest was cleared as farms were established throughout the county. During the middle of the twentieth century, as many of the farm operations became unprofitable, cultivation was abandoned and the land was taken over by second-growth trees and brush. In 1969, this type of second-growth covered about 50 percent of the land area of the county while farming and dairying utilized approximately 26 percent of the total. (Bureau of the Census, 1972:273.) The results of a land use inventory completed in 1969, shown in Table 6-1, highlight the extent of this second-growth "vacant" land. In 1969, almost 75 percent of the 968 square-miles of land area in the county was made up of forests, wetlands, or residual vacant land. An additional 16 percent was utilized for agriculture and forestry. Water comprised another 6.7 percent of the total area. (New York State Office of Planning Services, 1969 in Oswego County Planning Board, 1977:12-13.) This pattern of land use did not change drastically during the study period. Although much of the new residential and industrial development was located in small towns or rural areas rather than in the established urban areas, this had only a modest effect on the amount of open space and on the overall pattern of population density in the county.

The Study Area

Oswego City was originally established as a strategic military outpost at the confluence of the Oswego River and Lake Ontario. Commercial and industrial activities, initially clustered near the Lake Ontario harbor and along the Oswego River close to transportation, water, and power, expanded along the shoreline, with the result that only a limited portion of the Lake Ontario shoreline was retained for residential or recreational use. As a result of the flow of immigrants into Oswego, distinct ethnic neighborhoods emerged. These ethnic neighborhoods prevailed until World War II when their importance began to decline. The conversion of the teacher's college into SUNY-Oswego in the northwestern corner of the city (which affected land use, neighborhoods,

TABLE 6-1

NINE MILE POINT STATIONS
 LAND USE INVENTORY
 OSWEGO COUNTY, NEW YORK
 1969

Land Use Category ^a	Percentage of Total County Area
High Density Residential	0.4
Low Density Residential	1.2
Public and Semi-Public	0.4
Commercial	0.1
Industrial	0.5
Transportation and Utilities	0.6
Agriculture and Forestry	16.2
Other	73.7
Water	6.7
Outdoor Recreation	0.2
TOTAL	100.0

^aCategory Definitions

High Density Residential: Lot sizes of 6,000 square feet or less, or the occurrence of 15 or more housing units per 1,000 linear feet of road frontage.

Low Density Residential: Lot sizes of 6,000 to 40,000 square feet, or the occurrence of 5 to 14 housing units per 1,000 linear feet of road frontage.

Public and Semi-Public: All public and private governmental and institutional land uses not included in any of the other categories.

Commercial: Areas of intensive retail trade and services.

Industrial: Areas utilized for intensive industrial activity.

Transportation and Utilities: Areas utilized for highways, railways, airports, canals (actively used), and marine shipping; facilities for communications, long-distance transmission of gas, oil, water, and electric power; and power production facilities.

Agriculture and Forestry: All types of agricultural uses, except inactive.

Other: Forest, wetlands, residual vacant land (inactive agricultural land, other inactive land, land under construction, sand, and rockland).

Water: Natural and artificial ponds, lakes, constructed reservoirs of over one acre in size, and stream and river segments of over 120 feet in average width.

Outdoor Recreation: Public and private outdoor recreational uses.

Source: Oswego County Planning Board, 1977, Oswego County Data, pp. 12-13 (based on Land Use and Natural Resources Inventory, New York State Office of Planning Services)

and traffic patterns) the expansion of the Oswego steam stations¹ (first established in the western half of the city in the late 1930s), and the urban renewal programs (which transformed a portion of the main downtown arterial) demonstrated the continuing influence of historical patterns on the spatial patterns of the city.

The principal force influencing the settlement patterns in Scriba Town during the study period was the shift from an established agricultural base to an emerging industrial and residential base. In response to the pattern of residential farms with a widely scattered population, the town had developed small agricultural/social service centers at main crossroads (North and South Scriba and Lycoming). As decreased transportation costs and increased competition forced the population to shift away from an agricultural base and allowed greater mobility, these small centers lost much of their functional purpose and declined in importance.

The national trends of movement from urban to rural areas and the increased use of mobile homes were felt in Scriba Town as a result of spillover from Oswego City and Fulton as well as from local industrial development along Lake Ontario (Alcan and the Nine Mile Point Stations). These changes increased the population of Scriba Town, particularly the population living in mobile homes and apartments. The area most affected was that closest to Oswego City and Fulton, especially the west-central portion of the town. Mobile home development occurred throughout Scriba Town, but was most concentrated in the western portion near the limited areas served by municipal services (particularly water). The resultant settlement and land use patterns were affected by the town's lack of zoning regulations and a state law which allowed up to 3 mobile homes per lot with no license requirements. Consequently, much of this increase in residential development was located in dense clusters of mobile home parks and subdivisions, or scattered among existing rural residential properties (Jones, personal communication, July 1980; Donahue, personal communication, July 1980).

¹By 1979, six fossil-fueled steam generating stations, which were operated and primarily owned by Niagara Mohawk, were located in Oswego City. The units originally burned coal, but were converted to oil in 1974 under government pressure. The first of these units was constructed in 1937-38. (Niagara Mohawk, 1978; White, personal communication, December 1980.)

6.3 Housing

6.3.1 Housing Stock Characteristics and Changes during the Study Period

Because records were not maintained on housing construction or conversion, information is severely limited concerning the housing stock in the Study Area and Oswego County and the changes that occurred during the study period. A number of factors influenced the housing characteristics of the Study Area and Oswego County, many of which were unrelated to the Nine Mile Point Stations. The expansion of educational facilities and the growth of economic opportunities in Oswego City and the county resulted in a degree of population growth and housing demand not experienced since the mid-1800s. Although the university constructed on-campus housing facilities for the majority of its students, there were approximately 2,000 students in addition to the university faculty/staff and others who sought housing in the area in the late 1960s and 1970s. This increased demand, much of it for rental housing, created pressure on the housing market which resulted in low vacancy rates, shortages, and increased costs.

During the 1970s in particular, the rising cost of energy severely affected the maintenance costs of many of the large, old, single-family homes which were characteristic of Oswego County. These energy costs, combined with the increased demand for housing, resulted in an increasing number of large, single-family units being purchased and converted into apartment buildings, especially in Oswego City. This practice caused a disruption of neighborhood patterns as well as parking congestion. (LaPatino, personal communication, July 1980; Sullivan, personal communications, July and December, 1980.)

In response to rising housing costs, including taxes, the county experienced an accelerated growth of mobile home units during the 1960s and 1970s. Oswego City did not allow mobile home parks, but the prevalence of mobile homes increased dramatically in Scriba Town and throughout much of Oswego County. While many of these mobile homes were located in parks, there was also a substantial increase in the incidence of low-density mobile home development, notably in Scriba Town.¹ According to planning

¹As mentioned previously, state laws required the acquisition of a health certificate when more than three mobile home units were located on one property.

officials and local residents, a wide spectrum of the population was residing in mobile homes in Scriba Town, many of whom were permanent residents (Aldritch, personal communication, December 1980; Hutchinson, personal communications, July, August, and December 1980; LaPatino, personal communication, July 1980; Weiss, personal communication, December 1980).

In the 1960s and 1970s, Oswego County, including Oswego City, received federal funds for urban renewal and housing programs. Much of the emphasis on housing went into the provision of low income housing for the elderly. Despite efforts to disperse these programs throughout the county, most of the units were located in the urban centers (Watson, personal communication, December 1980; Guinta, personal communication, August 1980; Thorpe, personal communication, August 1980).

Table 6-2 shows Census data on selected housing characteristics in Oswego City, Scriba Town, and Oswego County. According to these figures, by 1970 mobile homes accounted for 15.3 percent of the year-round housing units in Scriba Town, compared to about 9.8 percent in Oswego County as a whole and less than 1 percent in Oswego City. In 1970, Scriba Town also showed a higher percentage of substandard units (17.6) than did Oswego City (8.0 percent) or Oswego County (11.2 percent), a characteristic consistent with national urban-rural patterns.

Table 6-3 shows the available data on new housing construction during the study period. As previously indicated, no data are available on Scriba Town and, because of the incomplete reporting of some areas, the Oswego County data are estimated. It is particularly unfortunate that the pattern of housing response is not available for Scriba Town, given its proximity to the Nine Mile Point Stations and the interest in determining the effect of the project on housing in an uncontrolled locale.

The data in Table 6-3 show a disproportionate growth in multiple-unit compared to single-unit structures in Oswego City, a pattern not demonstrated in the county data. According to these data, single-unit structures declined from 67.4 percent of the total year-round units in Oswego City in 1970 to 63.6 percent in 1975, while total year-round

TABLE 6-2
NINE MILE POINT STATIONS
SELECTED HOUSING CHARACTERISTICS^a
STUDY AREA AND OSWEGO COUNTY
1960 AND 1970

	Oswego City		Scriba Town		Oswego County	
	1960	1970	1960	1970	1960	1970
Population	22,155	23,844 ^b	2,489	3,619 ^c	86,118	100,897
All Housing Units		6,879	1,179		28,324	32,857
Year Round Units		6,866	1,164		—	30,926
Occupied Units		6,590	1,021		24,323	29,179
Owner Occupied		4,348	890		18,496	22,219
Renter Occupied		2,242	131		5,827	6,960
For Sale		16	7		215	580
For Rent		83	9		374	—
Median persons/ occupied unit		2.55	3.3		3.1	3.3
Units with roomers/ boarders		193	15		—	N/A
Median Value (owner occupied)		\$11,530	\$14,000		\$8,700	\$12,600
Median Rent (contract rent)		\$83.50	\$78.00		\$52.00	\$78.00
Elderly (65+)		1,519	174		—	5,774
Number of Units in Structure (Year- Round Units) (includes mobile home)						
1		4,647		1,148	23,965	24,899
2		968		34	2,576	3,112
3 - 4		523		—	976	1,447
5 - 49		724		—	810	1,468
50 or more		6		—	N/A	—
Substandard Units		547		207	N/A	3,455
Mobile Homes		N/A		178	N/A	3,037 ^d
Occupied Mobile Homes		19		142		2,334

^aHousing data were not available for 1960 for both Oswego City and Scriba Town. Other data not available are indicated by N/A

^bOriginal 1970 federal census estimate upon which all figures are based. Estimate was subsequently lowered to 23,836; persons in households in census numbered 20,082.

^cOriginal 1970 federal census estimate upon which all figures are based. Estimate was subsequently lowered to 3,609.

^dHousing survey cites 3,668 as a revised estimate. This is 11.2 percent of total year-round units.

Source: U.S. Department of Commerce, Bureau of the Census, 1960 Census of Population and Housing, Census Tracts, Syracuse SMSA, 1963; U.S. Department of Commerce, Bureau of the Census, 1970 Census of Population and Housing, Census Tracts, Syracuse SMSA, 1973; Oswego County Planning Board, Oswego County Data, 1977; Central New York Regional Planning and Development Board, Regional Housing Plan, Appendices, 1977.

TABLE 6-3

NINE MILE POINT STATIONS
ESTIMATED NEW HOUSING UNITS (BASED ON BUILDING PERMITS)
OSWEGO CITY, SCRIBA TOWN, AND OSWEGO COUNTY
1963-1979

	Oswego City			Scriba Town	Oswego County ^c		
	Single ^a Unit	Multi- Unit	TOTAL ^b	(break down was not available) TOTAL	Single ^a Unit	Multi- Unit	TOTAL
1963	21	4	25		N/A	N/A	N/A
1964	17	36	53		N/A	N/A	N/A
1965	22	6	28		142	8	150
1966	34	26	60	263	109	130	239
1967	3	36	39		62	38	100
1968	11	64	75		45	64	109
1969	3	—	3	46	48	10	58
1970	15	2	17		55	4	59
1971	27	11	54	245	129	28	157
1972	20	48	68		193	138	331
1973	20	208	228		184	445	629
1974	18	122	140		208	170	378
1975	20	4	24		165	138	303
1976	19	21	40		196	102	298
1977	16	2	18		203	177	380
1978	16	4	20		158	11	169
1979	12	4	16		128	10	138

^aDoes not include mobile homes.

^bThe 1970 Federal Census indicated an average of 70 units/year had been built during the 1965-1968 period (a total of 280 units). This is 40 percent more than were reported in the building permits.

^cFigures are estimated.

N/A means not available.

Sources: Oswego County Planning Board, 1977, *Oswego County Data*, p. 63; City of Oswego, 1963-1977, Building Permit Records' (New York State Division of Housing and Community Renewal), Bob Maichin, personal communication, November 1980.

housing stock increased by 7.7 percent.¹ Over the 1970-1975 period, in Oswego County the estimated number of year-round housing units increased by 8.2 percent, while the proportion of single-unit structures declined from 72.1 percent to 68.0 percent. In the county, mobile homes were shown to have increased by about 1,330 units, from 7.6 percent of the total year-round housing stock to 11.0 percent. All available indications are that the major housing response in Scriba Town was in the form of mobile homes and apartments, with proportionately fewer single-family units being constructed (Aldritch, personal communication, December 1980; Church, personal communication, July 1980).

6.3.2 Effects of the Nine Mile Point Stations on Housing in the Study Area and Oswego County

6.3.2.1 Project-Related Demand for Housing

The analysis of the effects of the Nine Mile Point Stations on housing in the Study Area and Oswego County focuses on three aspects: (1) the size of the housing stock; (2) the characteristics of the housing stock including changes in housing mix and quality; and (3) the housing market in terms of cost and availability of housing units.

The initial step in this analysis is to determine the demand for housing created by the Nine Mile Point Stations and the distribution among housing types. From this, the importance of the project for each of the three aspects of housing is evaluated. There is no solid empirical evidence regarding the construction of housing units in Scriba Town or Oswego County, nor is there any post-1972 data concerning housing mix or quality. Because of this lack of data, consideration of the relative importance of the project-related changes is primarily qualitative, focusing on the relationship between project-related effects and overall housing stock characteristics and trends.

Number of Units

Increased demand for housing was created by the project through the in-migration of workers and their accompanying household members and through the retention of local residents (reduced out-migration)—effects which have been estimated in Chapters 4 and 5. The annual project-related demand for housing shown in Table 6-4 was based on: (1) data from the Battelle and Markham surveys regarding family accompaniment

¹In 1975, Oswego City housing included 4,705 single-units, 2,626 multi-units, and 62 mobile homes, for a total of 7,393 units. In Oswego County there were 22,690 single-units, 7,010 multi-units, and 3,668 mobile homes, for a total of 33,368 units.

TABLE 6-4

NINE MILE POINT STATIONS
 ESTIMATED PROJECT-RELATED HOUSING DEMAND^a
 STUDY AREA AND OSWEGO COUNTY
 (Number of Units)
 1964-1979

	Study Area			Oswego County		
	Movers ^b	Retained Residents ^c	TOTAL	Movers ^b	Retained Residents ^c	TOTAL
1964	10	10	10	10	10	20
1965	30	20	50	40	40	80
1966	70	50	120	100	110	210
1967	120	100	210	170	200	370
1968	120	90	210	180	200	380
1969	90	70	150	200	140	330
1970	80	60	140	130	130	260
1971	190	210	400	290	430	730
1972	230	320	560	370	670	1,040
1973	160	190	350	260	400	660
1974	120	130	250	220	280	500
1975	80	60	150	170	140	310
1976	110	90	200	210	200	410
1977	340	450	790	570	950	1,520
1978 ^d	300	380	670	510	800	1,310
1979	380	510	890	630	1,070	1,700

^aNumbers rounded to nearest ten.

^bBased on estimated distribution of workers among movers accompanied by families (housing demand factor of 1.0) and movers unaccompanied by families (housing demand factor = 0.85 based on observed doubling-up ratio) from Chapter 4 and Chapter 5, Table 5-5.

^cBased on housing demand factor among retained local residents of 0.73 (population per worker divided by average household size per worker).

^dConservative estimate due to lowered work force figures caused by three month work stoppage. Figure may be almost as high as in 1977.

Source: Mountain West Research, Inc., 1980.

(Malhotra and Manninen, 1979; Markham, 1976 and 1977);¹ (2) information from Markham and Mountain West Research, Inc.,² on the sharing of housing or "doubling-up" by workers (Markham, 1976; Mountain West Research, Inc., unpublished data, 1980); and (3) on the census figures for average household size.³

As seen in this table, housing demand from in-migrants to the Study Area increased through 1968 to almost 120 units, fell to about 80 units in 1970, rose to over 230 units in 1972, fell to about 80 in 1975, then rose to an estimated 380 units in 1979. Simultaneously, housing demanded by retained residents of the Study Area rose to almost 100 in 1967, to about 320 in 1972, and to nearly 510 units in 1979. This meant that total project-related demand for housing totaled over 210 units in 1967 and almost 890 in 1979.

It should be noted that much of the housing demand attributed to the nuclear stations was due to project-retained residents, who affected the market more by retaining their housing than by participating in the housing market, a process which was largely invisible to most area residents. Consequently, less of the effect on the housing market was generally attributed to the projects by area residents than is shown by this analysis.

¹The proportion of in-migrants accompanied by families for each type of worker was discussed in Chapters 4 and 5 and shown in Table 5-5. Since the majority of jobs available in the Study Area and Oswego County were unrelated to the project, a conservative approach was taken and no adjustment was made for multiple-worker families among the in-migrants. Consequently, it is assumed that each in-migrant worker accompanied by family required a housing unit.

²According to both these sources, approximately 15-16 percent of unaccompanied construction workers double-up on housing. Housing demand for each mover unaccompanied by family is, therefore, estimated to be 0.85 units.

³The estimate of increased demand for housing caused by diminished out-migration was based on the average household size (3.31) in Oswego County in 1970, (3.31) and the estimated population per worker (2.43) figures developed in Chapter 5 and shown in Table 5-7. This resulted in an estimated housing demand of 0.73 housing units per retained nonmover (2.43 persons/worker divided by 3.31 persons per household). If the more conservative household size for New York State had been used (3.10), the housing demand estimate would have been 0.78 units per worker. This would have increased the demand in the county by about 50 housing units in 1972 and just over 70 housing units in 1977.

The analysis of project-related housing demand for Oswego County revealed a similar pattern. In 1972, total estimated housing demand in the county from the Nine Mile Point Stations reached nearly 1,040, representing 3.4 percent of the 1970 total year-round housing stock; in 1979 the demand was 1,700, representing 5.5 percent. In 1979, in-migrants alone required almost 630 units, or 2 percent of the 1970 stock.

Distribution of Demand among Housing Types

The June 1978 Battelle Survey of all project-related construction workers, provided data on the type of housing chosen by movers at the Nine Mile Point Stations. According to their findings, shown in Table 6-5, approximately 35 percent of the total number of all movers lived in single-family houses, about 33 percent lived in apartments, 20 percent lived in mobile homes, and 11 percent lived in motels or boarding houses. Since Oswego County is the area to which most of these construction-phase movers relocated, this housing breakdown probably also applies to the county. The Battelle data also provided estimates of the housing choices of the nonconstruction component of the construction work force. This distribution gives a reasonably good approximation of the housing distribution of the operations work force although a larger proportion of operations workers probably lived in houses and a smaller proportion in apartments than did the nonconstruction workers in the construction work force.

A special analysis of the Battelle data shows that, in the Study Area, a higher proportion of construction-phase workers¹ lived in houses and mobile homes, and a much lower proportion lived in apartments than among the movers. Of the workers residing in the Study Area, 53 percent were living in houses and almost 28 percent were living in mobile homes.

The data shown in Table 6-5 for the typical household in the Study Area and Oswego County are considered the best available estimate of the distribution of housing demand by the operations workers and the indirect basic and nonbasic workers, although the percentage shown for mobile homes in this table is probably low and the percentage for apartments is probably high. (Guinta, personal communication, July 1980.) The large majority of the demand by these workers was for conventional houses.

¹Not just movers.

TABLE 6-5

NINE MILE POINT STATIONS
 PERCENTAGE DISTRIBUTION OF PROJECT-RELATED HOUSING BY TYPE
 1978

Type of Dwelling	Movers in Construction Work Force ^a			Construction Work Force Residing in Study Area ^b			Typical Household ^c	
	Overall	Construction	Nonconstruction	Scriba Town ^f	Oswego City	TOTAL	Study Area ^f	Oswego County ^f
House	35.4	20.2	48.1	40.7	53.7	52.5	69.7	70.7
Mobile Home	20.5	35.7	7.7	31.5	30.1	27.5	2.4	9.8
Apartment	33.3	22.5	42.3	N/A	11.0	12.9	28.1 ^d	19.5 ^d
Boarding, Motel & Other	10.8	21.7	1.9	27.8	5.2	7.2	N/A	N/A
TOTAL ^e	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

^aFrom Malhotra and Manninen, 1979:198.

^bSeparate analysis of Malhotra and Manninen data—includes all workers residing in Study Area.

^cBased on 1970 federal census data.

^dIncludes all multi-unit structures.

^eTotals may not add exactly due to rounding.

^fN/A means not available.

Sources: Mountain West Research, Inc., 1980; Malhotra and Manninen, Socioeconomic Impact Assessments: Profile Analysis of Worker Surveys Conducted at Nuclear Power Plant Construction Sites, 1979:198; Vander Wees, personal communication, October 1980; U.S. Department of Commerce, Bureau of the Census, Census of the Population, 1973.

6.3.2.2 The Effects of Project-Related Demand on Size of the Housing Stock and Mix of Housing

Project-related housing demand in 1972 accounted for 6.9 percent of the total 1970 year-round housing stock in the Study Area. By 1979, it accounted for 11.1 percent. As discussed in Section 6.3.1, the housing construction data for the Study Area are incomplete—there is no information on housing response in Scriba Town. The available data for Oswego City, which exclude mobile homes and under-count conversions of single-family to multiple-family dwellings, show that about 140 new units were constructed between 1970 and 1972 while estimated project-related demand by in-migrants to the Study Area increased by about 160 and demand by retained residents increased by about 260 units.

Assuming the low vacancy rate of 1.4 percent (Bureau of the Census, 1970) to indicate a saturated housing market, these figures illustrate the importance of the project-related retained residents in the pressure on the housing market in the Study Area during this period, given the demand from nonproject-related sources that occurred at the same time. Known new housing construction was barely adequate to meet the demand created by project-related in-migrants (see Table 6-3 and Table 6-4). To some extent, this pressure was relieved by unrecorded expansion in Scriba Town (in both conventional and mobile home units), by the conversion of single-family dwellings to multiple-family dwellings, and by utilization of commercial housing facilities such as motels and boarding houses.

An estimated 510 units were added to the Oswego County housing stock (excluding mobile home units, for which data are not available) between 1964 and 1967 (the first project-related peak in demand). This was 37 percent more than the total project-related demand in 1967. Construction of additional units, even considering only the incomplete data (shown in Table 6-3), continued to keep ahead of increases in project-related demand throughout the study period.

The data shown in Table 6-5 indicate that the demand by project-related workers tended to shift the distribution of housing toward more mobile home and apartment units. The generally high demand for housing in the Study Area probably accentuated the effect of this project-related demand. Nevertheless, there are strong indications that, even without the projects, both Oswego County and the Study Area would have followed the national and regional trends toward increased provision of housing through mobile

homes and apartments. It is possible that the shift might not have been as quick or as large in the absence of the project, but there is little question that it would have occurred to some extent.

During the study period, the number of motel and boarding facilities increased considerably. This expansion was attributed partially to project-related demand, especially in Scriba Town where the increase was particularly noticeable. All of the motels in the area reportedly received a measurable portion of their business from project-related construction and refueling personnel, and a number of motel owners explicitly linked expansion with project-related demand. (Gilbert, personal communication, July 1980; Davis, personal communication, July 1980.)

6.3.2.3 The Effect of Project-Related Demands on the Housing Market

It is difficult to determine the role of project-related demand on the cost and availability of housing in the Study Area. It is generally agreed that such effects were small for Oswego County as a whole. Because the county seemingly provided a sufficiently large reservoir of housing, the geographically concentrated effects tended to average out.

Because so many economic/housing related activities were taking place in the Study Area during this period, it is difficult to delineate the particular effects of the construction and operation of the Nine Mile Point Stations. Included in these activities were the expansion of SUNY-Oswego, the construction of the Oswego steam plants #5 and #6, the construction and start up of the Alcan Company and Miller's Brewery, and the increase in fuel costs.

Nevertheless, almost without exception, the rise in housing costs was mentioned by local officials and residents as one of the important changes that had occurred during the study period. In Oswego City, the effect was reported to have been severe enough that it discouraged in-migration of potential residents and enhanced the trends toward out-migration. Specifically, housing was reported to be in sufficiently short supply and of such high price that some project-related personnel delayed moving into the area and/or were unable to find satisfactory housing in the Study Area during the peak periods. (Zimmerman, personal communication, December 1980; McMahon, personal communication, December 1980.) Rental units were most severely affected. Rental rates escalated so quickly during the late 1960s and early 1970s that the Housing Board

investigated the possibility of imposing rent control.¹ (Sullivan, personal communication, December 1980; Halpin, personal communication, December 1980; Berman, personal communication, July 1980; Dunas, personal communication, July 1980).

No systematic data exist to explore the rise in housing costs during the study period. Median rental rates reported in the 1970 Census do not appear extraordinary, showing little difference in median value of owner-occupied units (\$11,530 in Oswego City; \$14,000 in Scriba Town; \$12,600 in Oswego County) or median contract rent (\$83.50 in Oswego City; \$78.00 in Scriba Town and \$78.00 in Oswego County).

6.4 Summary

The siting of the Nine Mile Point Stations in relatively rural Scriba Town, which was within six miles of Oswego City and within commuting distance of the Syracuse SMSA, influenced much of the project effects on settlement patterns, land use, and housing.

The rural character of Scriba Town in 1963—scattered settlements, little industrial activity, and strong economic ties with Oswego City—created an environment with potential for substantial change. However, by 1979, only a moderate amount of change had occurred in the settlement and land use patterns of Scriba Town; its rural character had been largely preserved. One of the greatest changes that did occur during this period was in the nature of Scriba Town's relationship to Oswego City. In the course of the study period, two major "modern" economic activities (the Alcan Company and the Nine Mile Point Stations) were located in Scriba Town, a town which previously had contained no industry large enough to have significance for residents of Oswego City. The increased economic position of Scriba Town relative to Oswego City affected both settlement and commuting patterns. Partly because of these new economic centers, but largely because of market forces and national trends, Scriba Town experienced substantial growth in residential development. Much of this growth was concentrated in those portions of Scriba Town which were closest to Oswego City, though some was scattered throughout the town and involved development of subdivisions and trailer parks. This had an effect on land use patterns in the town although only a moderate

¹There was some strong support for this move among community residents, but it was not implemented.

proportion was attributable to the project. Despite these effects, large portions of Scriba Town remained relatively unchanged, as Oswego City captured the majority of the induced economic and demographic consequences of both Alcan and the Nine Mile Point Stations.

In Oswego City, little area was available for significant modification of land use or residential patterns. The increased economic activity and population associated with the projects interacted with the effects of other activities such as the expansion of Niagara Mohawk's fossil-fueled generating stations (Oswego Steam plants units 5 and 6), the Oswego branch of the State University, Alcan Company, and Miller's Brewery to create pressure for additional housing. To some degree, this increased demand was met by conversion of existing single-family homes into multiple-family units and by new housing construction, but it was also met, to some degree, by increased housing costs and reduced availability. The housing response in Oswego City was sufficiently limited that it had little overall effect on the land use or settlement patterns in the city. Rather, it encouraged residential expansion in surrounding towns, including Scriba Town, thus transferring much of the potential housing and land use consequences outside its boundaries.

In 1967, total project-related housing demand in the Study Area was estimated at over 210 units, almost half of which was retained by local residents because of their employment in project-related jobs. By 1979, total project-related housing demand had risen to almost 890 units, well under 10 percent of the housing stock in the Study Area.

The land use and settlement pattern effects of the project on Oswego County were found to be minimal, as the location of the project merely increased and slightly extended the previous area of industrial activity in the county. Because of the relatively rapid expansion of county population during much of the study period (most of which was not project-related), the incremental demand for housing created by the project had a modest effect on the county housing market. In the absence of this other activity, the magnitude of the project-related demand alone would not have been sufficient to generate a noticeable effect on housing or settlement patterns in the county.

CHAPTER 7: LOCAL GOVERNMENT AND PUBLIC SERVICES

7.1 Introduction

This chapter addresses changes in the structure and function of the local governmental units during the study period (1963-1980) in an attempt to determine the effects of the construction and operation of the Nine Mile Point Stations. Three principal dimensions are considered: (1) the structure of the political units; (2) the revenues/expenditures of the major governmental agencies; and (3) the cost, availability, and quality of selected public services. These three dimensions received emphasis because they provided sensitive and comparable indicators of project effects and because they affected many aspects of social organization in the community. The analysis is designed to highlight changes associated with significant social or political consequences rather than to provide a detailed fiscal evaluation.

7.2 Governmental Structure

7.2.1 Oswego County

Throughout the study period, the Oswego County government coordinated and supervised 36 county districts: 8 in Oswego City, 6 in Fulton, and 1 from each of the 22 towns in the county.¹ The vote of each representative was weighted according to the population of his/her constituency. The governmental body convened at regular monthly sessions.

Representatives were elected for two-year terms and, in 1980, were paid \$5,000 per year. The chairperson, who was elected by the district representatives from among its membership, was paid \$10,000 per year. The majority leader (usually Republican) and the minority leader (usually Democrat) held party caucuses and earned \$6,000 per year. The district attorney, sheriff, clerk, treasurer, family court judge, supreme court justice (5th Judicial District), county court judge, and surrogate court judge were elected at large. The internal activities of the county government body were conducted by 20 standing committees appointed each year by the chairperson.

¹In New York State, a "town" is equivalent to a township.

Prior to 1970, the county government had been under the direction of a Board of Supervisors, the members of which were elected from each of the districts. In 1970, the government was restructured and expanded. Under the new system, business was conducted in much the same manner as before although each town was now represented by both the town supervisor and an additional representative.¹ In addition, the county also added a professional executive officer to work with the chairperson. (Lincoln, personal communication, July 1980; Oswego County Planning Board, 1977:74.)

7.2.2 The Study Area

The Study Area was composed of two separate but adjacent local jurisdictions—Oswego City and Scriba Town. Oswego City was the larger of the 2 cities in Oswego County; Scriba Town was one of the 22 county towns. In New York State, counties, towns, and villages (usually a concentrated, incorporated population within a town) were largely independent governing units which elected their own public officials, levied their own taxes, and assessed real property. However, because of political ties, jurisdictional overlap of service provision, and planning expertise, town governments were influenced to a considerable extent by the county and by neighboring cities. For instance, social services in Scriba Town were provided by the county while the fire departments in Oswego City and Scriba Town belonged to a mutual response system which included other neighboring towns.

7.2.2.1 Oswego City

Oswego City's public administration was conducted by an elected and salaried mayor-common council system of government. The mayor presided over the common council which was composed of an alderman from each of the city's eight wards.² Other than the mayor and councilmen, the only elected official was the city judge. Appointed officials for the city departments included the chamberlain, purchasing agent, clerk, engineer, commissioner of public works, superintendent of water, chief of police, fire chief, sealer of weights and measures, chief assessor, director of personnel, recreation superintendent, and building and safety inspector. The administrative structure of the city remained essentially unchanged during the study period. Political party affiliation in

¹In many cases these two positions were held by the same person. For example, in 1970 the change introduced only nine new people.

²The mayor voted only in cases of ties.

Oswego City was traditionally Democratic, although shifts and re-alliances were clearly demonstrated in the political history of the city (White, personal communication, December 1980).

7.2.2.2 Scriba Town

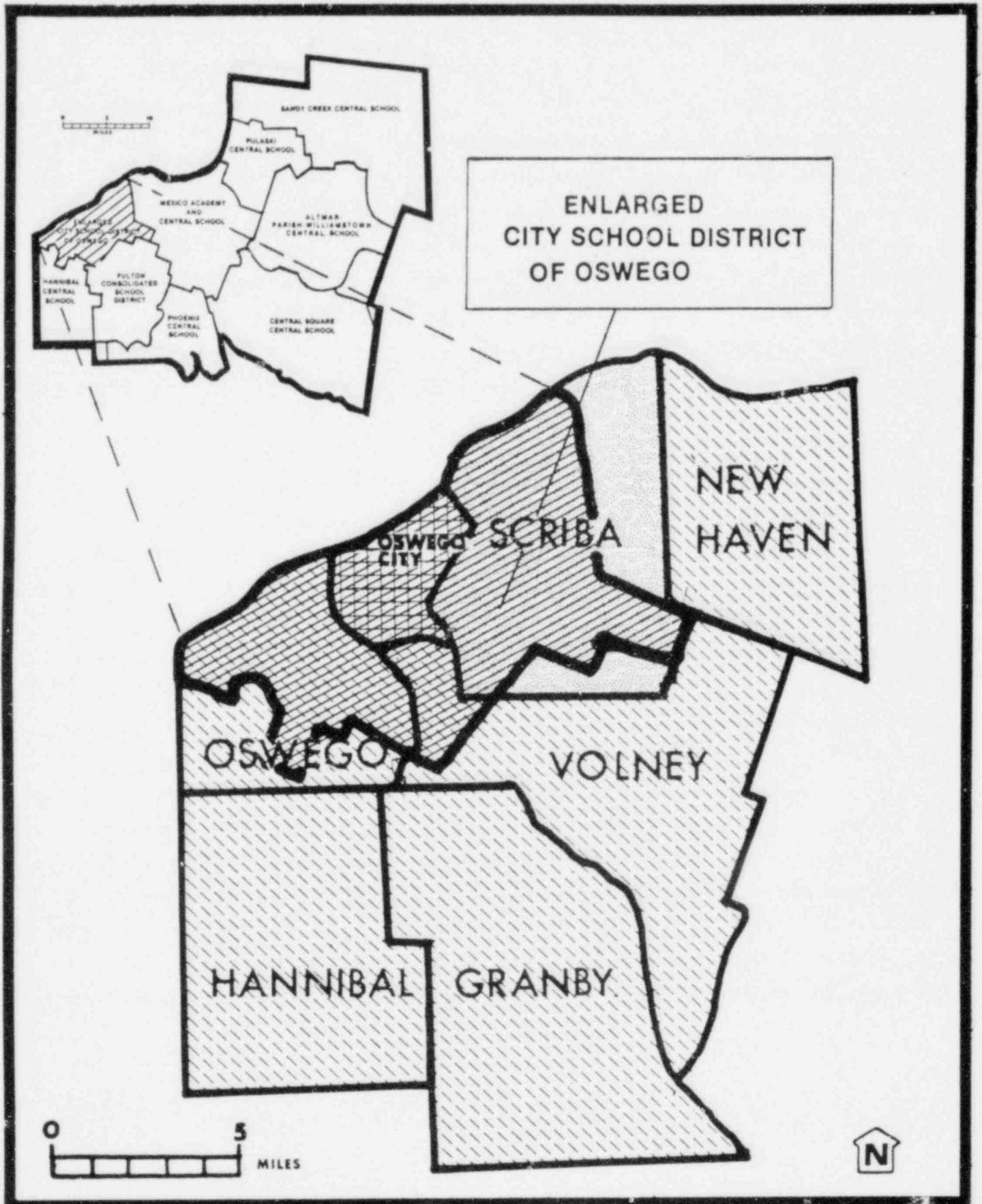
Throughout the study period, Scriba Town was governed by an elected Town Board composed of a town supervisor, four council members, and two nonvoting justices. The internal structure of the government remained stable over the study period. However, the number of town employees increased, showing particularly large seasonal gains during summer months. Other elected town officials were the highway superintendent, three property assessors, the tax collector, and the town clerk. Following construction of the nuclear plants, additional personnel were added to the town payroll: a deputy town clerk, a part-time secretary/bookkeeper for the supervisor, and a summer staff (24 people) at the town park.

Between the mid-1960s and 1980, several zoning/planning boards made efforts to provide an acceptable land-use zoning plan. However, as of 1980, Scriba Town had no zoning or planning ordinance in effect. The boards had submitted drafts of ordinances to the Town Board for approval and adoption but none were voted into existence. Suspicion of land-use controls and reluctance to model a program used by other communities stymied the efforts of the planning board. (Weiss, personal communication, December 1980; Manton, personal communication, July 1980; Scriba Town Meeting Reports, 1961-1974; Church, personal communication, August 1980.)

7.2.2.3 Oswego City Consolidated School District

The Oswego City Consolidated School District provided educational services for all of Oswego City as well as for portions of the surrounding towns of Minetto, Oswego, Scriba, Sterling, and Volney. The school district boundary is shown in Figure 7-1. Inclusion of all of Oswego City and most of Scriba Town meant that the majority of the children in the Study Area attended school in the Oswego City Consolidated School District. Local officials estimated that between 66 and 75 percent of Scriba Town's

FIGURE 7-1. OSWEGO CITY SCHOOL DISTRICT



SOURCE: Oswego County Planning board, 1977 Oswego County Data, p. 86.

children attended school in Oswego. Most of the remaining children attended school in the Mexico school district, although a small number were enrolled in the Fulton district.¹

In the Oswego district, a six-member board of education chaired by the Superintendent of Education served as the policy-making body. Members were elected at large for six-year overlapping terms. School district offices were located in Oswego City as were most school buildings. No schools were located in Scriba Town.

The school district levied taxes much as a municipality. Since the school tax rate constituted a significant portion of the total tax burden of Study Area residents, the Oswego City Consolidated School District is treated as a fourth local government unit.

7.3 Budgets for Major Government Jurisdictions during the Study Period

The budgets and actual fiscal operation of the four taxing jurisdictions—Oswego County, Oswego City, Scriba Town, and the Oswego City Consolidated School District—reveal much about the resource base and governmental priorities in the Study Area. Revenues to the general fund of each jurisdiction have been analyzed to identify major shifts in resource availability—either in quantity or source—with particular attention to the impact of the two Nine Mile Point plants belonging to Niagara Mohawk.² Expenditures have also been examined for the three municipal jurisdictions to delineate major changes in the distribution of funds among the various categories of public services. Because the discretionary expenditure patterns of the Oswego City Consolidated School District are not of particular interest in this study, they were not included in this analysis.

7.3.1 Revenues

7.3.1.1 Total General Fund Revenues and Revenue Sources

The total revenues received by each jurisdiction increased substantially over the study period. Property taxes constituted a major proportion of the revenues for each jurisdiction. Other revenue sources included state and federal aid, sale of permits and licenses, sales tax, and other miscellaneous minor sources. Tables in the following

¹In 1980, only 15 parcels of property in Scriba Town were within the Fulton School District (Church, personal communication, August 1980).

²PASNY did not pay property or sales taxes on any of its facilities.

sections summarize the 1963-1980 total revenues, principal revenue sources, and tax rates for Oswego County, Oswego City, Scriba Town, and the Oswego City Consolidated School District. As shown in these tables, the principal sources of revenue in each jurisdiction were real property taxes and state and federal aid. In Oswego City, sales tax revenues contributed a substantial proportion of total receipts.

7.3.1.2 Oswego County

As shown in Table 7-1, annual revenues (in constant 1972 dollars) to Oswego County quadrupled during the 1962-1978 period, increasing from \$7.6 million in 1962 to \$31.0 million in 1978, an annual average increase of 9.2 percent.

In 1962, property taxes accounted for approximately 50 percent of the total revenues to Oswego County. The relative importance of property tax revenue fell steadily during the study period—to 47.4 percent of total revenues in 1968, 39.3 percent in 1972, and 36.4 percent in 1978. The decline in importance of property tax revenues was primarily due to a steady increase in outside funding, particularly from the federal government. Nonlocal funds (state and federal aid) increased from 37.1 percent of the total in 1962 to 54.9 percent in 1978. The percentage of federal aid increased dramatically (from 15.8 percent of the total in 1962 to 40.6 percent of the total in 1978) while state aid decreased in relative importance (from 21.3 percent in 1962 to 14.3 percent in 1978). This increase in nonlocal funding occurred despite an increase in the full value of real estate in the county from approximately \$400 million in 1962 to \$871 million in 1978 (constant 1972 dollars).

Table 7-2 shows the relative importance of the Nine Mile Point plants to the tax base and tax revenues of Oswego County. Understanding the shift in the burden during the study period requires calculation of a full value tax rate index because, in New York State, the local municipalities assess their own real property. After the local assessment, the state equalizes according to the percentage of full value at which the property has been assessed (equalization rate). With this system, an increasing tax rate does not necessarily mean an increasing tax burden, which is better shown by the full value tax rate (tax rate per \$1,000 of full value).¹ As shown in table 7-2, the tax rate in the

¹Calculated by multiplying the equalization rate times the tax rate per \$1,000 of assessed value.

TABLE 7-1
NINE MILE POINT STATIONS
OSWEGO COUNTY REVENUE SOURCES
 Selected Years, 1962-1978
 (Current Dollars)^a

FY	Local Revenues			Nonlocal Revenues		TOTAL REVENUES ^d	TOTAL REVENUES ^a (Constant 1972 Dollars)
	Property Tax ^b	Department Earnings	Other ^c	State Aid	Federal Aid		
1962	\$2,839,690	\$205,030	\$474,150	\$1,185,430	\$883,810	\$5,588,110	\$7,592,540
1964	2,777,790	289,540	521,800	1,380,950	1,029,080	5,999,150	7,924,910
1966	3,127,510	285,910	530,190	1,799,510	1,277,740	7,020,860	8,853,540
1968	5,181,560	357,350	619,070	2,929,600	1,844,450	10,932,040	12,922,030
1970	6,290,830	598,470	772,620	3,007,360	2,050,540	12,719,820	13,751,150
1972	7,938,450	924,860	1,194,070	4,303,440	5,876,360	20,237,160	20,237,160
1974	10,068,670	2,436,600	1,579,500	4,914,340	7,219,180	26,218,300	22,427,970
1976	15,269,270	1,289,670	1,495,520	7,661,690	13,387,390	40,313,480	30,265,380
1978	16,965,970	1,851,340	2,167,040	6,658,990	18,890,130	46,533,460	30,960,390
PERCENT OF TOTAL REVENUES							
1962	50.8	3.6	8.5	21.3	15.8	100	
1968	47.4	3.3	5.6	26.8	16.9	100	
1972	39.3	4.6	5.9	21.2	29.0	100	
1978	36.4	4.0	4.7	14.3	40.6	100	

^aDollar amounts rounded to nearest ten.

^bIncludes "interest and penalties on taxes" and "other tax items."

^cIncludes licenses, permits, fines, fees, sales and rent, interest, social service repayments, interest on deposits, forfeited bail, and airport fees (1972-76).

^dDoes not include bonds, notes, other borrowings, or transfers.

Source: New York State Department of Audit and Control, Division of Municipal Affairs, Summary of Financial Data, Annual Series, 1962-1978.

TABLE 7-2

NINE MILE POINT STATIONS
 ASSESSED VALUATION, MILLAGE RATES, EQUALIZATION RATES, FULL RATE, AND NMP-1 AND NMP-2 TAX PAYMENTS
 OSWEGO COUNTY
 SELECTED YEARS
 1962-1978
 (Current Dollars)^a

FY	Total Assessed Value	State ^b EQ Rate	Tax Rate Per \$1,000 Assessed Value	Full ^c Value Tax Rate Index	Total Property Tax Levies	Taxes From NMP ^d	Taxes on NMP as Percent of County Property Tax Revenue	Taxes on NMP as Percent of Total County Revenues
1962	\$82,390,430	.2800	\$34.00	\$9.52	\$2,801,260	—	—	—
1964	85,680,140	.2560	30.00	7.68	2,570,400	\$4,850	0.2	0.1
1966	89,490,070	.2520	32.00	8.06	2,863,680	13,640	0.5	0.2
1968	97,364,770	.2404	55.60	13.37	5,413,440	328,310	6.1	2.5
1970	126,527,350	.2454	47.00	11.53	5,946,770	1,112,660	18.7	8.8
1972	132,256,830	.2262	55.00	12.44	7,274,080	1,200,800	16.5	5.9
1974	153,745,440	.2200	59.00	12.98	9,070,960	1,401,410	15.4	5.4
1976	189,345,910	.1861	68.90	12.82	13,045,870	1,774,280	13.6	4.4
1978	220,761,560	.1687	68.53	11.56	15,128,750	2,502,790	16.5	5.4

^aDollar amounts rounded to nearest ten.

^bIn New York State, each year the state decides the percent of full value at which local governments assess their real property.

^cCalculated by multiplying the tax rate times the equalization rate to provide an index showing the rate per \$1,000 of full value.

^dCalculated by applying the tax rate to the assessed valuation of the plants from Table 7-4.

Source: New York State Department of Audit and Control, Division of Municipal Affairs; "Summary of Financial Data" Annual Series 1962-1968.

county increased from \$34.00 per \$1,000 of assessed value in 1962 to \$68.53 per \$1,000 of assessed value in 1978 while the equalization rate dropped from 28 percent to 16.87 percent. The full value tax rate was \$9.52 in 1962, rose to a peak of \$13.37 in 1968, and then declined to \$11.56 in 1978. The tax burden increased by 21 percent between 1962 and 1978.

The property value of Niagara Mohawk's Nine Mile Point plants increased from \$0.6 million in 1964 to \$216.5 million in 1978. Although the taxes Niagara Mohawk paid on its Nine Mile Point plants increased between 1974 and 1978, the plants' contributions to county taxes peaked at 18.7 percent in 1970. By 1978, the contribution from the plants had declined to 16.5 percent (see Table 7-2). Similarly, the proportion of total county revenues contributed by the plants increased from less than 0.1 percent in 1964 to a peak of 8.8 percent in 1970, before declining to 5.4 percent in 1978. The importance of the plants to tax revenues at the county level was lessened by the increase in the overall tax base of the county from \$294.2 million (full value) in 1962 to \$1,308.6 million (full value) in 1978.

7.3.1.3 Oswego City

Oswego City revenues increased at an average annual rate of 5.1 percent during the study period, rising from \$3.2 million in 1962 to \$7.0 million in 1978 (constant 1972 dollars), an overall increase of 122 percent. Table 7-3 shows that city revenues (in 1972 constant dollars) increased from \$3.2 million in 1962 to \$7.0 million in 1978. During the study period, property taxes accounted for the largest share of revenues to Oswego City. However, the importance of property taxes decreased from 56.7 percent in 1962 to a low of 32.2 percent in 1972 before rising again to 43.5 percent in 1978. The reduction in the importance of property taxes was due to an increase in the importance of city sales tax. The city imposed a 2 percent sales tax in 1968; it was increased to 3 percent in 1972.¹ (Chait, personal communication, December 1980.) During the study period, state aid remained constant at about 16 percent of total revenues while federal aid dropped continually, from 15.2 percent in 1962 to 3.4 percent in 1978.

¹In addition to the state sales tax of 4 percent, from 1972 to 1980.

TABLE 7-3

NINE MILE POINT STATIONS
OSWEGO CITY OPERATING REVENUES^a
SELECTED YEARS
1962-1968
(Current Dollars)

FY	Local			All Other ^c Revenue	Nonlocal		TOTAL OPERATING REVENUES ^d	TOTAL OPERATING REVENUES (Constant 1972 Dollars) ^a
	Property Tax	Sales Tax	Department ^b Earnings		State Aid	Federal Aid		
1962	\$1,323,790	—	\$28,840	\$254,480	\$375,760	\$353,850	\$2,336,730	\$3,174,900
1964	1,379,570	—	23,110	162,160	441,100	388,690	2,394,630	3,163,320
1966	1,490,620	—	28,690	274,990	490,600	351,580	2,609,470	3,290,630
1968	1,657,380	\$592,640	36,560	293,180	616,270	440,350	3,636,380	4,298,200
1970	1,771,900	969,000	99,080	298,210	1,004,600	565,870	3,804,500	4,112,990
1972	1,563,840	1,614,600	307,890	374,190	798,060	205,000	4,863,570	4,863,570
1974	1,670,920	1,923,810	309,110	429,580	1,086,840	95,570	5,515,840	4,718,420
1976	4,077,150	2,320,450	199,810	1,576,850	1,412,770	120,270	9,707,290	7,287,760
1978	4,604,550	3,007,070	142,620	720,600	1,745,320	360,470	10,580,630	7,039,680
PERCENT OF TOTAL REVENUES								
1962	56.7	0.0	0.1	10.9	16.1	15.2	100.0	
1968	45.6	16.3	1.0	8.1	16.8	12.1	100.0	
1972	32.2	33.2	6.3	7.7	16.4	4.2	100.0	
1978	43.5	28.4	1.3	6.8	16.5	3.4	100.0	

^aDollar amounts rounded to nearest ten.

^bIncludes "special activities" for 1962, 1964, 1966, 1968, 1970.

^cIncludes licenses, permits, fines, forfeits, interest, cultural and recreational fees, use of money and property, interfund revenue, repayments of public assistance, charges to other governments, sales, rentals, and commissions.

^dTotals may not add exactly due to rounding.

Source: Miller, personal communication, 1980.

Table 7-4 shows a substantial increase in the city tax rate between 1962 and 1978—from \$42.60 per \$1,000 assessed value in 1962 to \$52.50 per \$1,000 assessed value in 1978. However, during this same period, the equalization rate dropped from 0.2900 to 0.2485, with the result that the tax burden (full value tax rate) remained nearly constant, increasing from 12.4 in 1962 to a high of 15.7 in 1968 and then declining to 13.0 in 1978. Thus, the dramatic 144 percent increase in property tax revenues between 1974 and 1976 (114 percent in constant 1972 dollars—from \$1.4 to \$3.1 million) shown in Table 7-3 was due to an increase in valuation, not an increase in tax rate. The assessed value of property in Oswego City increased by 88 percent between 1972 and 1974—from \$32.1 to \$60.4 million (constant 1972 dollars)—as the final two units of Niagara Mohawk's six-unit fossil-fueled steam generating plants in Oswego City were completed. Niagara Mohawk's physical plant (consisting of 6 steam plants, a hydro plant, numerous offices, and a variety of equipment) was very important to the Oswego City tax base. In 1978, the value of Niagara Mohawk's physical plant within the city was \$68.9 million, 78 percent of the city's total assessed property value of \$88.1 million. It should be noted that Niagara Mohawk's Nine Mile Point plants did not directly affect the property tax base of Oswego City since they were located outside the city limits.

Oswego City received a substantial proportion of its revenues from the sales tax levied in the city (see Table 7-3). In 1978, direct utility purchases for the Nine Mile Point plants were estimated to have yielded approximately \$170,000 (current dollars) to the city in sales tax revenue. Sales tax revenues to the city from the purchase of goods and services by project-related employees was estimated at approximately \$100,000 in 1978.¹ Consequently, the sales tax revenues due to project-related sales accounted for about 9 percent of total sales tax revenues in the city in 1978.

7.3.1.4 Scriba Town

As shown in Table 7-5, total annual revenues (in constant 1972 dollars) for Scriba Town increased from \$130.7 thousand in 1963 to \$547.7 thousand in 1978, an increase of 19 percent. Annual revenues (in constant 1972 dollars) increased at an average annual

¹Based on data from the IRS tax form 1040 Sales Tax Tables which indicate that a family of 3-4 persons living in New York State with an income of \$18,001-\$20,000 would have paid \$154 in local sales taxes (at 3 percent rate), and data from Chapter 4 which indicate that local purchases by project-related persons would be about 45.1 percent the amount purchased if all workers were nonmovers.

TABLE 7-4

NINE MILE POINT STATIONS
 ASSESSED VALUATION AND TAX PAYMENTS
 OSWEGO CITY
 SELECTED YEARS
 1962-1978
 (Current Dollars)^a

FY	Assessed Valuation	Equalization Rate	Tax ^b Rate	Full ^c Value Tax Rate	Property ^d Taxes	Budget ^d Total
1962	\$29,498,160	.2900	\$42.60	\$12.35	\$1,323,790	\$2,336,730
1964	29,647,750	.3100	44.30	13.73	1,379,570	2,394,630
1966	29,810,800	.3200	46.40	14.85	1,490,620	2,609,470
1968	30,212,930	.3100	50.80	15.75	1,657,380	3,636,380
1970	30,948,920	.3000	49.80	14.94	1,771,900	3,804,510
1972	32,148,900	.2800	43.80	12.26	1,563,830	4,863,570
1974	70,562,310	.2123	35.10	7.45	1,670,920	5,515,840
1976	85,168,250	.2183	44.61	9.74	4,077,150	9,707,290
1978	88,108,490	.2485	52.50	13.05	4,604,550	10,580,630

^aDollar amounts rounded to nearest ten.

^bTax per \$1,000 of assessed value.

^cCalculated as equalization rate times tax rate to provide a tax rate per \$1,000 of full value.

^dFrom Table 7-3.

Sources: Parker, personal communication, July 1980; Miller, personal communication, July 1980.

TABLE 7-5
NINE MILE POINT STATIONS
SCRIBA TOWN REVENUES
SELECTED YEARS
1963-1978
(Current Dollars)

Source ^a	FY	Local			Nonlocal		REVENUE TOTAL	REVENUE TOTAL (Constant 1972 Dollars)
		Property ^b Tax	Department Income	Other ^c Local	State ^d Aid	Federal Aid		
ARS	1963	\$80,310	\$1,550	\$810	\$14,980	—	\$97,640	\$130,710
ARS	1964	91,930	1,810	780	21,150	—	115,680	152,810
ROE	1965	99,040	480	1,670	28,980	—	130,170	168,830
ROE	1967	117,250	740	1,520	43,130	—	162,630	200,040
ROE	1968	156,440	690	7,710	38,370	—	203,220	240,220
ARS	1970	324,730	880	13,810	63,010	\$120,010	412,450	445,890
ROE	1971	353,180	690	14,820	46,030	—	414,730	429,320
ROE	1974	251,920	3,430	17,890	71,660	64,760	409,660	350,430
ARS	1975	298,900	2,080	12,890	77,090	—	390,960	309,060
ARS	1976	290,030	2,520	8,090	53,700	174,440	528,770	396,970
ARS	1978	519,150	125,950 ^e	1,930	97,260	64,010	823,160	547,680

PERCENT OF TOTAL REVENUES							
	1963	82.2	1.6	0.8	15.3	0.0	100
	1968	77.0	0.3	3.8	18.9	0.0	100
	1974	61.5	0.8	4.4	17.5	15.8	100
	1978	63.1	15.3 ^e	0.2	11.8	7.8	100

^aData for this table are derived from two sources: ARS is the Annual Report of the Supervisor, ROE is the Report of the Examiner, State Auditor. All dollar amounts are rounded to nearest ten. Totals may not add exactly due to rounding.

^bIncludes revenues from general fund, highways, fire, bridges, machinery, and snow removal.

^cIncludes nonproperty tax, use of money, licenses, permits, fines, penalties, forfeits, repayment of social services, sale of property, interfund transfers, debt service, miscellaneous.

^dIncludes general and highway aid.

^eThis includes a contract with the county for work on county roads.

Sources: Scriba Town Clerk, Annual Report of the Supervisor, 1964-1978; New York State Auditor, Annual Report of the Examiner, 1967, 1968, 1971, 1974.

rate of 10 percent between 1963 and 1978. At the same time, the tax burden on town residents from town property taxes declined. Over the study period it fell from \$12.60 (per \$1,000 full value) in 1972 to \$1.60 (per \$1,000 full value) in 1978. As Table 7-6 shows, the Niagara Mohawk Nine Mile Point plants accounted for 3 percent of the assessed property value in Scriba Town in 1964 and about 73.6 percent in 1978.

7.3.1.5 Oswego City Consolidated School District

The Oswego City Consolidated School District received tax from property in Oswego City and the towns of Minetto, Oswego, Scriba, Sterling, and Volney. The analysis focuses on revenues received from Oswego City and Scriba Town. In 1978-79, Oswego City and Scriba Town together accounted for 90 percent of the locally raised school taxes, with Scriba Town providing about 44 percent and Oswego City 46 percent. As Table 7-7 shows, the total revenues to the Oswego City school district more than doubled (in constant 1972 dollars) during the study period, from \$4.7 million in 1964-65 (the earliest school year for which data were available) to \$11.2 million by 1978-79.

The major change in school funding during the study period was the steady increase in the proportion of total revenue collected locally. In 1964-65, the locally raised portion of funding was only 48 percent (see Table 7-7). This increased to a peak of 71 percent in 1977-78 before dipping slightly to 69 percent in 1978-79. The reason for the shift to greater dependence on local funding was the increase in assessed valuation, primarily from the nuclear power plants in Scriba Town and the steam generating plants in Oswego City. The school district's total assessed valuation (in constant 1972 dollars) increased from \$185.6 million in 1964 to \$616.9 million in 1978, an increase of 232 percent.

The school tax burdens for residents of Oswego City and Scriba Town, shown by the full value tax rate in Table 7-8, increased by about 16 percent over the study period—from 12.61 in 1965-66 to a high of 18.14 in 1972-73 and 14.59 in 1978-79. The individual school tax rates for Oswego City and Scriba Town cannot be used to compare tax burdens from one year to the next because they are based on assessed valuations which change as

TABLE 7-6

NINE MILE POINT STATIONS
EQUALIZED ASSESSED VALUE AND TAX PAYMENTS
SCRIBA TOWN
Selected Years, 1962-1978
(Current Dollars)^a

FY	Total Assessed Valuation	Full Taxable Value of NMP Stations	Tax Rate ^b Per \$1,000 Assessed Value	EQ Rate	Full Value Tax Rate	Assessed Value of NMP Plants	NMP Property Tax on Plants	NMP Plants as a Percent of Total Valuation		Assessed Value Alcan Plant	Town ^c Budget TOTAL
1962	\$1,919,370	—	59.80	0.2100	12.57	—	—	—	—	\$399,700	—
1964	3,997,280	\$631,580	45.20	0.1900	8.59	\$120,000	\$5,420	3.00	—	2,400,000	\$115,680
1966 ^d	5,067,490	1,691,150	23.60	0.2000	4.72	338,230	7,980	6.67	—	3,015,000	—
1968	10,125,740	24,562,950	23.30	0.2000	4.67	4,912,590	114,460	48.51	—	3,300,000	203,220
1970 ^e	27,167,290	96,469,900	13.50	0.2000	2.70	19,293,980	260,470	71.01	—	5,796,000	412,450
1972	27,817,330	96,519,900	11.80	0.2000	2.37	19,303,980	227,790	69.39	—	6,069,500	587,510
1974	27,857,540	107,966,560	11.50	0.1800	2.08	19,433,980	223,490	69.76	—	5,536,580	409,660
1976 ^f	29,783,370	138,377,800	13.60	0.1464	2.00	20,258,510	275,520	68.01	—	6,358,500	528,770
1978	36,694,940	216,486,010	12.70	0.1247	1.59	26,995,810	342,850	73.56	—	6,060,180	600,500 ^g

^aDollar amounts rounded to nearest ten.

^bIncludes town general, highway, fire.

^cTotal town budget for 1961 was \$112,340.

^dBeginning in 1965 the assessed valuation includes the land, information center, plant, lighthouse hill, 150kV transmission lines, 345kV circuits, and land for lines and circuits.

^eRailroad spur to Fitzpatrick plant added.

^fFirst year NMP-2 is assessed.

^gEstimated budget—absolute figure was not available.

Sources: Hutchinson, personal communication, August 1980; Oswego County Board of Supervisors, Supervisor's Proceedings, 1961, 1963, 1965, 1967, 1969, and 1971.

TABLE 7-7

NINE MILE POINT STATIONS
 OSWEGO CITY CONSOLIDATED SCHOOL DISTRICT
 GENERAL FUND REVENUES
 1964/65-1978/79
 (Current Dollars)^a

School Year	Local Funds Collected by Property Tax	Budget TOTAL	Property Tax As Percent of Total Budget	Budget TOTAL ^b (Constant 1972 Dollars)
1964-65	\$1,704,940	\$3,542,150	48	\$4,697,190
1965-66	1,748,590	3,948,830	44	5,121,700
1966-67	1,709,610	4,488,480	38	5,660,120
1967-68	1,806,450	4,697,120	38	5,777,510
1968-69	2,132,900	5,115,200	41	6,046,330
1969-70	3,360,000	6,996,670	48	7,905,850
1970-71	3,421,930	7,258,840	47	7,847,400
1971-72	4,428,640	7,773,290	57	8,046,890
1972-73	5,297,740	8,224,310	64	8,224,310
1973-74	6,008,720	9,397,090	64	8,907,200
1974-75	7,305,160	11,108,800	66	9,502,820
1975-76	9,204,820	13,760,450	67	10,877,820
1976-77	9,824,880	14,032,330	70	10,534,780
1977-78	10,903,700	15,219,270	71	10,816,820
1978-79	11,556,890	16,787,630	69	11,169,420

^aAll dollar amounts rounded to nearest ten.

^bCalculated by applying deflator to first year (i.e., 1964 for 1964-65).

Source: Tables (unnumbered) in Annual School Budget 1980-81, Oswego City Consolidated School District, 1980.

TABLE 7-8

NINE MILE POINT STATIONS
 ASSESSED VALUATION AND TAX PAYMENTS^a
 OSWEGO CITY SCHOOL DISTRICT
 1964-1978

	Full Value	Full Value Total Tax Rate	Full EQ Rate	Oswego City Assessed Value	Oswego City School Tax Rate	Oswego City EQ Rate	Scriba Town Assessed Value	Scriba Town School Tax Rate	Scriba Town EQ Rate	Total Local Tax Levy	Taxes on NMP Plants ^b	Taxes From NMP Plants As Percent of Total
1964-65	\$138,627,650			\$31,410,150	\$41.05	.3000	\$3,614,210	\$68.40	.1800	\$1,704,940	\$ 8,210	0.5
1965-66	139,941,260	\$12.61	1.00	31,570,690	40.69	.3100	4,180,340	66.39	.1900	1,748,590	10,780	0.6
1966-67	157,518,980	12.21	1.00	31,712,500	38.12	.3200	4,935,990	61.10	.2000	1,709,610	20,670	1.2
1967-68 ^c	176,007,400	11.49	1.00	N/A	N/A	N/A	N/A	N/A	N/A	1,806,450	N/A	N/A
1968-69	263,109,670	11.74	1.00	32,683,400	37.87	.3200	9,651,230	60.50	.2000	2,132,900	297,210	13.9
1969-70	249,517,160	12.77	1.00	33,120,110	41.20	.3100	25,593,330	63.85	.2000	3,360,000	1,132,090	33.7
1970-71	279,470,570	13.72	1.00	33,730,870	44.26	.3100	26,695,660	57.16	.2400	3,421,930	1,102,840	32.2
1971-72	292,084,790	15.85	1.00	34,208,050	52.82	.3000	27,036,230	79.24	.2000	4,428,640	1,528,850	34.5
1972-73	354,881,120	18.14	1.00	35,225,720	60.40	.3000	27,308,850	95.46	.1900	5,297,740	1,842,760	34.8
1973-74	466,503,160	16.93	1.00	46,584,180	60.47	.2800	27,430,190	94.06	.1800	6,008,720	1,815,730	30.2
1974-75	628,793,740	15.66	1.00	73,393,150	58.00	.2700	27,266,480	87.00	.1800	7,305,160	1,690,760	23.1
1975-76	709,892,460	14.48	1.00	82,977,810	68.95	.2123	28,383,970	94.76	.1545	9,204,820	1,843,460	20.0
1976-77	722,915,530	13.51	1.00	88,081,100	71.12	.1946	29,146,670	94.54	.1464	9,824,880	1,915,240	19.5
1977-78	789,117,060	15.20	1.00	89,247,130	69.10	.2183	33,021,910	111.16	.1357	10,903,700	2,706,800	24.8
1978-79	927,243,960	14.59	1.00	92,163,910	58.35	.2510	42,932,700	117.45	.1245	11,556,890	3,170,660	27.4

^aDollar amounts rounded to nearest ten.

^bCalculated by applying the Scriba Town school tax rate to the plants assessed value (from Table 7-6) for each year.

^cN/A means not available.

Source: Mountain West Research, Inc., 1980.

valuations which change as a percent of full value as the equalization rates change. In 1978-79, taxes on property in Oswego City increased from \$1.7 million in 1964-65 to \$3.6 million (in constant 1972 dollars), a total increase of 110 percent and an annual increase rate of 5.4 percent. Taxes on property in Scriba Town rose from \$0.3 million in 1964-65 to \$3.4 million in 1978-79, a total increase of 1,030 percent and an annual average increase rate of 18 percent.

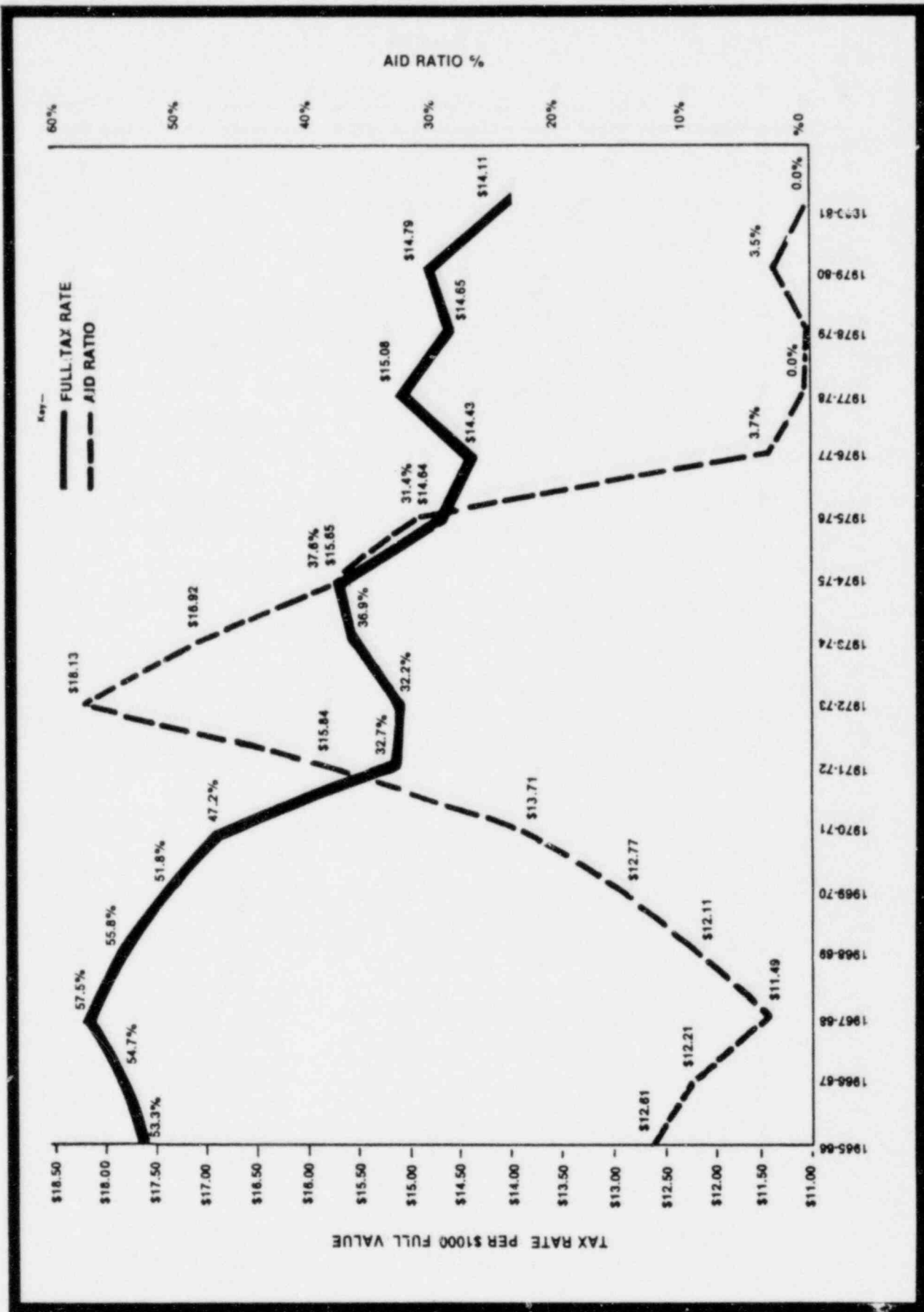
The final column in Table 7-8 illustrates the increasing importance of the taxes paid by the Niagara Mohawk plants and, consequently, by Scriba Town to the Oswego City Consolidated School District during the study period. The school taxes paid by Niagara Mohawk on the plants accounted for only 0.5 percent of the total school budget in 1964-65; their share increased to 13.9 percent in 1968-69 following the completion of Nine Mile Point Unit 1, and to 34.8 percent in 1972-73. It then declined to 27.4 percent of the total school budget in 1978-79. The principal reason for this decline was that the valuation of the Niagara Mohawk steam generator plants in Oswego City increased.

Figure 7-2 illustrates the full tax rate and the aid ratio for the Oswego City Consolidated School District from 1965-66 to the end of the study period. The full tax rate line clearly illustrates the peak tax rate for 1972-73 and its return to approximately previous levels by 1978 (12.61 in 1964 and 14.65 in 1978-79). However, during this same time period the aid ratio (state and federal funds to total revenues) dropped steadily, from 53.3 percent in 1964-65 to 0.0 percent by 1978-79. Despite the decrease in the aid ratio, which was brought about by locally increasing valuation, the money available per student (in constant 1972 dollars) more than doubled during the study period as Figure 7-3 illustrates. The amount of money (in constant 1972 dollars) budgeted per enrolled student in the Oswego City Consolidated School District was about \$1,010 in 1965 (first year for which data were available) and steadily climbed to about \$2,210 by 1978. This increase was the result of increasing revenues and a nearly constant student population (approximately 5,080 in 1965; 5,220 in 1967; 5,650 in 1972; and 5,060 in 1978).

7.3.1.6 Summary

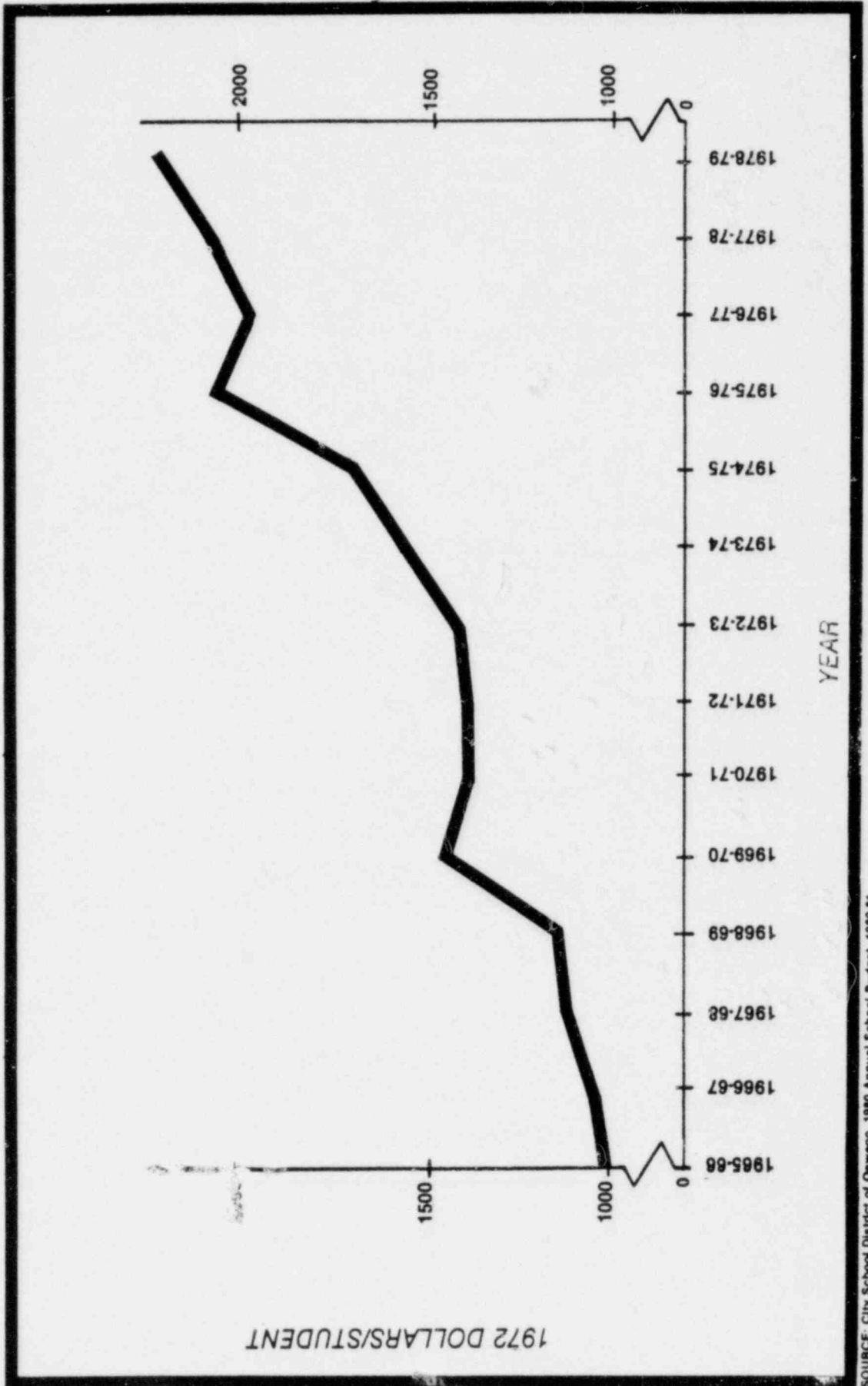
The presence of the Nine Mile Point Stations in the tax bases of Oswego County, Scriba Town, and the Oswego City Consolidated School District had substantial effects on the total value of property and property tax revenues in each of these jurisdictions. The Oswego City government was not directly affected financially by the physical presence of the plants because no project property was within its boundaries.

**FIGURE 7-2. OSWEGO CITY SCHOOL DISTRICT
FULL TAX RATE & AID RATIO**



SOURCE: Compiled from data in Annual School Budget, 1980-81, City School District of Oswego, Oswego, N.Y.

FIGURE 7-3. BUDGETED DOLLARS PER STUDENT. OSWEGO CITY SCHOOL DISTRICT (CONSTANT 1972 DOLLARS)



SOURCE: City School District of Oswego, 1980 Annual School Budget, 1980-81.

Nevertheless, it received considerable sales tax revenue from project-related activity. The main effect of the projects was to increase the local tax base and revenues—property taxes were a major revenue source in each jurisdiction. The tax exempt status of the PASNY FitzPatrick facility considerably lowered the potential property tax effects of the projects. In general, the tax burden on area residents was maintained at fairly constant rates throughout the study period. Although the full value tax rate in Scriba Town was reduced (from \$12.60 per \$1,000 full value in 1962 to \$1.60 per \$1,000 full value in 1978), that of Oswego County increased (from \$9.50 per \$1,000 full value in 1962 to \$11.60 per \$1,000 full value in 1978) as did that of Oswego City and the Oswego City Consolidated School District.

The accrual of taxes to the Oswego County government and the reduction in state and federal aid to the Oswego City Consolidated School District due to increasing property value spread the tax benefits of the project throughout the area. The Oswego City sales tax served to accrue revenue from some of the non-property-owning, project-related workers who otherwise would have made little contribution to the tax revenues of the Study Area.

7.3.2 Expenditures

The distribution of public monies can be a useful indicator of the demands made for various services. However, because the relationship between budget expenditures and actual public needs or demands is ambiguous, the expenditure patterns for Oswego County, Oswego City, and Scriba Town are examined only briefly before turning to a more detailed consideration of the provision of key services—education, public safety, transportation, and social services.

7.3.2.1 Oswego County

The expenditure pattern of Oswego County for the general fund and several departments during the study period is shown in Table 7-9. The growth in total expenditures from \$7.2 million (constant 1972 dollars) in 1962 to \$32 million in 1978 averaged 9.8 percent per year.

As the overall budget increased, some shifts occurred in the distribution of expenditures among the service areas. Between 1962 and 1978, expenditures for general

TABLE 7-9
NINE MILE POINT STATIONS
OSWEGO COUNTY GOVERNMENT EXPENDITURES^a
SELECTED YEARS
1962-1978

	General Government ^b	Transportation ^c	Public Safety ^d	Fire & Ambulance	Public Works ^e	Economic Opportunity and Development	Culture ^f	Health ^g	Social Services ^h	Other ⁱ	TOTAL EXPENDITURES ^j	TOTAL EXPENDITURES (Constant 1972 Dollars)
1962	\$816,800	\$1,360,690	\$75,920	\$139,670	N/A	N/A	\$30,530	\$265,970	\$1,854,740	\$726,770	\$5,271,080	\$7,161,800
1964	787,400	1,559,770	85,290	315,440	N/A	N/A	56,250	344,550	2,161,840	649,170	5,960,690	7,874,100
1966	1,001,250	1,702,400	109,080	190,950	N/A	N/A	93,300	448,620	2,528,570	739,250	6,803,420	8,579,340
1968	1,088,100	2,016,180	152,880	265,160	N/A	\$200,570	217,690	613,220	4,188,590	1,450,710	10,193,100	12,048,580
1970	1,360,670	2,228,110	187,530	352,800	\$ 91,140	183,320	337,050	935,140	4,647,650	396,960	10,720,370	11,589,570
1972	1,698,300	2,951,030	610,660	120,230	66,040	339,190	649,950	1,531,250	8,254,830	4,607,840	20,829,330	20,829,330
1974	2,326,480	2,975,580	867,020	162,760	126,610	684,480	721,220	3,014,220	11,397,710	8,502,010	30,778,080	26,328,560
1976	4,067,750	8,520,930	1,337,410	120,150	880,240	2,942,800	506,240	3,863,250	16,963,460	3,146,990	42,349,220	31,793,710
1978	5,882,150	7,323,200	1,986,490	133,890	1,450,480	7,808,800	780,860	2,997,020	15,831,520	4,026,370	48,220,780	32,083,020
PERCENT OF TOTAL EXPENDITURES												
1962	15.5	25.8	1.4	2.6	N/A	N/A	0.6	5.0	35.2	13.8	100	
1968	10.7	19.8	1.5	2.6	N/A	2.0	2.1	6.0	41.1	14.2	100	
1972	8.2	14.2	2.9	0.6	0.3	1.6	3.1	7.4	39.6	22.1	100	
1978	12.2	15.2	4.1	0.3	3.0	16.2	1.6	6.2	32.8	8.4	100	

^aAll dollar amounts are rounded to the nearest ten and are in current dollars except where noted.

^bAdministration, authorized agencies.

^cTransportation, other transportation, airport.

^dLaw enforcement, correction, public safety.

^eSewer, garbage, drainage, sanitation.

^fRecreation, natural resources, education, culture/community services.

^gHealth - hospital, medical assistants, mental health.

^hSocial Services - old age, ADC, blind, home relief, burial, disabled, juvenile delinquency, public homes, and medical assistance.

ⁱOther - employee benefits, capital outlay, interests on bonds, and debt service.

^jTotals may not add exactly due to rounding.

N/A means not available.

Source: New York State Department of Audit and Control, Division of Municipal Affairs, Summary of Financial Data, 1962-1978.

government, transportation, fire/ambulance, social services, and "other" dropped in relative importance while public safety, culture, and health expenditures increased (see Table 7-9).¹

7.3.2.2 Oswego City

Expenditures for Oswego City rose from \$3.1 million in 1962 to \$4.9 million in 1978 (constant 1972 dollars), a total increase of 57 percent or an average annual increase of 2.9 percent.

The pattern of city government expenditures by major departments is shown in Table 7-10. While changes in accounting categories over the 17-year study period make precise comparisons across years difficult, several changes of some magnitude occurred. In 1978, general administrative expenses received only half the share of the budget they received in 1962 (14.1 percent compared to 28.4 percent) and were absolutely smaller (constant 1972 dollars): \$891.6 thousand in 1962 and \$696.6 thousand in 1978. Expenditures for social services decreased as a percentage of the total budget between 1962 and 1968 in both relative terms (from 33.2 percent of the total budget in 1962 to 11.8 percent of the total budget in 1978) and in absolute terms (constant 1972 dollars): \$1,040 thousand in 1962 to \$582.1 thousand in 1978. Expenditures for public safety, on the other hand, increased in both relative terms (from 18.0 percent in 1962 to 28.8 percent in 1978) and in absolute terms (constant 1972 dollars): \$563.3 thousand in 1962 to \$1,418.8 thousand in 1978. Although expenditures for culture and recreation increased only slightly in relative terms (from 2.2 percent of total expenditures in 1962 to 3.2 percent in 1978), the amount expended in this category rose substantially (constant 1972 dollars)—from about \$70,900 in 1962 to about \$159,030 in 1978.

7.3.2.3 Scriba Town

Scriba Town experienced the largest change in funding during the study period and the largest change in distribution of revenues. In constant dollars, total expenditures increased by 179 percent between 1963 and 1978. As Table 7-11 shows, the budget

¹While Public Works and Economic Opportunity and Development show relatively larger increases, this is an artifact of the accounting categories used by the New York State Department of Audit and Control which did not use these categories for the earlier years. The increases, therefore, should not be considered the result of changes in internal budgeting.

TABLE 7-10

NINE MILE POINT STATIONS
OSWEGO CITY EXPENDITURES^a
SELECTED YEARS
1962-1978

	General ^b	Streets/ Transportation	Public Safety	Public Works ^c	ECO OPA ECO Asst.	Culture Recreation ^d	Health	Social Services	All Other ^e	TOTAL EXPENDITURES ^f	TOTAL EXPENDITURES (Constant 1972 Dollars)
1962	\$656,250	\$223,140	\$414,600	\$32,230	—	\$52,180	\$19,630	\$767,160	\$138,490	\$2,313,680	\$3,143,580
1964	640,380	201,380	461,600	32,210	—	63,200	18,830	787,020	119,200	2,323,810	3,069,770
1966	649,670	346,410	513,520	93,650	—	65,070	17,970	754,780	232,810	2,673,880	3,371,850
1968	676,630	341,660	688,200	90,850	—	91,390	23,380	1,197,290	674,540	3,783,930	4,472,730
1978	1,047,040	1,255,130	2,132,450	— ^g	\$713,470	239,020	—	874,830	1,151,990	7,413,930	4,932,750
PERCENT OF TOTAL EXPENDITURES											
1962	28.4	9.6	18.0	1.4	—	2.2	0.9	33.2	5.9		
1968	17.9	9.0	18.2	2.4	—	2.4	0.6	31.6	17.8		
1978	14.1	16.9	28.8	—	9.6	3.2	—	11.8	15.5		

^aAll dollars rounded to nearest ten and are in current dollars except where noted.

^b1962-1968 includes legislative, judicial, executive, and staff.

^cPublic works limited to sanitation.

^dIncludes natural resources.

^eIncludes employee benefits, principal and interest on debt.

^fTotals may not be exact due to rounding.

^gNow included within streets and transportation.

Sources: Parker, personal communication, July 1980; Miller, personal communication, July 1980.

TABLE 7-11
NINE MILE POINT STATIONS
SCRIBA TOWN EXPENDITURES^a
SELECTED YEARS
1963-1978

	General Government ^b	Public Safety ^c	Education	Health	Recrea- tion ^d	Welfare ^e	Miscel- laneous ^f	Trans- portation ^g	TOTAL EXPENDITURES ^h	TOTAL EXPENDITURES (Constant 1972 Dollars)
1963	\$11,920	\$1,750	\$200	\$590	\$210	\$2,910	\$13,580	\$75,770	\$106,920	\$143,130
1964	12,890	5,670	200	510	6,790	2,600	15,650	82,100	120,740	159,490
1965	13,370	3,620	200	500	5,480	2,640	25,930	139,910	191,650	248,570
1967	19,330	10,480	—	720	21,170	2,200	29,520	151,180	234,590	288,540
1968	22,120	13,370	—	670	19,290	4,010	22,900	133,600	215,960	255,270
1970	73,320	15,240	—	910	16,720	3,160	9,650	209,890	328,890	355,550
1971	48,520	16,360	—	1,070	18,660	—	32,350	213,470	330,410	342,040
1974	95,240	24,840	—	100	23,460	5,200	6,600	200,270	355,710	304,290
1975	120,850	26,730	—	100	25,150	6,160	400	117,610	357,000	282,220
1976	69,880	26,540	—	100	23,420	7,500	172,750	122,090	422,280	317,030
1978	144,600	88,630 ⁱ	—	100	31,420	—	4,800	330,900	600,450	399,500
PERCENT OF TOTAL EXPENDITURES										
1963	11.1	1.6	0.2	0.6	0.2	2.7	12.7	70.9	100	
1967	8.2	4.5	—	0.3	9.0	0.9	12.6	64.4	100	
1971	14.7	5.0	—	0.3	5.6	—	9.8	64.6	100	
1978	24.1	14.8	—	—	5.2	—	8.0	55.1	100	

^aAll dollar amounts rounded to nearest ten and are in current dollars except where noted.

^bIncludes salaries for supervisor, justice of peace, councilmen, town clerk, assessors, tax collectors, attorney, engineer, elections, and employee benefits.

^cIncludes expenditures for police, constables, animal control, and fire protection.

^dIncludes "Beautification - \$2,477."

^eIncludes expenditures for social services and home and community services.

^fIncludes debt service, principal and interest, and economic opportunities development.

^gIncludes expenditures for bridges, machinery, snow removal, and transportation.

^hTotal may not be exact due to rounding.

ⁱIncludes a \$47,825 payment for contractual expenses to the fire department.

Sources: Department of Audit and Control, Report of Examination, State of New York, Department of Division of Municipal Affairs, 1965, 1967, 1968, 1971, 1974; Department of Audit and Control, Annual Report of the Supervisor, State of New York, Division of Municipal Affairs, 1963, 1964, 1970, 1975, 1976.

categories which most increased their share of expenditures were general government, public safety, and recreation.

General government expenses increased from 11.1 percent of total expenditures in 1963 to 24.1 percent in 1978, rising from just over \$15,950 per year to \$96,210 per year (constant 1972 dollars). Expenditures for recreation increased from less than 1 percent in 1963 to over 5 percent in 1978 with the greatest increase occurring in 1967. In that year, expenditures increased by about \$18,940 (constant 1972 dollars), from approximately \$7,100 in 1965 to about \$26,040 in 1967. The increased general expenditures were due primarily to the addition of town employees and the construction and operation of a new combination town hall and garage. The increased funding for public safety was utilized to maintain some local participation in law enforcement and to support the volunteer fire department.¹ The increased recreation expenditures resulted from the development of a town park/recreation area which required the employment of a summer staff. While the highway department did not experience an increase in its share of funding, it did benefit from increased absolute funding; the highway expenditures rose from about \$101,430 in 1963 to approximately \$220,160 in 1978 (constant 1972 dollars). Since little new road construction was undertaken, this resulted in substantially higher funding per mile. The changes in these areas of service are discussed in some detail later in this chapter.

7.3.2.4 Summary of Expenditure Patterns

Of the three municipal units under study, only Scriba Town experienced major redistribution of expenditures during the study period. As shown in Table 7-12, the annual expenditures of all three municipalities increased at a faster rate than did their population, with the result that all three showed considerably increased per capita resources (and expenditures) over the study period. Constant dollar per capita revenue² in Oswego City rose from about \$150 in 1962 to \$340 in 1978, an increase of 132 percent. In Scriba Town, per capita revenue increased from about \$50 in 1963 to \$130

¹Public safety expenditures rose from less than 2 percent of the total to nearly 15 percent of the total in 1978, rising from about \$2,345 in 1963 to \$58,965 in 1978 (constant 1972 dollars). However, the largest increase occurred in 1978 because of a special payment to the fire department.

²Since the budgets were in close balance, per capita revenues were almost equivalent to per capita expenditures.

TABLE 7-12

NINE MILE POINT STATIONS
ESTIMATED PER CAPITA REVENUES
SELECTED YEARS
1962-1978^a

Year	Oswego City			Scriba Town			Oswego County		
	Revenues	Population	Per Capita Revenues	Revenues	Population	Per Capita Revenues	Revenues	Population	Per Capita Revenues
1962	\$3,174,900	21,900	\$150	\$130,710 ^b	2,780 ^b	\$50 ^b	\$7,592,540	88,890	\$90
1968	4,298,200	21,160	200	240,220	3,350	70	12,922,030	97,750	130
1972	4,863,570	21,440	230	429,320 ^c	3,810 ^c	110 ^c	20,237,160	106,700	190
1978	7,039,680	20,830	340	547,680	4,340	130	30,960,390	110,100	280

^aAll numbers are rounded to the nearest ten. Dollar amounts are in 1972 constant dollars.

^bData are for 1963.

^cData are for 1971.

Sources: New York State Department of Audit and Control, "Summary of Financial Data," 1962-1978; Miller, personal communication, July 1980; Scriba Town Clerk, Annual Report of the Supervisor, 1963-1978; U.S. Bureau of the Census data derived from Table 5-1 of this report, 1981.

in 1978, an increase of more than 168 percent. Per capita expenditures for the county government increased from about \$90 in 1962 to about \$280 in 1978, an increase of a little more than 300 percent during the study period. These figures correspond with the evaluations of public officials who stated that the availability of public facilities and public services increased during the study period and that the budgets for these facilities and services increased more rapidly than did the population.

7.4 Selected Public Services

This section examines selected public services and facilities in greater detail in order to more clearly illustrate the effects of the Nine Mile Point Stations on the quality, cost, and availability of publicly funded services in the Study Area and Oswego County. To do this, three public services--Education, Transportation, and Public Safety--were selected as key services for analysis on the basis that, among those services identified in the literature to be vulnerable to impact, they were ones for which:

1. The magnitude and nature of project-related demand could be estimated with reasonable confidence;
2. The mechanisms/alternatives for response (by public services) to increased demand were relatively straightforward and direct; and¹
3. The project-related demand was potentially of sufficient magnitude to affect quality, cost, and availability of the service.

An additional reason for selecting Transportation and Public Safety for analysis was that they exemplify services which are affected by commuters into the area as well as by permanent residents.

Also included in this section is a brief discussion of the effects of the projects on social services. Social services were not analyzed in detail because: (1) the relationship between the types of project-related changes is not sufficiently clear; and (2) the provision of social services was shared by such a wide variety of governmental agencies that accurate analysis was beyond the scope of this study. Other public services or facilities in the Study Area which were particularly stressed, improved, or expanded are also briefly addressed in this section.

¹The first two conditions are critical if, as in this study, a substantial portion of the analysis is based on the evaluation of key officials. Unless these key officials have a clear understanding of project-related demand, this evaluation will not be valid.

7.4.1 Education

The Oswego City Consolidated School District provided educational services to the Study Area. Funding was largely from taxes on property within the school district. State aid to education in New York State was determined primarily on the basis of the number of students and the property value per student. The construction of nuclear plants in concert with other construction decreased the state share of school funding by substantially increasing this ratio.

The demand for educational services, as measured by student body size, peaked in 1972 (see Figure 7-3). Interviews with local school officials indicated that physical plant improvements in the school system—a new high school, bonded in 1970 for \$4.98 million and opened in 1971; conversion of the old high school to a middle school; and remodeling of the primary schools—surpassed community demands. School officials felt that the quality of education improved during the study period. Enrollment remained fairly constant (increasing appreciably only from 1970-71 through 1972-73 before declining in 1978-79 to less than the 1964 enrollment), and the increased availability of local funds more than offset the decrease in nonlocal funds (Stone, personal communication, 1980). Project-related students accounted for only a small percentage of the enrollment in the system and were not reported to have affected class size, overall student characteristics, or school administration. Construction workers' children were not singled out for comment by school personnel or community residents.

The major changes in revenue availability during the study period involved an increase in total revenues and a shift to greater dependence on local funding, and a near doubling of per student expenditures as the value of property in the school district increased (from \$138.6 million in 1965-66 to \$789.1 million in 1978-79).

Because of Niagara Mohawk's nuclear plants in Scriba Town and its steam stations in Oswego City, both of these communities increased their share of local funding to the school district over the study period. In 1966-67, Niagara Mohawk's Nine Mile Point nuclear plants accounted for only 1.2 percent of total property value in the school district. By 1970-71, it accounted for 38.7 percent. In 1978-79, the plant's percentage of total property value had declined. In 1978, Niagara Mohawk's nuclear plants and steam stations accounted for 62.5 percent (nuclear plants—27.4 percent; steam station—35.1 percent) of the total property value in the school district.

The tax increases due to construction of the nuclear power plants acted in concert with other property value increases to greatly enhance the tax base of the school district and to increase the local share of funding for education. Given the relatively stable size of the student body, this increase in funding resulted in the provision of better school facilities and enhanced educational services.

7.4.2 Transportation

Roads and highways¹ were the only aspects of transportation substantially affected by the construction of the nuclear power plants. Each local jurisdiction was responsible for maintaining certain roads within the Study Area. New York State was responsible for maintaining several of the main roads (e.g., NY-104). Analysis of increased traffic demand, corroborated by interviews with transportation officials at all three levels of local government (town, city, and county), indicated that the impact on transportation services was greater in Scriba Town than in either Oswego City or Oswego County. This was not surprising when one considers the comparative size of the three communities—the incremental effect of increased demand and increased revenues was bound to be much larger in a smaller community. Therefore, this section concentrates on the plants' impact on transportation in Scriba Town.

As discussed previously, both Oswego County and Scriba Town benefited from the increased property value of the Niagara Mohawk steam generating plants. Neither jurisdiction significantly lowered its tax rates. The resulting increase in revenues was viewed by transportation department officials as a major factor in their ability to respond to the road maintenance and construction needs created by the nuclear plants. As discussed in the previous sections, county expenditures for transportation increased from \$1.8 million in 1962 to \$4.9 million in 1978 (constant 1972 dollars), while Scriba Town expenditures for transportation increased from \$101.4 thousand in 1963 to \$220.2 thousand in 1978. In Oswego City, expenditures for transportation rose from \$303.2 thousand in 1962 to \$835.1 thousand in 1978.

The major project-related demand on the local transportation systems was increased road usage, which resulted in traffic flow problems and increased wear and

¹Although Oswego City had a Port Authority, shipping was not significantly affected by plant construction so is not covered in this report.

tear on roads. Increased demands for new roads due to modification of settlement patterns were not identified as consequences of the project. (Upcraft, personal communication, July 1980; Bushey, personal communication, July 1980; Ospelt, personal communication, August 1980; Oswego County Transportation Planning and Policy Committee, n.d.)

In Oswego City, the traffic director noted an increase in traffic as well as a small increase in staff and workload over the study period. In response to the traffic congestion, signs and signal changes were made to facilitate traffic flow, particularly across the Oswego River. These increases were attributed primarily to the increased population in the area and to more automobiles per household due to greater affluence. The contribution of the Nine Mile Point Stations to these changes was noted, but most of the changes were not thought to have resulted directly from the projects. (Bushey, personal communication, August 1980.)

Transportation officials in Oswego County and Scriba Town reported that increased traffic and consequent road wear had resulted from the plants. The cumulative effect of the Nine Mile Point Stations and Alcan on traffic flow in Scriba Town was substantial. In 1972, an estimated 1,800 work-related vehicles entered and left the job sites each workday; by 1978, there were approximately 2,350 vehicles per day.¹ No useful traffic count data were available.

At the county level, the increased road usage due to the project was reported to have been greatest in Scriba Town. In fact, county officials considered the increased road usage in Scriba Town to constitute the greatest increase in demand anywhere in the county except, perhaps, in the southern portion closest to Syracuse. An assistant to the Superintendent of Public Highways (a Scriba Town native who had worked for the County Highway Department for 25 years) noted that traffic had increased "at least 50 percent" along the main connector roads in Scriba Town. This additional traffic caused particular problems during the long and very snowy winters. However, it was also noted that the increased demand had resulted in improved overall maintenance of the roads (compared

¹Based on a ratio of 0.75 vehicles per worker extrapolated from the Battelle survey in June 1978 which showed that about 65 percent of the construction workers drove to the site alone (Malhotra and Manninen, 1979:228); in addition to the workers, an estimated 100 supply trucks used the road each day.

to that provided in the 1950s), particularly regarding the timely removal of snow from the roads and the dispersal of sand at intersections (Coe, personal communication, August 1980). During the study period, a few of the heavily used roads in Scriba Town were transferred to county responsibility. This did not require an increase in county highway department manpower, but it was considered significant in preventing the Scriba Town Highway Department from becoming over burdened by the increased work load.

In addition to the increased demand for road maintenance in winter, highway department officials emphasized that the increased road usage resulted in quicker road wear. Oswego County, which had previously given Scriba Town roads the "skin treatment" (using oil and crushed stone) once every four years, shifted to a maintenance program which involved resurfacing the roads (using a one-inch bituminous top). Because of the heavy road usage, however, even this resurfacing lasted only about four years (Coe, personal communication, August 1980).

In Scriba Town, transportation problems due to increased traffic flow began with the construction of the Al-Roll plant (which became Alcan), and were exacerbated by construction of the nuclear plants. In response to this traffic problem, a traffic light was installed at the plant entrance to operate during shift changes. However, town residents and highway officials agreed that resolving the traffic problems caused by the 1,000 Alcan employees and the 2,000 nuclear plant construction workers required more drastic measures. Scriba Town residents living on the two or three main arterials to the plants reported that their driveways were often blocked for 10 to 15 minutes during shift changes. Speeding was also a problem. Although the town often asked the New York State Department of Transportation for changes in speed limits and stop signs, it had few successes. One resident who lived near the plants noted "you should see the traffic at shift changes, bumper to bumper, and at 50 miles per hour." (Scriba Town Meeting Minutes, 1963-1978; Coe, personal communication, August 1980; Miller, personal communication, August 1980; Hutchinson, personal communications, July, August, and December 1980.)

Despite the transfer of some responsibilities to the county, the work requirements of the Scriba Town Highway Department increased over the course of the study period (Upcraft, personal communication, July 1980). In 1965, the town had a crew of five men; by 1980, it had ten men working full time "just to keep up with the increased demands." According to the town highway superintendent, there was "five times as much work due

to traffic" in the late 1970s as there had been in the early 1960s. The resurfacing of town roads, which previously had lasted up to ten years, was likely to last as little as two years in the late 1970s. (Upcraft, personal communication, July 1980; Coe, personal communication, August 1980.) Partly because of the increased demand and partly because of the increased revenue, all Scriba Town roads were rebuilt (not just resurfaced). The result of this was, as noted by local residents and highway officials, "It is hard to find a dirt road in Scriba." The town highway superintendent also emphasized the increase in winter work mentioned by the county official, and noted the particularly large job of plowing all the roads "simultaneously" after a large storm. However, the town highway department reportedly "still kept even" because increased revenues had kept up with increased demands, especially in equipment. In the mid-1960s, the town highway department had only one sander and four plows; in 1980, it had five sanders and 16 plows. In Scriba Town, the consensus was that the revenues for highway maintenance had kept pace with the increased demands and that the county and town had responded effectively.

In summary, increased traffic flow problems and road wear were the main transportation effects of the power plant construction and operation. The most concentrated increase in demand involved those roads in Scriba Town which accessed the plant site. Since Scriba Town received property revenues on the Niagara Mohawk Nuclear plants (NMP-1 and NMP-2), some of which were used to respond to the increased demand for road maintenance and surveillance and since the town was able to transfer some maintenance responsibility to the county (which also received property revenues from Niagara Mohawk's Nine Mile Point plants), road quality was generally agreed to have improved although traffic remained a problem.

7.4.3 Public Safety

The major public safety services considered in this analysis include law enforcement, fire protection, rescue service, and civil defense (preparedness and communication). As with transportation, public safety services in the Study Area were provided by a number of overlapping sources. The state police were responsible for law enforcement on state highways. The county sheriff's office controlled county roads and coordinated other local public safety operations. Oswego City maintained a police department and fire/ambulance operations. Scriba Town coordinated with Oswego City in maintaining a voluntary fire department and an emergency rescue operation. Scriba

Town relied on the county sheriff for police protection. Judicial services were also provided by the county.

7.4.3.1 Law Enforcement

Both county and city police officials indicated little, if any, direct impact on their services as a result of plant construction, the only exception being traffic control. A county police lieutenant who had worked for over 20 years in that portion of the county where the plants were located stated that the Nine Mile Point Stations had resulted in about a 10 percent increase in "vehicle and traffic work, mostly directing traffic, getting them off the site" (McDermitt, personal communication, August 1980; Miller, personal communication, August 1980). According to a local judge who was a long-time resident of Scriba Town, the principal increase in the demand for law enforcement due to the project was related to traffic and vehicular control—speeding, careless driving, registration compliance, etc. No disproportionate participation of project-related persons in other criminal behavior (e.g., vandalism and theft) was noted. (Hammond, personal communication, December 1980.)

No project-related increases in county law enforcement personnel occurred during the study period. However, 30 county sheriff personnel were prepared to be utilized as security back-up in the event of a security force strike at the nuclear plants. There was some individual benefit to county sheriff personnel when the construction company hired off-duty sheriff department personnel to direct traffic during peak construction, thus providing extra income for these officers. (LaTulip, personal communication, July 1980).

The Oswego City Captain of Police noted that, since his tenure began in 1956, the increased police work had required an increase in personnel—from 34 in 1956 to 50 in 1980. This expansion was attributed primarily to SUNY-Oswego rather than to the nuclear stations (LaTulip, personal communication, July 1980). One direct effect of operation of the nuclear plants on the city police force (as with the county sheriff's office) was the assignment of 20 Oswego City police personnel as back-up security forces for the stations. To prepare for this contingency, police personnel attended a 25-hour training course which was funded by the utility and taught at the Nine Mile Point site. This training took place in response to an NRC ruling (LaTulip, personal communication, July 1980).

7.4.3.2 Fire Protection and Emergency/Ambulance Service

The Oswego City Fire Department/Ambulance Service and the Scriba Town Volunteer Fire Department/Emergency Rescue Service both experienced increased demands for service as a direct result of the nuclear plants (Martin, personal communication, August 1980; Nicolas, personal communication, August 1980; Beauchene, personal communication, August 1980).

The Oswego City Fire Chief noted that, during his 24 years as a fireman and 3 years as chief, the size of the department had increased (from 40 to 70 men), as had the quality and quantity of available equipment, all of which had been paid for by local funds. The increased construction activities in the Oswego City and Scriba Town, including the nuclear stations, were cited as sources of fires and accidents. Particularly noted by the Oswego City Fire Chief and by the Assistant Scriba Town Fire Chief were the fires which started in the concrete forms due to the propane procedures used in drying the cement. The wooden forms would catch fire and ignite the propane tanks (as occurred at the SUNY campus), resulting in very dangerous and destructive¹ fires and explosions. The fire chief felt that the improved revenue situation for the city, which had largely resulted from the Niagara Mohawk steam plants, had enabled his department to maintain or improve its quality of service (Beauchene, personal communication, August 1980).

In 1980, the Scriba Town Volunteer Fire Department, which could rapidly field 50 men, also operated an emergency rescue operation. According to an assistant fire chief, the Scriba Town Volunteer Fire Department experienced an increased demand over the study period, some of which was attributable to the Nine Mile Point Stations. A total of seven major fire calls were made during the construction of the FitzPatrick plant, one of which involved propane tanks. To adequately protect the nuclear stations, the NRC required that ten fire department volunteers attend a series of technical training seminars four times a year. The assistant chief felt that the danger of fire at the nuclear plants was increased by complex regulations and by communication deficiencies

¹The other principal source of increased fire rates was the conversion of old, single-family dwellings into multifamily, low-rent, densely occupied apartments. The college students were seen as the principal source of demand for these apartments though construction workers were also considered contributors (Sullivan, personal communication, August 1980).

between plant and local officials. Entry to the plant sites by fire department personnel was noted as a particular problem since entry procedures required a minimum of 3-5 minutes. As an indication of the problem, fire department personnel cited having to sign in at the gate and obtain the required badge. On one occasion, fire department personnel waited for seventeen minutes at the vestibule before being allowed onto the site (Martin, personal communication, August 1980; Nicolas, personal communication, August 1980).

Scriba Town's rescue operation experienced increased demands during the study period. The majority of this increase was attributed to the increase in population within Scriba Town and the surrounding area. This increased demand in Scriba Town also affected the Oswego City emergency system since Scriba Town was part of a mutual-aid response system and consequently called on Oswego City for assistance when necessary. A specific source of increase in rescue operations, noted particularly in Scriba Town, was motor vehicle accidents—as local traffic increased, so did the number of accidents and calls for emergency ambulance assistance (Martin, personal communication, August 1980).

In general, officials concurred that, while fire and rescue service demands increased during the study period (partly as a result of the nuclear stations), the increased availability of funds due to property tax receipts from NMP-1 and NMP-2 adequately met these demands. Almost all local officials observed that, although the FitzPatrick plant contributed to the increased demand for services, it did not contribute to the resources needed to meet them. The pumper truck which PASNY donated to the Scriba Town Volunteer Fire Department was considered neither adequate nor just compensation for the services required by and provided to the FitzPatrick plant. This truck, which cost \$75,000, was housed near the PASNY plant in a \$35,000 building paid for and constructed by the Scriba Town Volunteer Fire Department. (Patrick, personal communication, July 1980; Hutchinson, personal communications, July and August, 1980; Martin, personal communication, August 1980.)

7.4.3.3 Civil Defense

The Oswego County Office of Emergency Preparedness was largely responsible for civil defense. The director of this office indicated that, although the formation of an emergency response plan began prior to the Three Mile Island accident, the preparation was greatly accelerated as a result of the accident. He estimated that between 75 and 80 percent of his time subsequent to the TMI accident had been spent on the development

of a response plan. In addition, the County Office of Emergency Preparedness engaged two consulting firms, created a full-time Radiological Officer position, and employed two CETA workers in the development of the plan. However, the increases in revenue due to the projects were felt to adequately cover the increased costs (Brown, personal communication, August 1980).

7.4.4 Social Services

During the study period, social service programs were administered and coordinated by the County Department of Health and Social Services. Responsibility for these programs was dispersed among a great many agencies, many of which received federal and state funds. No particular revenue-related changes in the provision of social services were noted although locally supported social services benefited from the plant-related increased local revenues. Without a detailed analysis of client records and case loads, it is difficult to make a comprehensive or valid determination of the projects' effects on the demand for social services. No particular effects were noted by key social service officials although potential health hazards from sewage disposal problems at the trailer parks and new subdivisions in Scriba Town were generally considered to be related to project-related population growth. In general, it was agreed that the Nine Mile Point Stations did not exert a major increase in demand on the social service departments. However, the temporary demand by workers for unemployment compensation and other social service benefits during work slowdowns did strain the finances of the social service departments.¹ (Department of Health and Social Services, personal communication, August 1980.)

7.4.5 Scriba Town Recreation

One of the most dramatic changes in allocation of resources that resulted from the Nine Mile Point Stations was the commitment made to recreation by Scriba Town. Although there was a continuing demand for expanded recreation facilities in Scriba Town, this shift in expenditures represented the town government's response to increased revenues as much as to increased demands.

¹Several newspaper articles noted that claims for unemployment benefits were substantially lower than anticipated during periods of layoff, indicating an absence of extreme social service dependence among project workers. (Post Standard, 14 July 1978.)

As early as 1964, the Scriba Town Board recognized that the improved revenue situation would open opportunities for increased services. In response, it purchased 20 acres of land in the town and, in 1965, formed a recreation committee to study the consolidation of existing recreation activities—the Grange Hall in Lycoming, the Davis Lot on Hall Road, the Fireman's Field, and a small park on O'Conner Road. (Town Board Meeting Minutes, 14 June 1965.) The committee recommended the development of a town park which was subsequently opened on 30 June 1968. Also in 1968, the Scriba Town Board authorized the purchase of an additional 4.7 acres of land adjacent to the new park.

Annual expenditures for recreation, largely for the development of the park and its programs, increased nearly every year (see Table 7-12) and, by 1973, the outdoor facility included a 5-acre pond with a sand beach, a pavilion with a snack bar, dressing rooms, tennis courts, horseshoe pits, a nature trail, a children's playground, and 69 picnic tables with 34 burners. Families as well as civic groups were permitted to reserve sections of the park (Scriba Town Board, 1973).

According to local residents and town officials, the Scriba Town park was a needed addition to the local recreation scene because those portions of the Lake Ontario shoreline open to the public were some distance away. Fair Haven Beach was 27 miles west of Scriba Town and Selkirk Shores was 11 miles northeast. Because the Scriba Town park was substantially closer to Oswego City than either of these two areas, the demands for the park quickly exceeded capacity. Scriba Town residents thus found their park more and more crowded, especially on weekends. In 1973, the Scriba Town Board decided to limit park usage by issuing permits which identified Scriba Town residents who then received priority. When the park was full, which it was most weekends, all but Scriba Town residents were turned away. In 1973, 544 permits were issued. (Church, personal communication, August 1980; Scriba Town Board, 1973.)

The town park enhanced the summer employment possibilities of Scriba Town residents. In 1980, the park engaged 24 summer employees, all Scriba Town residents.¹

¹The payroll for 11 July 1980 to 24 July 1980 was \$4,313.87, which represented a flow of money from the power plants as taxes to Scriba Town residents as income.

In 1980, despite the development of the park, there was a continuing demand in Scriba Town for recreational facilities, particularly regarding year-round, indoor facilities. The Community Building Study Committee (formed in February 1980) assessed community needs to ensure consideration of all age- and interest-groups. Given the available resources, the Study Committee considered the construction of a \$200,000-\$300,000 building with a large multi-use area to be used for parties, meetings, weddings, bridal showers, etc. This area would also have a stage at one end which could be used for local (school) musical and dramatic productions. (Aldritch, personal communication, August 1980.)

7.4.6 Summary

Overall, those providing publicly funded facilities and services in Oswego City, Scriba Town, and Oswego County felt that the increased revenues from Niagara Mohawk's Nine Mile Point nuclear plants (and its steam stations) more than adequately offset the expenses created by project-related demands. The response of local governmental jurisdictions had been primarily to maintain millage rates and to increase service levels. In general, services were thought to have experienced a net increase in quality as a result of the nuclear plants. Nevertheless, some of the changes which occurred as a result of the projects had not been successfully mitigated—for example, increased traffic congestion and hazard and sewage disposal problems had not been resolved.

CHAPTER 8: SOCIAL ORGANIZATION AND STRUCTURE

8.1 Introduction

The preceding chapters have described in aggregate terms the major economic, demographic, land use/housing, and public service effects of the Nine Mile Point Stations on the Study Area and Oswego County. The purpose of this chapter is to examine the consequences of the projects on the social organization and structure of the Study Area. This requires a focus on the Study Area as a community and a consideration of the Study Area residents as elements of that community. The relationships among residents in a community are patterned by ecological conditions and by the characteristics of individual residents. These relationships, which both determine and reflect the social organization and structure of the community, can be delineated by describing the characteristics of the groups into which residents have become aggregated. Examination of how the project effects have been distributed among these groups, and the manner in which group characteristics have been changed by them provides a viable mechanism for identifying project-related changes in the social organization and structure of the Study Area.

This chapter is divided into two sections. The first describes the pertinent "functional" groups in the Study Area at the beginning of the study period and examines how the profile of each group changed over the study period. The second section analyzes the effects of the projects on each group and on the social structure and processes in the Study Area.

Because historical background continues to influence the Study Area, caution must be exercised in the examination and attribution of social change due to the nuclear plants. For this reason, the analysis presented in this chapter focuses on the changes that can be linked to the distribution of measurable project effects among the residents of the Study Area.

The following discussion represents a synthesis of the information obtained through interviews with Study Area residents. In order to protect the confidentiality of this information, statements are not attributed to specific people. Persons interviewed are included in the list of Personal Communications at the end of the report.

8.2 Social Organization and Structure in the Study Area

8.2.1 Identification of the Social Groups and Organizational Processes

The aggregation of Study Area residents into groups has three principal objectives: (1) to define groups which accurately reflect the relationships and organization of people within the Study Area; (2) to identify groups which received differential effects (economic, demographic, housing, or governmental) of the nuclear stations or which evaluated those effects differently; and (3) to identify groups which were discernible to Study Area residents and upon which they could focus to discuss the composition of the community; the economic, political, and social relationships within the community; and the distribution of project-related effects among community residents.

In some communities, historical forces have resulted in the formation of well defined functional and discrete groups within the community whose membership is based on clear criteria. In these communities, most residents can be easily and unambiguously placed in a group. In the Study Area, a number of criteria were important in patterning the relationships among residents--length of residence, ethnicity, occupation, and wealth. The transitional and complex nature of political, economic, and social forces operating in the Study Area were reflected in the absence of high correlation among these criteria, and consequently the absence of clear and distinct groups.

This is an important characteristic of the social structure of the Study Area, and one which was influential in the distribution of project effects among residents and in the effects of the project on the area's social structure and processes.

Given the absence of clear, separate groups based on patterns of relationships, the groups identified for description in this report were delineated by occupation, the criterion most important in determining the distribution and evaluation of project effects. The groups identified in the Study Area at the beginning of the study period were: the entrepreneurs and their immediate families; the wage and salary workers and their immediate families; and the faculty and students of the university (SUNY-Oswego).

The place of residence, Scriba Town or Oswego City,¹ was found to have had variable importance regarding different aspects of social organization and structure of the Study Area.

Based on a review of the literature on the social effects of industrial and energy development, a number of attributes were identified that appear to be most critical to the specification and description of the groups, and to the analysis of the effects of the nuclear projects on the groups and on community structure and organization. These attributes include:

- (1) Size of the group;
- (2) Livelihood of group members;
- (3) Demographic characteristics;
- (4) Geographic location (residential and occupational);
- (5) Property ownership characteristics;
- (6) Dominant group attitudes toward the environment, community participation, and growth; and
- (7) Patterns of interaction and organization among group members.

This section provides a profile of each group based on these seven attributes. These profiles will emphasize the modal characteristics of each group along with an indication of the degree of variance within the group.

Three dimensions of group relationships are specifically considered—social, political, and economic although overlapping of groups is quite frequent. Changes in social structure and process are summarized in terms of changes in complexity/diversity, outside ties, distribution of resources/powers, and coordination and operation. To a large extent, these changes will be reflected in the relationships among members of a group and between the groups throughout the study period.

¹A study focusing on the social organization and structure of the Study Area per se rather than on the effects of the nuclear plants would have further disaggregated these groups. The discussion here will identify major subgroups important to the analysis.

Given the focus on structure and organization and the subcounty character of the Study Area, only limited pertinent secondary analyses or data were available. Most of the information for this chapter was obtained from semistructured and informal interviews with Study Area residents, field observations, and newspaper and other secondary source accounts, including local histories.¹

8.2.2 Components of the Social Structure—Group Profiles over the Study Period

8.2.2.1 The Entrepreneurs

Oswego City had long been known as a "blue-collar city" with a strong organized labor force. On the other hand, Scriba Town, prior to World War II, had been a relatively isolated, rural agricultural hinterland, populated primarily by farmers and a few retired "gentlemen" landowner families (Aldritch, personal communication, December 1980; Guinta, personal communication, July 1980). However, throughout its history, the Study Area had included an important component of large-scale entrepreneurs whose business, political, and social activities were highly visible and influential (White, personal communication, December 1980). By the beginning of the study period (1963), the area's major business families—the industrialists and professionals—had declined in importance and were recognized as much by reputation as by economic or political distinction. According to local sources, the entrepreneur group in the Study Area consisted of several strata. At the top were the well established elites—the "400s" as they were known in the city. This subgroup, which had a reputation for political and social influence, was relatively small, even in 1963. At that time it consisted primarily of the "old families" whose members had entered professions or business management. By 1978, a greater

¹Using Warrens (1978) definition of community: "Combinations of social units and systems that perform the major social functions have locality relevance." (Functions include: production, distribution, consumption, socialization, social control, social participation, and mutual support.) With this definition, and the particular residential work patterns in the Study Area, Minetto Town and Oswego Town could well have been included in the Study Area. However, it was determined that the analysis could be effectively performed without the additional complexity introduced by the addition of two more jurisdictional units.

proportion of this elite subgroup was composed of corporate executives who were relative newcomers and who resided almost exclusively in Oswego City.¹

In 1963, the larger component of the entrepreneur group included the "newcomer" executives of the large local industries, the less prominent professionals,² and other local merchants and their immediate families.³ Throughout the study period, the entrepreneur group was the second largest in the Study Area and may have comprised between 20 and 25 percent of the population. New members to the group were added largely through the addition of small-scale entrepreneurs and in-migrating corporate executives. Some members were lost through out-migration from Oswego City to surrounding communities.

As indicated by the title assigned to them, members of the entrepreneur group obtained their livelihood primarily from the ownership and operation of businesses. The few families involved in agriculture (as owners/operators) were also considered members of this group.⁴ In addition, retired persons who had previously been engaged in entrepreneurial or professional activities were included in this group.

Although the fortunes of the Study Area had sometimes fluctuated, in general it had steadily declined since the "Golden Days" of the 1850s (see Chapter 4). During the decades following World War II, increased competition by chain stores and malls had forced a number of local families out of business, a process which continued throughout

¹Oswego City was the governmental, business, and social focal point of the Study Area. Because some of the influentials lived in Oswego Town and Minetto Town, and thus not in the Study Area, they are not included in this analysis. (This is an example of the spillover or leakage of effects from the Study Area.)

²University faculty were not included in this group.

³Families with members in both the entrepreneur group and the wage and salary workers group were generally considered part of the entrepreneur group. The allocation was less clear for the few families having members in both the university group and entrepreneur group.

⁴By 1963, only a few area residents gained their livelihood as owner/operators of agricultural enterprises although a number were from agricultural backgrounds. The owners of the farm operations in the Study Area tended to have other occupational ties—either as entrepreneurs or as employees in nonagricultural activities. For these reasons, it was judged that agricultural owners did not warrant consideration as a separate group in the Study Area. In those cases where their interests or the incidence of effects diverged from those of the group, they are addressed as a subgroup.

the study period. In addition, the major new industries locating in the area were mostly branches of large corporations—Hammermill, Alcan, Niagara Mohawk, and Millers Brewery, for example—rather than proprietorships. Alcan, the second largest private sector employer in the Study Area (Niagara Mohawk was the largest) established itself as a nonunion shop. According to local residents, the Alcan executives were singled out as significant newcomers to the community elite (a subgroup of the entrepreneur group), an indication of changes in the definition of that group and the power structure of the community during the study period.

Throughout the study period, the livelihood of the entrepreneur group was based on a combination of small business ownership such as industrial (manufacturing), retail, wholesale, and services; large business executive/managerial positions; independent professional practice such as medicine and law; and income from investments in real estate or business. A number of the families in this group also had members employed in wage and salary jobs; and several had two family members in joint entrepreneurship. This situation continued over the study period. The livelihood of a relatively small proportion of this group was provided by returns on previous investments and, perhaps, social security.¹ By 1978, an increased proportion of the "name" members of this group had retired, thus expanding the retired component of the group. An appreciable, though unquantified, portion of the entrepreneur group left the Study Area and retired to less strenuous climes in their later years.

Historically, the entrepreneur group had been dominated by persons of German or English heritage. By 1963, however, ethnicity was not a major determinant of group membership, although it remained somewhat important for status attainment within the group. During the study period, ethnicity became a less important consideration regarding group membership and status. As a whole, the group probably had a higher educational level and a slightly higher level of income than the general Study Area population.² However, the overall demographic characteristics of the group (age, ethnicity, sex ratio, family size) were not particularly distinctive, and at no time during

¹Except for its most prominent members, little information was available on the economic status of retired members of this group.

²According to a study sponsored by the Greater Oswego Chamber of Commerce (Guinta, personal communication, August 1980).

the study period could members of this group be identified on the basis of their demographic or religious characteristics.

In 1963, members of the entrepreneur group lived throughout the Study Area, although they were concentrated more in some neighborhoods than in others. The density of residence was greater in Oswego City than in Scriba Town and this pattern persisted throughout the study period. Many of the smaller businesses depended heavily on family labor. Local residents noted two characteristics common to locally owned businesses: (1) the prevalence of husband and wife as owner-manager teams, and (2) the high incidence of family members and friends among the employees. In Scriba Town, entrepreneurs were likely to work and reside at (or near) the same location. This was less true in Oswego City, especially for the more recent in-migrants in the Study Area.

In 1963, the family income of group members ranged from moderate to well above average. Most of the wealthy residents of the Study Area belonged to this group. However, the majority of the group members were owners of small businesses whose income fluctuated with the prosperity of the business and the general economy. According to local residents, the local economy was relatively strong throughout the study period, despite a consistently high level of unemployment and little population growth in the Study Area itself.¹ Due to gains in wages and benefits by the wage and salary employees, the relative income status of the entrepreneurs declined during the study period.

Property ownership within the entrepreneur group was high compared to the community as a whole. In general, members of this group placed great emphasis on home ownership. Reports indicated that a relatively large number owned their homes outright, an indication supported by Census data (Guinta, personal communication, July 1980; U.S. Bureau of the Census, 1963 and 1973). In addition to ownership of residential property, this group characteristically invested in business activities. In 1963, the size and value of holdings of individual group members still varied considerably although not so much as they had in the past, a trend which continued throughout the study period. However,

¹According to a study sponsored by the Oswego City Chamber of Commerce, Oswego City's downtown commercial occupancy rates were well over 90 percent during the latter part of the study period. This was considered a positive indicator of the economic status of the commercial sector.

according to the Bureau of Labor Statistics, less personal income was generated from property income in the Study Area than was typical for the region, reflecting the relatively small investment properties held by Study Area residents (New York State Division of the Budget, 1968).

The great majority of the entrepreneur group strongly favored economic and demographic growth in the area. Sources reported a marked sense of "hanging-on" during the early 1900s when the economy and population were not expanding, reflecting the group's dependence on economic growth for increased opportunity and challenge. With few exceptions, the group approved the introduction of new industrial activity in the area. Several sources mentioned that the location of the Alcan plant in Scriba Town was interpreted by group members as a symbolic "turn-around" in the vitality and viability of the area (Guinta, personal communication, July 1980; White, personal communication, December 1980; Stone, personal communication, July 1980). In general, agriculturally based group members shared this attitude (Jones, personal communication, July 1980).¹

Traditionally, Oswego County residents had viewed the local environment as a challenge. The long, cold winters with as much as twenty feet of snow, the unpredictable storms on Lake Ontario, and the county swamplands were seen as obstacles to overcome. Early industrial development had paid little attention to environmental protection, as shown by the clearing of forests during the lumbering era and the pollution of Lake Ontario by local paper factories and other industries during the 1950s. Indeed, the area's development had depended on the modification of the Lake Ontario shoreline to establish the port and other water-using industries, and on the dredging of the Oswego River for a barge canal. Local residents cited the location and expansion of Niagara Mohawk's coal-fired generating plants in downtown Oswego City as an example of the prevailing attitude towards the environment. In part, this lack of environmental concern was reported to be the consequence of the long industrial history of the region where the largest fortunes were made by those who took advantage of the resources of the area. In 1963, the environment was not a major concern for most members of the entrepreneur group.

¹It should be noted that some agriculturally based residents in communities outside the Study Area did not share this attitude and were substantially less favorable toward industrial and population growth.

Although members of the entrepreneur group expended little effort on protection of the environment, they did evidence a generally high level of concern for and interest in the community. In this context, they frequently served as the principal organizers of community-focused projects, both commercial and service-oriented. Many members of this group had an active interest in the "well-being" of the community and participated in efforts to obtain urban renewal funds as well as other community-development projects. As elsewhere during the 1960s, there was concern for the continued vitality of the older, industrial center. Prior to 1963, membership in the entrepreneur group had remained fairly constant with few new members; most members had been residents of the Study Area for many years, and viewed it as their home town.

Zoning and land-use ordinances had been in effect in Oswego City for many years prior to the study period. Scriba Town, on the other hand, had been an essentially rural area, lacked zoning, building codes, or land-use regulations. In general, the business people in Oswego City recognized and accepted the necessity for planning and control of development in an urban area and often participated in the planning process. Scriba Town business people tended to view these planning and control processes as an unnecessary impingement on their rights as property owners, although a few favored controlled growth and protection of property values. During the study period, the most intense conflicts within Scriba Town centered around zoning and land-use regulations. Positions on this issue were not taken along group lines, however, and members of the entrepreneur group residing in Scriba Town were on both sides of the debate.

Members of the entrepreneur group maintained rather dense networks of economic interactions, not only in the normal course of business transactions, but also as a result of participation on boards and committees and in organizations such as the Oswego City Chamber of Commerce and Operation Oswego County.¹ Over the study period, the pattern of interaction reportedly became more diffuse.

Participation in community and civic affairs was important to most members of this group in 1963 and throughout the study period. Many of the important political decisions in the Study Area were made or influenced by members of this group, often as a result of committee work or informal meetings.²

¹Founded in 1955 to work for the economic growth of Oswego County.

²The other major political power was organized labor.

Prior to the study period, certain members of this group were reported to have maintained a social network almost completely separate from the remainder of the group, earning themselves a reputation as elitists. The exclusiveness of the Oswego Country Club in the early 1960s was cited as the epitome of this elitism. When the club opened its membership, first to newcomers (mostly executives) and then to blue-collar workers (notably in the construction crafts), it was seen as a key indicator of the declining status of the elites.

Although social relationships within the group generally centered around small sub-groups, a variety of group-wide activities served to enhance intragroup social relations. Family ties and long-time friendships played an important role in the social relationships among group members. Participation in fraternal, religious, and civic/social activities was high among this group, providing numerous opportunities for social interaction and for incorporating new members into the group.

8.2.2.2 The Wage and Salary Workers

Consistent with Oswego City's reputation and history, most of its residents earned their livelihood from wage and salary employment. Organized labor was identified as a significant factor in the social and economic organization and structure of the Study Area, and constituted an important dimension of influence and organization within this group. However, despite the importance of union membership for certain aspects of economic, political, and social life in the Study Area, the profile characteristics of those who were members of a union did not differ systematically from those who were not members of a union. In addition, many families in the Study Area had some members who held union membership and some members who did not. For that reason, wage and salary workers and their families were not divided into two groups for this analysis.

In 1963, the wage and salary workers group was the largest in the community (between 70 and 75 percent of the total population), and it remained so throughout the study period. As with the entrepreneur group, the number of wage and salary workers in the Study Area fluctuated in response to economic forces, increasing at a faster rate than did the total population in the early and late 1970s. By 1978, this group consisted of about 18,000 persons, approximately 20 percent of whom lived in Scriba Town. Members of this group tended to resist out-migration, as evidenced by the consistently high unemployment rates during the study period (8.9 percent in 1960 and 11.2 percent in 1975). (Oswego County Planning Board, 1977.)

As discussed previously in this report, the principal criterion for group designation was means of livelihood. The members of the wage and salary workers group belonged to families whose principal livelihood was from nonprofessional (working class) wage and salary employment. This included not only the blue-collar factory and construction workers, but also local government services workers (including university staff) and commercial sector employees. The income level of this group rose during the study period, particularly for workers in the skilled crafts and workers at the university where civil service benefits were accrued. Nevertheless, a substantial percentage of this group was unemployed throughout the study period.

Although there was a proportionately greater percentage of wage and salary workers in Scriba Town than there was in Oswego City, the population of Scriba Town was so small that in 1963 it accounted for only about 10 percent of the Study Area wage and salary workers group. Over the study period, however, Scriba Town members of this group became more influential, not only in size (up to about 20 percent of the group total in 1978) but also in the locus of employment for group members.

Since the wage and salary workers group included the majority of the Study Area residents in 1963 and throughout the study period, the demographic characteristics of this group closely approximated those of the entire Study Area population (see Chapter 5). However, this group included a slightly higher percentage of persons older than 64 and persons under 18 than did the population as a whole. Ethnicity was not a major criterion for group membership although about 25 percent of this group was of foreign stock with Italians and Eastern Europeans comprising the largest components.

Although some neighborhoods still maintained traditional ethnic and class characteristics in 1963, these boundaries had begun breaking down prior to World War II. The Study Area did not contain a distinct slum area, although differences in neighborhood characteristics did exist. In general, members of the wage and salary workers group lived and worked throughout the Study Area. Both prior to and during the study period, wage and salary employment expanded more quickly outside the cities of Oswego and Fulton than within them. Particular concentrations of employment developed in Scriba Town due to the Alcan plant and the Nine Mile Point Stations; in Oswego Town, employment increased with the expansion of the university.

Most of the wage and salary workers group either already owned or were purchasing their homes. Group members who were renting tended to be either newcomers or low-income families. In 1963, relatively few members of this group lived in mobile homes. A significant proportion (perhaps 10 percent) of the group was poor and/or unemployed and lived in transient or rental housing. The composition of housing for this group changed appreciably during the study period as the number living in mobile homes and apartments increased. The increase in mobile homes was particularly noticeable in Scriba Town where many newcomers utilized this type of housing. In Oswego City, newcomers were more likely to rent houses or apartments whereas long-term residents tended to own their homes. Home ownership was the largest component of property ownership among the wage and salary workers group, although many did have other investments. Because of the recent transition from agricultural to wage and salary employment, members of this group who lived in Scriba Town were more likely to own additional land than were those who lived in Oswego City. As new members entered Scriba Town during the study period, this proportion declined.

In general, members of the wage and salary workers group demonstrated a pro-growth attitude which equated industrial and economic expansion with prosperity, employment, and personal security. Although few would have considered themselves unappreciative of nature and the environment—hunting and fishing were among the important local recreations—concern for the environment was not a preoccupation of many members of this group, particularly in 1963. According to the available examples of position and opinion, in this group jobs and income took clear precedence over environmental concerns. Two factors seemingly contributed to this attitude: (1) the apparent resilience of the local environment which had regenerated forest from pastureland in one generation, and (2) the harshness of Lake Ontario where unpredictable storms and shoreline thwarted individual and recreational use. Nevertheless, the rural background of many of the wage and salary workers was reflected in their conservative approach to land-use changes and regulations as well as population growth. During the study period, however, the attitudes of group members were affected by national and regional issues of environmental conservation and the pollution of Lake Ontario with its associated health hazards. During the study period, the aggregate group opinion was modified not only by the in-migration of persons with greater environmental concern, but also by the increased awareness and concern of long-time residents about environmental health and safety hazards.

The Study Area, or at least upstate New York, was considered home by the great majority of the members of this group, and members generally participated in community affairs, belonged to community service organizations and clubs, and attended local churches.

Not all members of this group knew one another individually, largely because of the sheer number of people involved. Nevertheless, in 1963 there was a considerable amount of contact between group members. They worked together and interacted as employees and customers in the area's commercial and service establishments, principally in Oswego City. By 1978, because of the area's rapid growth in population and the relatively rapid turnover of group membership, the degree of acquaintance among group members had declined. This appeared to be particularly true among residents of the trailer courts in Scriba Town where there was less overlap regarding work, residence, and leisure activities.

Throughout the study period, membership in the organized labor union acted as a principal economic tie among members of this group. Organized labor was well established in the Study Area with a number of union locals, business offices, and coordinating agencies (e.g., the Building Trades Union) located there. Conspicuously unrepresented by organized labor were the trade and services sectors, even though jobs in these sectors constituted a substantial percentage of total employment in the Study Area (see Chapter 4). Union membership constituted a political and social as well as an economic function. Union officials were considered major leaders in this group.

Members of the wage and salary workers group comprised the rank and file of community polity. Oswego City was divided into wards which were represented by aldermen. In many cases, the aldermen were members of this group and they carried the group political issues into the larger political arena. Traditionally, members of this group had controlled the important day-to-day functional positions in local government. At both the beginning and the end of the study period, most of the important county, city, and town governmental departments were headed by members of this group who often conducted business on an informal basis. As the Study Area evolved, a system of informal mechanisms developed for conducting most local government business, with the majority of the group members and local union leaders solidly ensconced in the system.

Although the unions were powerful in Scriba Town, its rural character was reflected by the predominantly Republican population at the beginning of the study period; this was in direct contrast to Oswego City where the general population, as well as the union, were traditionally allied with the Democratic Party.¹ The political activities in Scriba Town were less organized and somewhat more freewheeling than those in Oswego City, with representation more through personal attendance at the town board meetings than through elected representatives, and with influence exerted through a less complex and structured political system. Despite Scriba Town's growth in both size and budget during the study period, the relative informality of this system persisted through 1978.

Throughout the study period, most members of the wage and salary workers group exhibited a moderately high level of participation in local activities. Social interactions in the Study Area occurred in all facets of everyday life. In 1963, the commercial center was both small and stable, and group members often combined their social and economic interactions. During the study period, however, the influx of students, workers, and other newcomers decreased the degree of familiarity among group members. Activities such as town board and city council meetings served a substantial social as well as political function. In both Scriba Town and Oswego City, social contact among group members throughout the study period was provided by school activities, church membership,² local fraternal and service clubs, and neighborhood and family ties.

It was noted, however, that throughout the study period a small proportion of the wage and salary workers group was relatively isolated from these social networks and existed as marginal, almost invisible members of the group and the community. The indigent of the Study Area belonged largely to this group and may have constituted up to 5 percent of the group members in 1963. Because they lacked community ties and did not participate in community activities, these persons had little voice or power within the community. As newcomers, especially transients, entered the Study Area during the

¹There were often splits within the Democratic Party, so it did not present a united front.

²The Study Area had a wide variety of churches, and many of the residents of Scriba Town attended church (as well as social affairs) in Oswego City. Oswego City had a number of Catholic churches.

study period, the number of persons minimally participating in community activities increased, especially in Scriba Town where the proportion of short-term residents was high and the residential pattern was more scattered and isolated.

Oswego City school activities, particularly sports, provided an additional focal point for social interaction among Study Area residents. However, members of the group who resided in Scriba Town, even those living in the Oswego City School District, were less linked to these activities than were Oswego City residents, probably because of the relatively short history of consolidation and the increased distance to school. Those Scriba Town residents living in the Mexico and Fulton school districts did not share this source of contact. According to several of the persons interviewed, this made a significant difference in the degree of identification with, and the sense of belonging to, the Study Area community.

The pattern of relationships among members of the wage and salary workers group varied by issue and type of activity. Overall, in 1963, the level of interaction was reported to be extensive and relatively substantial, although Scriba Town residents were less intensively involved than were Oswego City residents. The lack of congruence in networks was a major factor in the lack of development of a unified, clearly cohesive, functional wage and salary workers group (or subgroups) over the study period. In addition, the proximity of other communities with similar characteristics resulted in an overlapping of economic, political, and social networks among residents of various communities, a level of extra-local linkage that tended to diminish the concentration and potency of interactions among members of individual communities.

8.2.2.3 The University Faculty and Students

In 1963, the Oswego branch of the State University of New York (SUNY) was small, with a total employment of about 600 persons and a total enrollment of approximately 3,000 students. Most of the students lived on campus, and thus outside the Study Area. A large proportion of the faculty also lived outside the Study Area, particularly in Oswego Town and Minetto Town. However, some university faculty members and their families, as well as some students, lived within the Study Area. These individuals, along with other university-related persons who utilized the commercial facilities of the Study Area and who, to some extent, participated in the political activities of the Study Area, made up a distinct and notable group throughout the study period. As with the other two groups, closer questioning revealed that this group was not

homogeneous. Study Area residents tended to divide the university faculty into two subgroups—long-term residents and temporary or transient residents (five years or less).

In 1963, the university group was the smallest of the three groups, comprising no more than 2 or 3 percent of the Study Area population. By 1970, total enrollment at the university rose to more than 8,000 students, and the faculty expanded to about 500. Growth continued through 1975. However, the construction of on-campus dormitories, the development of residential subdivisions in Oswego Town, and the housing shortage in Oswego City moderated the effect of this expansion on the size of the university group residing in the Study Area. Consequently, although the university group increased in size (approximately 5 percent of the total Study Area population during the late 1960s and throughout the 1970s), it remained the smallest of the three Study Area groups throughout the study period.

Throughout the study period, the principal means of livelihood of the members of this group was as members of the university faculty. A small proportion of the group had family members employed in professional, entrepreneurial, or wage and salary jobs, frequently on a part-time basis. Nonetheless, the principal livelihood of this group was relatively independent of the local economy.

In 1963, the university was a four-year state institution, and most of the students were present in the community for four years or less. During the late 1960s and 1970s, with the establishment of a graduate degree program, students tended to be present for a longer period of time. The age characteristics of this group remained relatively constant throughout the study period, as graduates were continuously replaced by in-coming freshmen. The university was noted for the high proportion of students from Long Island; Long Islanders and local area (central upstate New York) residents constituted the two largest components of the student body throughout the study period.

The educational level of the university group was higher than that of the Study Area population as a whole. Since a majority of this group were students who were not yet dependent upon their own earnings, the average personal or family income was less than average. Faculty salaries were reported to have been low throughout the study period, especially during the early 1960s.

The focal point for this group was the university which was located on the western edge of Oswego City, primarily in Oswego Town (see Figure 3-2). Most members of this group preferred to live relatively close to the university, and in 1963 were clustered in the western section of Oswego City, with most students living in on-campus housing. In 1963, very few members of this group lived in Scriba Town. By the late 1960s and throughout the 1970s, the shortage and high price of housing in this area of Oswego City resulted in an increasing number of the university group living in other areas of the city and in Scriba Town.

The long-term faculty members tended to either already own (or be in the process of purchasing) homes. However, many of the transient faculty members and nearly all of the students rented their residences. Consequently, property ownership among this group tended to be limited throughout the study period.

In 1963, both the faculty and the students (perhaps reflecting the school's history as a local teachers' college) tended to be conservative and were quite insulated from the community. Members of this group tended not to take public positions on growth or the environment, particularly with regard to the local community. Those who were from the area were reported to have shared, and reflected, a positive attitude toward population and economic growth. For the majority of this group, this posture was retained throughout the study period. Despite the intensity of the national response to environmental and social issues during the late 1960s and early 1970s, the university group's manifestation of this unrest was moderate and was generally contained within the campus area. However, environmental, social, and anti-war positions were taken by some members of this group, and efforts were made to present these views to residents of the Study Area.

Nonetheless, a few persons in this group strongly identified with the local community and actively promoted community participation, especially in the area of planning and administration. In general, however, most of the university group considered the university as their primary community and were only peripherally involved in the nonuniversity activities of the Study Area.

Aside from consumer activities concentrated in the retail and services sectors,¹ the university group engaged in few economic activities in the Study Area, and there was very little economic interaction among group members.

In the early 1960s, the university group participated only marginally in community political activities in the Study Area. Instead, political activity within the group was focused on the university, where it was relatively high and in some instances quite intense. This intragroup interaction generally served to divert the group's attention away from Study Area activities and toward university contacts and involvements. During the 1970s, however, some members of the university group became very active in state and local political issues, notably those involving nuclear generating stations.

In general, members of the university group focused their social activities on other university faculty and students. This resulted in a relatively dense pattern of social interaction among group members, although there was considerable variation in the depth of interaction throughout the group. The university group residing in the Study Area was actually a subset of the larger body of faculty and students at the university. Because they were members of this larger unit, interactions among the university group residing in the Study Area were, in fact, less concentrated than they were commonly viewed to be by the other members of the community. Much of their interactions occurred with persons who were not residents of the Study Area.

8.2.3 New Groups in the Study Area during the Study Period

No new groups developed in the Study Area during the study period despite the construction and operation of the Nine Mile Point Stations and the other changes that occurred in the local economy. The project-related workers were incorporated into the existing groups in the Study Area. Consequently, while the Nine Mile Point Stations affected the size, composition, and attributes of the groups in the Study Area to some degree, they did not alter the basic grouping of area residents.

¹The consumer activities of the university population as a whole were primarily centered around the food and beverage establishments.

8.2.4 Interaction among the Groups

In 1963, the Study Area was a differentiated, industrialized community with a population of approximately 24,500 persons of mixed ethnic and cultural heritage. The population grew to about 26,200 in 1975 before declining to about 24,200 in 1979. During the study period, the interaction patterns among the groups in the Study Area were complex and varied. The following discussion is intended to outline the dominant patterns of economic, political, and social interaction among the three Study Area groups.

8.2.4.1 Economic

Throughout the study period, the majority of employed Study Area residents worked either at the university or in manufacturing, retail, services, or government sector jobs in the Study Area. A substantial proportion (approximately 30 percent) worked outside the Study Area in cities such as Fulton, Rochester, and Syracuse. During the 1950s and 1960s, following national trends, absentee-owned businesses became increasingly prevalent in the Study Area with a concomitant decline in the economic dominance of the large entrepreneurial families that had previously prevailed. By 1963, many of the large family-owned retail and manufacturing establishments, whose fortunes had waned during the 1950s, were replaced by numerous small establishments and by chain stores. By 1963, and increasingly throughout the study period, the major employers in the Study Area were corporations (e.g., Niagara Mohawk, Alcan, and Hammermill) with headquarters outside the Study Area. This bestowed substantial and increasing economic influence on the local corporate executives, and increased the strength and density of extra-local economic ties to the community.

During the study period, the manufacturing and construction activities in the Study Area employed primarily union labor. This created one of the principal patterns of economic interaction in the Study Area, as union officials acted as intermediaries between the companies and the union workers. This role became increasingly important during the study period. The union organization provided a substantial degree of integration among a large portion of the wage and salary workers. Union leaders, who were largely long-time residents of Oswego City and members of the worker group, wielded considerable power. In contrast, Alcan established itself as a nonunion shop and, according to residents, Alcan executives were singled out as significant newcomers to the community elite, a subgroup of the entrepreneur group. Inclusion of Alcan executives in this group was cited as an indication of the changes occurring in both the

definition of the elite group and in the power structure of the community during the study period. Despite this, the Study Area maintained the image of an entrepreneurial community throughout the study period, with a large number of family-owned enterprises.

Because of the continuing presence of local entrepreneurs, there was significant interaction throughout the study period among members of the entrepreneur group and between the entrepreneur group and other members of the community although economic interaction with the university group was limited. The relatively large number of small, personally owned enterprises resulted in the employment of relatives or friends and in a high incidence of personal interactions between employers/employees and customers. This was particularly true in Scriba Town, where the businesses tended to be small and to serve a primarily local clientele. Consequently, although a limited number of entrepreneurs and professionals remained influential in the economic sphere, the presence of union leaders, some small business owners, and managerial personnel in the large corporations became increasingly important during the study period.

8.2.4.2 Political

Throughout the study period, political power in the Study Area was somewhat dispersed, with a number of political systems operating in the area: Oswego County government, Oswego City government, Scriba Town government, the public school system, the university system, and organized labor. Traditionally, Oswego City elected Democratic officials and voted Democratic in national and state elections. However, the Democratic Party in the city was not unified and periodically was defeated when Republicans capitalized on this lack of unification. By 1963, Oswego had developed a political process in which the mechanisms for advancement and the relationships between these governmental systems were complex but well defined. In general, the size of the wage and salary workers group was critical to the operation of the Oswego City political system, and there tended to be strong political participation by and linkage between labor and government officials, both of whom generally belonged to the wage and salary workers group.

In 1963, Scriba Town was dominated by Republicans, with very little representation by the Democratic Party. By 1978, however, the number of Democrats had increased substantially, although they still remained the minority. This increase was viewed as a major shift in the political character of Scriba Town—a consequence of its

shift from a rural, agriculturally based community to a more industrially oriented area with many Democratic in-migrants. Throughout the study period, the Scriba Town government operated with relatively little input from the town residents, and town board meetings were not well attended.¹ In 1963, town government political positions, which tended to reflect the positions of the entrepreneur group, were generally not viewed as particularly powerful or important. Although this changed somewhat over the study period as the budget expanded and the government increased its responsibilities,² in 1978 most Scriba residents still appeared to consider the town government primarily as a functional necessity.

In all local governmental jurisdictions, the influential positions tended to be held by long-time residents, although this changed somewhat during the late 1970s as newcomer executives became increasingly active and influential. According to the residents interviewed, both the business/professional persons and the wage and salary workers residing in Oswego City were highly politicized, and political interaction was prevalent and personalized. In Scriba Town, political activity was reported to be less dominant in the day-to-day activities of the residents. In sum, the local political activities in the Study Area were segmented into geographical jurisdictional units, rarely overlapping on day-to-day issues. Across these jurisdictional boundaries, relatively little interaction occurred. The Republicans in Oswego City, for example, did not interact regularly on political matters with Republicans in Scriba Town, except in state and national elections. Over the study period, as the Scriba Town population increased and as the portion of Scriba Town adjacent to Oswego City became more suburban, a greater proportion of Scriba Town residents became concerned with Oswego City political activities.

The lack of political congruence between Scriba Town and Oswego City cut across groups, and was most evident in the negative responses of Scriba Town's entrepreneur and worker groups, regarding both the consolidation of the school district and the operation of the city school board from which they felt excluded. Scriba Town's relationship to the Oswego City School District was one of the major political issues throughout the study

¹Well-attended board meetings tended to have zoning/land use control issues as discussion topics.

²Adding administration of the town park, for example.

period, and the issue increased in intensity as Scriba Town contributed a greater share of the school district's revenues.

The political activities of the university were largely confined to the university, and Study Area residents did not consider them of principal importance. In general, the university group did not become involved in the political processes of the Study Area although a few long-time members were quite active. Despite the fact that the study period coincided with a period involving a variety of social protest and anti-war movements, no notable political or social conflicts were reported to have occurred between the university group and the other residents of the Study Area. In the early 1970s, several members of the university group took a strong interest in local environmental conservation issues, especially and increasingly those regarding energy use and nuclear power. By creating an interest group organization which actively sought membership and support from all groups in the Study Area, they focused attention on these issues and on the university members' role in the political processes of the community (see Chapter 9). This marked a significant change in the relationship between a university group subset and the community and tended to create political tension within the Study Area.

8.2.4.3 Social

The complexity of the Study Area was reflected in intricate networks of social interactions. The patterns of economic and political interactions provided some, often substantial, opportunities for social contact between members of the various groups. In addition, numerous institutions existed in the Study Area where social interaction among the groups could occur. These included the churches, schools, and civic/fraternal groups and, in Scriba Town, the volunteer fire department. The participation of groups in these institutions and the establishment of additional institutions or forums for social interaction provided the basis for examining changes in social interaction over the study period.

In 1963, the Study Area maintained a variety of churches. Scriba Town had two Methodist churches; Oswego City had several Protestant churches, including Baptist, Presbyterian, Congregational, Methodist, Jehovah's Witness, and Lutheran, as well as seven Catholic churches. Church attendance provided some interaction and cross cutting of group membership due to the persistence of familial, ethnic, or neighborhood ties to a particular church. Throughout the study period, the churches served as a focus for

intragroup activities and as a forum for intergroup contact. No major expansion in the number or type of churches was noted during the study period. Indeed, a major consolidation occurred in Scriba Town during this period with the combining of the two Methodist congregations, to which many of the "long-time" families belonged. Church attendance in Oswego City by Scriba Town residents provided an important component of the intra- and inter-group social contacts between residents of these two jurisdictions.

The Oswego City school system provided an arena where Study Area children and parents could become acquainted and identify common goals and interests. This opportunity was only partially realized due to the number of students,¹ the geographic extent of the district, and the relative newness of the Oswego City School District. These characteristics meant that: (1) the number of students in the system and in the high school was very large; (2) many children were bused far from their homes (important especially during the elementary years when parent contact is most likely); (3) some municipal units were simultaneously split between school districts and combined with other municipalities (which prevented a coincidence of school and community systems); and (4) no "school spirit" had been previously established among the adults in the Study Area toward the system. This affected the degree of participation in school events (e.g., sports and band trips) and increased Scriba Town residents' sensitivity to the dominance of Oswego City residents on the school board. Indeed, school ties were seldom mentioned as an important integrating mechanism by Study Area residents. However, Scriba Town residents who had themselves attended school in the Mexico School District or whose children were enrolled in that district noted lasting ties with other residents of the Study Area.

Since the majority of the university group was made up of students who were childless, the school system did not function effectively as a point of contact between this group and the other groups. Active participation by the university group in school affairs generally was greeted with suspicion and distrust by other residents, although participation by some long-term faculty members was viewed more positively.

Most of the civic and service clubs and organizations such as the Kiwanis, Rotary, Elks, Moose, Order of the Eastern Star, Heritage Foundation, Women's Civic Council, and

¹The entire enrollment was 4,890 including 1,160 in the high school.

so forth, were located in Oswego City but drew members from throughout the Study Area. Although some of these organizations were primarily social, they did provide an opportunity for the different groups to work together for a common goal while promoting social interaction. In addition, the Study Area supported a number of coordinative organizations, such as the council of churches, the county Democratic and Republican committees, and a number of purely social clubs.

At the beginning of the study period, three organizations were identified as particularly important to social standing in the community. The first was the Oswego Country Club, to which the more wealthy "old family" entrepreneurs and established professionals belonged and which, in 1963, maintained an exclusive membership. At that time, this organization contributed primarily to contact among members of the entrepreneur group while discouraging contact with other groups. During the study period, however, the country club opened its membership, and several members of the wage and salary workers group, including construction workers, joined and participated in club activities. Although the distinction between long-time members and new members was not entirely erased, this change in membership policy was noted by Study Area residents as an important indication of a shift in social interactions in the community. This change was attributed to the increasing cost of club maintenance, the declining fortunes of the club's core membership, and the increasing size and affluence of members of the wage and salary workers group during the study period.

The second organization identified with Study Area social standing was the Elks Club, which was attended by a wide spectrum of community residents. At the beginning of the study period, membership was a prerequisite for men interested in becoming "somebody" in the community, and it provided a forum for intergroup contact. As part of a nationwide institution, the Oswego Elks Club (along with other fraternal organizations of this type) served as a major social link for newcomers to the Study Area who had been members of chapters in other cities. It was repeatedly noted that many of the incoming construction-trade workers established short-term memberships with these organizations, particularly with the Elks. Given the characteristics of the local membership, this provided contact between a wide spectrum of residents during the study period that facilitated the inclusion of the newcomers into the Study Area community.¹

¹Elks membership increased dramatically during the study period, with the addition of many short-term members who were in the construction trades.

The third organization identified with social standing was the Scriba Town Volunteer Fire Department. This organization (and its women's auxiliary) was important to Scriba Town residents because it was one of the few institutions (along with the two churches and the Scriba Town Historical Society) that was located and centered in Scriba Town rather than Oswego City. Dances at the fire barn provided social contact between all age groups and functional groups. Participation in the fire department and in the churches provided the principal opportunity for newcomers to become integrated into the community.

Despite the fact that some of the new residents joined the Scriba Town Volunteer Fire Department and the churches, the growth of the Scriba Town population was more rapid than these organizations could accommodate. Consequently, the density of social contact among Scriba Town residents reportedly declined over the study period, with many of the newcomers remaining relatively unknown to the long-term residents and to each other. According to interviews with Scriba Town residents, this did not substantially affect the already established networks of social interaction; it did, however, produce a substantial proportion of the population who were relatively unknown to one another, thus altering the overall social pattern of the community.

In addition to the formal organizations, social contact was also provided by the recreational facilities available in the Study Area. Bars, restaurants, movie theaters, and a raceway provided opportunity for contact between groups, and for inclusion of and contact with newcomers.

Thus, although the social interaction patterns were not dramatically altered over the study period, they did change in subtle ways. The decline in status of the "elite" members of the entrepreneur group and the rising economic and political importance of the corporate executives and union officials changed the patterns of social relationships within the Study Area during this period by lessening the separation between the two groups. The continuing decline in the importance of ethnicity for group membership or social interaction hastened these changes.

The rapid influx of new residents, both permanent and temporary, into Scriba Town resulted in a less dense network of social contacts than had previously existed. When university group members initiated a determined environmental and conservation effort focused on nuclear generation, social patterns were very slightly altered in the

Study Area. Persons in all three groups were pressed to take a position on a highly controversial and very immediate issue. In general, the consequences appear to have been a coalescence and formalization of patterns already present in the community, with a concomitant increase in the visibility and specificity of those patterns. Because the position taken by the initiating group was presented in ideological terms, the interaction between persons on both sides of the issue tended to be emotional and confrontive in nature (see Chapter 9).

8.3 Effects of the Nine Mile Point Stations on the Social Structure and Processes in the Study Area

The aggregate effects of the construction and operation of the Nine Mile Point Stations on the economy, labor force, population, settlement patterns, housing, and local governments have been described in previous chapters. The distribution of those effects among the three groups and the evaluation of those effects by the groups are described in this section as the principal mechanisms by which the projects affect the social structure and processes in the Study Area. Given the duration of the study period, the variation in project effects over that period, and the diversity of characteristics of individuals within the groups, the distribution described here is necessarily a generalization. Nevertheless, it does provide a clearer picture of the meaning and significance of the changes previously described (see Chapters 4 through 7), and more clearly identifies the means by which the Nine Mile Point Stations affected the social structure and processes in the Study Area.

8.3.1 Distribution and Evaluation of Project Effects

8.3.1.1 Employment and Earned Income Effects

Table 8-1 summarizes the employment and income effects of the Nine Mile Point Stations over the study period. The estimated distribution of jobs and income among the three Study Area groups in 1978 is shown in Table 8-2. In 1978, an estimated 1,160 residents held project-related jobs—40 of these jobs (3.5 percent) were held by members of the entrepreneur group, and 1,120 jobs (96.5 percent) were held by members of the wage and salary workers group. The university group was not significantly involved in

TABLE 8-1

NINE MILE POINT STATIONS
TOTAL PROJECT-RELATED EMPLOYMENT AND
INCOME OF STUDY AREA RESIDENTS

Year	Project-Related Employment of Residents			Income ^a
	Direct Basic Employment	Other Employment	Employment TOTAL	TOTAL
1964	25	5	30	\$340
1965	90	20	110	1,150
1966	220	70	290	3,350
1967	370	140	510	6,790
1968	370	130	500	6,410
1969	260	90	350	4,320
1970	240	90	330	4,200
1971	600	210	810	10,490
1972	720	270	990	13,090
1973	480	180	660	8,600
1974	310	110	420	5,300
1975	190	70	260	3,260
1976	260	100	360	4,640
1977	1,000	380	1,380	18,480
1978	840	320	1,160	15,860
1979	1,130	420	1,550	20,670

^aThousands of constant 1972 dollars.

Source: Mountain West Research, Inc., 1980.

TABLE 8-2
NINE MILE POINT STATIONS
ESTIMATED PROJECT-RELATED EMPLOYMENT AND INCOME OF STUDY AREA GROUPS
1978

Group	Employment			Percent of TOTAL	Income	
	Direct Basic	Other	TOTAL		TOTAL ^a	Percent of TOTAL
Entrepreneur						
Nonmovers	5	25	30	2.6	\$285	1.8
Movers	5	5	10	0.9	125	0.8
Wage and Salary Workers						
Nonmovers	535	280	815	70.3	10,490	66.1
Movers	295	10	305	26.3	4,960	31.3
University						
Nonmovers	—	—	—	—	—	—
Movers	—	—	—	—	—	—
TOTAL	840	320	1,160	100.00	\$15,860	100.00

^aThousands of constant 1972 dollars.

Source: Mountain West Research, Inc., 1980

full-time employment in project-related jobs.¹ Despite the projects being located in Scriba Town, the majority of the Study Area jobs and income accrued to residents of Oswego City.

Project-related employment generated a substantial amount of income within the entrepreneur and worker groups. In 1978, members of the entrepreneur group earned an estimated \$410 thousand,² while the workers group earned an estimated \$2,545 thousand (both figures are in constant 1972 dollars).

In keeping with the degree of differentiation in the Study Area economy and because the majority of the project-related jobs required specialized occupational characteristics, certain segments of each of these two Study Area groups obtained jobs and income to a greater extent than others. In general, the elderly did not receive employment or income from the project. Although relatively few women gained employment at the project itself (direct basic) because of their limited participation in skilled crafts occupations, women did receive a proportion of the jobs induced by the project (indirect basic and nonbasic). Particularly in Scriba Town, where the economic activities that expanded due to the project were frequently jointly owned and managed by a husband-wife team, additional employment and income became available for women in the entrepreneur group.³ In most instances, however, the project-related jobs obtained by women were in the lower paying service and retail occupations.⁴ Consequently, project-related jobs did not appear to raise the average hourly wage of

¹Had they done so they would probably have become members of one of the other two groups. Although some university students may have obtained part-time employment due to the projects, this effect was not quantifiable.

²This includes incremental income to existing entrepreneurs. It is thought that a substantial proportion of the entrepreneurial response involved expansion of existing enterprises.

³This arrangement also appeared to have been quite prevalent in Oswego City, although to a lesser extent and as a much lower percentage of total business employment activity.

⁴Because the nonbasic jobs are not generally directly related to project activities, the disposition of the employees taking project-related nonbasic jobs is extremely difficult to ascertain. Here, the characteristics of workers obtaining project-related nonbasic jobs are assumed to approximate the characteristics of other workers in the affected industrial sector.

employed women. In addition, those persons who tended to be chronically unemployed appeared to have received few jobs as a result of the project. No training programs were specifically undertaken, and neither the utilities (Niagara Mohawk and PASNY) nor the community identified any effort to selectively address the employment problems of this segment of the Study Area population. Company discretion on employment was severely limited by the union agreements for the job. In addition, community residents repeatedly indicated that the construction employment at the nuclear plants was viewed as temporary (seasonal). This may have detracted from any initiative to use the projects to address the chronic unemployment of the area.

Project-related employment and income fluctuated greatly over the study period (See Chapter 4 and Table 8-1). In 1975, for instance, estimated total project-related employment of Study Area residents dropped to about 260 persons, obviously reducing the effects of the project on employment and income in the Study Area.

In very general terms, the distribution of project-related jobs and income over the entire study period resembled the distribution in 1978 (see Table 8-2). However, according to available evidence, the proportion of jobs and income obtained by the entrepreneur group declined over the study period as a result of the relative increase in absentee-owned businesses and the decline in the share of total employment and income represented of Study Area proprietors (U.S. Bureau of Economic Analysis, unpublished data).¹ Consequently, it is thought that the proportion of total project-related jobs and income accruing to the wage and salary workers group increased over the study period. This shift in distribution was exaggerated by the fact that the head offices of both Niagara Mohawk and PASNY were outside the Study Area; therefore, no substantial increase in corporate executives who would have been included in the entrepreneur group accompanied the construction and operation of the plants.

¹For example, nonfarm proprietors' income as a percent of total labor and proprietors' income (in Oswego County) declined from 11.5 percent in 1959 to 10.2 percent in 1968, 8.2 percent in 1972, and 5.4 percent in 1978. Average earnings (constant 1972 dollars) for nonfarm proprietors similarly declined during this period, from \$8,584 in 1967, to \$8,523 in 1972, to \$5,589 in 1978 (U.S. Bureau of Economic Analysis, 1980).

8.3.1.2 Demographic Effects

The aggregate demographic effects of the plants on the Study Area were discussed previously and the total project-related population increase summarized (see Chapter 5). Estimated population increases due to the projects ranged from 40 persons in 1964 to 2,210 persons in 1978.

This additional population was distributed between the entrepreneur group and the wage and salary workers group. In 1978, the project-related population increase in the Study Area represented 1,500 persons from diminished out-migration and 710 persons from in-migration. Of these 2,210, an estimated 90 persons belonged to the entrepreneur group and 2,120 belonged to the wage and salary workers group. As indicated by these figures, the greatest population effect was reflected by residents who remained in the community because of project-related employment and income.¹

The wage and salary workers group received the greatest number of in-migrating transient or temporary residents of the Study Area. Nevertheless, aside from the in-migrants having more experience regarding residential mobility, the characteristics of the in-migrating population were very similar to those of the group as a whole. Given the diversity of the existing population, the demographic characteristics of both the community and the group were substantially unaffected by the presence of the project-related population.

In 1978, the project-related in-migration to the wage and salary workers group accounted for about 4 percent of the group population, and reduced out-migration accounted for about 8 percent. Thus, project-related persons represented about 12 percent of the total wage and salary workers group in the Study Area in 1978.

In 1978, project-related in-migration accounted for approximately 0.6 percent of the entrepreneur group, while reduced out-migration accounted for about 1.2 percent. Thus, project-related persons represented about 1.8 percent of the total group size in 1978.

¹About 64 percent of the 90 persons in the entrepreneur group and 68 percent of the 2,120 persons in the wage and salary workers group.

8.3.1.3 Housing and Settlement Pattern Effects

According to available evidence, the demand for temporary housing during much of the study period resulted in substantial increases in the cost of rental units and a generally tight housing market in Oswego City. In Scriba Town, the in-migration of both project-related and other persons resulted in a significant shift in the settlement patterns and housing mix.

In general, the housing impacts most affected Study Area residents who were renting or who moved during the study period. Because the project activity continued for such a long time—from 1963 to the time of the study—this included a fairly wide cross section of the groups, since newly formed households in each group generally fell into the category of movers.

From the group profiles, however, it is evident that the housing effects were not distributed evenly among all groups. In general, the entrepreneur group was least affected by the increased cost of housing since most of this group were home owners rather than renters. In fact, since they also tended to own rental property, this group was in a position to benefit from the increased demand for housing. Consequently, the net effect of the increased cost of housing for this group was probably slightly positive. However, the shortage and high cost of housing in Oswego City probably reduced the size of this group in the Study Area as potential members located in (or moved to) the surrounding towns where lower cost housing was available.

During the early phase of the study period (i.e., prior to 1968), the housing effects of the projects on the wage and salary workers group were differentiated within the group, primarily on the basis of home ownership. As indicated in the group profiles, the majority of this group were residents of the Study Area by 1968 and either already owned or were purchasing their own homes. However, a portion of the workers group, including a disproportionate percentage of its elderly and its young, rented their residences. In addition, as project-related employment opportunities enabled members of this group to remain in the Study Area, an increasing number found themselves in the same position as the in-migrants—seeking rental or purchase property in a tight market. In Oswego City, these group members had few choices as apartments or single-family homes were the only types of housing available. Mobile home parks were not allowed in the city and few residential lots were available. In Scriba Town the situation was quite different. Throughout the study period, ample property was available for partitioning or

subdividing, and the lack of building codes, zoning regulations, or other restrictions created an opportunity for newcomers to locate in new mobile home parks, new subdivisions (primarily apartments), or mobile or conventional homes on separate parcels of land. As housing costs increased, more and more persons moving to Scriba Town chose mobile home living.

According to those interviewed, although housing in Scriba Town remained less expensive than that in Oswego City during the study period, Scriba Town housing prices nonetheless rose substantially. Wage and salary workers in Scriba Town were more likely to own land which could be sold for residential developments than were their Oswego City counterparts. Consequently, long-time Scriba Town residents who were members of the wage and salary workers group served to gain from the increased demand for housing. Newcomers, however, were forced to pay the additional costs. Many compromised by residing in mobile home units.

The increased housing demand changed residential patterns in both Scriba Town and Oswego City. In Oswego, the change was primarily associated with the conversion of large, single-family units to apartments. These apartments were principally created for rental to university students, but some were used by transient wage and salary workers. According to the available evidence, these units tended to be relatively expensive and created congestion, noise, and parking problems in their immediate neighborhoods (especially if rented by university students). This affected the wage and salary workers group in two ways: (1) as tenants, they had to live in housing units that were price-inflated and had inadequate access and parking facilities, and (2) as residents in neighboring houses, they had to put up with the increased noise and congestion created by these converted units.¹

In Scriba Town, the change was primarily associated with the proliferation of mobile home parks, mobile homes, and increased housing density.² Inadequate drainage fields for the mobile home units resulted in specific problems such as septic tank flooding

¹The problem was viewed as serious enough for the building inspector to propose rent control, and for a neighborhood group to organize (Restore our Neighborhoods) to prevent such conversions.

²There was also an increase in transient housing, primarily motels.

and seepage, and in more general problems such as overcrowding and poor layout of the mobile home courts. These effects were most acutely felt by those who lived in or adjacent to the courts, primarily members of the wage and salary workers group.

The university group consisted primarily of temporary residents in the Study Area. Although a relatively high proportion of the faculty members owned their own homes, most university group members were renters, and consequently experienced the full impact of the scarcity and increased cost of housing. As prices rose and availability declined in Oswego City, an increasing number of this group sought housing elsewhere, including Scriba Town. By 1978, a number of university group members lived in Scriba Town, despite its greater distance to the campus.

8.3.1.4 Governmental and Facilities/Services Effects

The effects of the Nine Mile Point Stations on the structure of local governments and on the cost and availability of public facilities and services were discussed previously (see Chapter 7). The major project-related changes included increased tax revenues to Oswego County, Oswego City, Scriba Town, and the Oswego City School District. The general revenue effects were distributed among the groups primarily according to residential location, group size, and participation in community activities or use of facilities.¹ Although the project-related population did cause an increase in the demand for services in Oswego City, most of the project-related population increase was due to reduced out-migration with comparatively little expansion in total population size. Consequently, no major facility or service expansions were required by the project-related population. Scriba Town, which did experience some project-related population growth, did not provide many of the facilities and services normally affected by population growth. Some of these services were provided by the county. The increased demand for services in Scriba Town accounted for only an insignificant fraction of the demand placed on the county. The availability of funds as measured by per capita revenues and expenditures increased by more than 200 percent in each of the four jurisdictions during the study period.

¹This tended to distribute fewer services to the university group than to the others.

Three public sector activities with clear distributional consequences were identified as having been significantly affected by the Nine Mile Point Stations: public schools, transportation, and recreation.

Public Schools

The project-related population increase added to the number of students within the Oswego City School District, and the location of the Niagara Mohawk nuclear plants added substantial project-generated revenues for the district. Per student expenditures in the Oswego City School District increased substantially during the study period, and there was a general consensus that the quality of education (especially school facilities) was improved by the net balance between additional students and additional revenues. To the extent that revenues from Niagara Mohawk's Nine Mile Point plants contributed to net improvements in education, the effects of the plant could be considered in two ways: (1) that the plants brought about an increase in educational quality with little or no project-related tax burden, and (2) that the plants resulted in keeping the property tax burden of area residents from increasing while ensuring quality education (i.e., the plants affected the tax burden, not the quality of education).¹

In the Oswego City School District, the increase in educational quality directly affected the groups with children, particularly the entrepreneur group. The wage and salary workers group was less affected than the entrepreneur group, especially during the peak construction years when a relatively higher proportion of the wage and salary workers group was composed of in-migrants who were either single or unaccompanied by their families. Because the great majority of the university group did not have school-aged children, it was relatively unaffected by the plant's impact on education.²

Reduction in the school property tax also disproportionately affected the three groups. The entrepreneurs, the largest property-owning group, received the greatest direct effect regarding property tax rates. The wage and salary workers, who generally

¹In actuality, the effects were probably divided between the two alternatives. However, this distinction clarifies the distributional discussion.

²It should be noted, that all members of a community share in the less direct benefits of quality education. In addition, because of the size of the Oswego City School District, these effects were also distributed to non-Study Area residents.

owned less property and were more frequently renters or owners of mobile homes (which were taxed differently) received less direct effects from changes in property tax rates. The university group was the least affected by changes in property tax rates, since the majority did not own property in the Study Area and the university property itself was tax exempt.

Transportation

The Nine Mile Point Stations had a significant effect on road maintenance and traffic patterns in the Study Area, particularly in Scriba Town. Because of the geographic specificity of these effects, the residents of Scriba Town and the direct basic workers were most affected by these changes. In general, road quality and road maintenance in Scriba Town improved appreciably over the study period, and this was at least partially attributable to the Niagara Mohawk Nine Mile Point plants. These improvements included most roads in the town, and thus affected not only those living in Scriba Town, but also those working there, primarily members of the wage and salary workers group.

The Nine Mile Point Stations also caused a large increase in traffic in Scriba Town. Those most affected by the traffic were the direct basic workers at the plants and the residents along the access roads to the plants. Again, these were primarily members of the wage and salary workers group. Because the majority of the entrepreneur and university group members lived and worked in Oswego City, these groups were substantially less affected by the transportation effects of the project.

Recreation

During the study period, Scriba Town established a town park. The decision to purchase the property and establish the park was based on the availability of funds due, in part, to the taxes paid on the Niagara Mohawk Nine Mile Point plants. The park was the major recreation-related effect of the plants. Initially, the park was open to the general public, and was reportedly utilized by a wide range of Study Area residents. Because of excessive demand, however, a system was instituted which gave preferential access to Scriba Town residents. Consequently, the park facility tended to be most utilized by members of the wage and salary workers group and least utilized by members of the university group, a consequence of the residential distribution of the groups among jurisdictions.

8.3.2 Project-Related Effects on the Social Organization of the Study Area

Based on the group profiles and the previous discussion, it is possible to analyze the projects' effects on the social organization of the Study Area, including the principal social processes of stratification, complexity/diversity, outside linkages, distribution of resources and power, and coordination and cooperation.

8.3.2.1 Complexity/Diversity in the Community

In 1963, the Study Area was already highly complex and diverse, as illustrated by the variety of cultural backgrounds, the diversity and specialization of economic activity, the numerous religious denominations and social organizations, and the well developed governmental services of the community. This complexity/diversity had increased relatively slowly during the late 1950s and early 1960s in the Study Area. However, the introduction of the Alcan plant in 1963 tended to enhance diversity by introducing new types of jobs and a new major actor to the local political arena, by raising the resources available to the local government, and by encouraging population growth. Other outside ties also contributed to increased diversity and complexity in the Study Area, largely through these same mechanisms.

The Nine Mile Point Stations contributed to the diversity and complexity of the Study Area community by introducing technology that required a specialized managerial staff and a technical work force, the effects of which were primarily felt by the wage and salary workers group. The introduction of the plants also resulted in the development of specialized governmental and political processes associated with the permitting, licensing, and monitoring of the projects and with the community's preparedness to deal with nuclear technology. Much of this activity took place within the Study Area and, therefore, had a greater and more direct effect on the composition of the local population (increasing the specialization within the wage and salary workers group, for example) and on the interaction patterns within the community.

Because of the relatively high degree of complexity in the Study Area prior to the introduction of the Nine Mile Point stations, the increase due to the project was not significant to the social organization of the Study Area as a whole, although it had a greater effect on Scriba Town than on Oswego City, and on the wage and salary workers group than on the other two groups. By increasing the specialization of the work force in the Study Area, the projects had the effect of diminishing the differences between the

three groups while increasing the differences among members of the wage and salary workers group.

8.3.2.2 Outside Ties

As a port and major trading center, the Study Area had a long history of extensive linkage with other areas, both within and outside the upstate New York region. The focus on extra-local ties had declined in the late nineteenth century as the port became less important and the Study Area became less central to the economic activities of the region. Nevertheless, trends in the expansion of national and multi-national corporations, which further reduced the centrality of the Study Area, increased the area's economic ties to corporations headquartered outside the area. The incorporation of the local teachers' college into the state university system and the locating of the Canadian-based Alcan Aluminium Company in Scriba Town illustrated the increase in absentee-owned economic enterprises. The rapid expansion in communications promoted increased awareness of, and ties to, nonlocal activities and events. Contacts made by Study Area residents with persons of very diverse backgrounds and the World War II-related experiences outside the region and the country were identified as major influences on local perspectives.

The important role played by national labor unions in the community increased the outside ties of the blue-collar wage and salary workers. These ties were particularly salient for the local building trade unions which tended to have a high degree of interaction with their national and regional offices and with other locals. Immediately prior to 1963, there was relatively little expansion in union activity or membership in the Study Area, although membership had been more fully extended across ethnic lines after World War II.

The introduction of the Nine Mile Point Stations resulted in significant changes in the pattern and nature of outside ties in the Study Area. The projects introduced several powerful nonlocal actors into the local arena¹ and expanded the local presence of Niagara Mohawk, headquartered outside the Study Area. Although the presence of outside actors was not new to Study Area residents, the magnitude, duration, and

¹Including PASNY, the New York State Board of Electric Generation Siting and the Environment, and the U.S. Nuclear Regulatory Commission.

intensity of the extra-local involvement associated with the projects, combined with the major expansion of the state university, had not been experienced previously in the area.

The decisions regarding the construction and operation of the Nine Mile Point Stations were made by utilities and governmental agencies that were almost entirely outside the political and economic sphere of the Study Area. Initially, Study Area residents did not consider this a problem, but as additional decisions were made, and as the extent and complexity of outside involvement became evident, the implications for the future of the Study Area became more important to them. This was particularly true as additional nuclear facilities were proposed for the area while questions on the risks of nuclear power and electrical transmission became prominent national issues.

The construction of the Nine Mile Point Stations increased the number and intensity of outside linkages within the Study Area in a variety of ways.¹ The first was through the activities of the utilities themselves, which had corporate/organizational ties throughout the state and which employed personnel who tended to be transferred to various locations within the utility system.

The outside linkages of the utilities caused resources to flow both into and out of the community. Although the plants employed many local people and thus brought money into the area, they also used resources of the Study Area to assemble plants and generate electricity for distribution outside the region. Study Area residents were sensitive to the balance of resource flow as demonstrated by the response of all three groups to proposals for additional nuclear stations which indicated some sense that the area was being used in an exploitive manner as a resource for the remainder of New York State.² This was particularly true of PASNY and its FitzPatrick plant. The Study Area was not part of the PASNY service area,³ PASNY had had no local presence prior to the FitzPatrick project, PASNY paid no taxes on the FitzPatrick plant, and all important PASNY

¹It should be noted that other events, both local and national, influenced and encouraged extra-local linkages similar to those related to the Nine Mile Point Stations, so it is not possible to determine precisely the extent to which the actual increases were attributable to the projects.

²See Chapter 9 for further discussion of this response.

³Indeed, the only local beneficiary of the power produced by PASNY was Niagara Mohawk. The same was true of the utilities proposing the additional nuclear stations at New Haven and Sterling. (See Chapter 9.)

decisions came from its New York City headquarters. Consequently, although the FitzPatrick plant was providing resources to the local economy in terms of employment and purchases, it was not considered to contribute its fair share to the community in exchange for the benefits it received from the plant.

The second increase in outside linkage due to the projects occurred through the introduction of various federal and state regulatory agencies and personnel associated with the permitting, licensing, and monitoring of the nuclear generating facilities. These interactions were relatively foreign to the Study Area prior to the Nine Mile Point Stations, and represented a substantial change in the nature and function of the local economic and political processes. Associated with the regulatory process were additional regional and national agencies and personnel involved with the evaluation of the nuclear plants and their effects on the environment.

The third major way that the Nine Mile Point Stations increased extra-local linkages was through the employment of nonlocal contractors and employees. This brought people and businesses into the Study Area from outside the region who necessarily brought with them outside economic, political, and social contacts.

The fourth way in which project-related increases in extra-local linkages affected the Study Area was through the intervention of nonlocal nuclear-power opposition groups and outside media personnel and organizations, either alone or in collaboration with local groups or individuals. In the Study Area, the principal nonlocal groups involved in opposition to the Nine Mile Point Stations were located in the Syracuse area and, therefore, were from within the region. Nevertheless, the opposition groups had strong linkages with national organizations. Indeed, many of the local residents actively involved in opposition to the Nine Mile Point Stations and the other nuclear projects proposed for the area were only temporary residents of the Study Area.¹ The pro-nuclear public relations efforts of the utilities, the anti-nuclear activities of the opposition groups, and the media coverage of local events related to the nuclear facilities all had significant outside support and direction. At the Nine Mile Point site, Niagara Mohawk employed a national public relations firm to conduct regional surveys

¹For further discussion of this aspect of outside linkage, see Chapter 9.

and to design an appropriate public relations program for the introduction of nuclear technology. As a result of the operation of the Nine Mile Point Stations and the proposals for the New Haven and Sterling nuclear stations,¹ national, state, and regional media personnel entered the Study Area, thus imposing a national or regional perspective and increasing the visibility of local issues.

8.3.2.3 Distribution of Resources and Power

After World War II, complexity, diversity, and outside ties increased, absentee-owned enterprises became more important to the Study Area economy, and the patterns of distributing resources and power became less rigid. It was consistently noted that by 1963, the old entrepreneurial elite subgroup was losing status, and the previously strict ethnic categorizations (including endogamy) in the Study Area were breaking down. These processes continued during the study period and were accelerated by changes associated with the Nine Mile Point Stations.

In 1963, particularly in Oswego City, access to political power involved an intricate advancement system. The system required access (often reserved for long-time residents) and sufficient length of residence in the community. Access to economic power was generally believed to be open to anyone with the acumen and skill to achieve business success. The history of the area was cited to illustrate the business achievements of individuals having such skills. Traditionally, the Study Area had an established social system of multiple hierarchies, typified by the historical presence of the "old" English or German families of the community.

The Nine Mile Point Stations affected the distributional mechanisms in the Study Area in several ways. First, the presence of the projects and the utilities changed the demographic composition of the Study Area, introducing new members who challenged the existing patterns through their presence, their characteristics, and their lack of adherence and conformity to the local rules by which resources, status, and power had been distributed.

¹These were additional nuclear facilities proposed for location in New Haven Town (adjacent to Scriba Town) and near Sterling, in the adjoining county.

Second, the projects altered the access to and use of extra-local political and economic power by Study Area groups. In general, this resulted in increasing the status of the university group and the wage and salary workers group and in opening the community to a wider array of influences.

Third, the projects altered the existing distributional patterns by affecting the relative income levels of skilled blue-collar and white-collar jobs. Skilled crafts workers at the plants earned substantially more than many area residents employed in such jobs previously, and more than many "higher status" occupations. The obvious discrepancy between income and status, combined with the working class nature of the Study Area and political influence of organized labor, served to blur status levels,¹ and represented a change in the distributional patterns of the area.

Fourth, the availability of jobs in the local area modified the pattern of out-migration that had prevailed in the Study Area from the mid-1800s until the end of World War II. The effect of this change in residential patterns is not entirely clear, but it seems that the prolonged presence of substantial numbers of local residents with varied occupational characteristics helped to modify the earlier patterns of group relationships.

Finally, the projects contributed to the overall prosperity of the Study Area, and taxes on the projects enabled the local governments to respond to the needs of their citizens. This prosperity served to open the system and to ease access to economic and social resources, especially for those with typically less ready access to them.

Overall, however, the Nine Mile Point Stations affected the distributional process of the Study Area only moderately, providing pressures and resources to lessen the traditional distinctions among residents. This resulted in a movement toward a more open system, and one where economic opportunities were more widely distributed.

8.3.2.4 Coordination and Cooperation

Numerous factors influenced the ability of the Study Area to coordinate the activities and responses of the residents and organizations in the community over the

¹The Niagara Mohawk steam stations and Alcan projects contributed to these effects.

study period, and therefore to ensure cooperation and reduce or control conflict. A number of organizations in Oswego City (including local government, fraternal organizations, the council of churches, and labor unions) served coordinative functions. In general, there was a relatively high degree of interaction among different segments of the population at the beginning of the study period and throughout the study period. None of the groups was isolated, although some members of the university group were only peripherally incorporated into the larger community. This was demonstrated by the fact that no single characteristic variable such as ethnicity or "ruralness" constituted completely a criterion for defining functional groups in the community although university membership came close. Nevertheless, differences in perspective and perceived self-interest did exist among Study Area residents (for example, among residents of different heritage; among those who had been raised in a densely settled, planned, and controlled environment like Oswego City; and among the residents who were accustomed to, and valued, the less dense, unplanned, and unregulated environment of Scriba Town), and these differences strained the coordination capability of local leadership. During the study period, project-related in-migrants to Scriba Town heightened this strain by increasing the tension between residents with urban backgrounds and expectations, and those with more rural backgrounds and expectations,¹ and by introducing a relatively large number of newcomers whose participation and inclusion in the community required substantial coordinative effort. To a large extent, those who felt that the project-related newcomers had created problems did not feel that the problems were created by the personal characteristics of the workers or their families, but rather by the consequences of their physical presence.

Nevertheless, conflicts such as that in Scriba Town concerning zoning and land-use control had an additional vehemence because of the anticipation of project-related population growth and governmental controls which were evaluated very differently by local residents. Throughout the study period, the residents and political leaders of Scriba Town were unable to develop a coordinated response to resolve the dilemma. Although all three of the major industrial actors in the town attempted to encourage coordination

¹It should be noted that this classification was correct only in general terms, as some of the most vehement defenders of the "rural" characteristics were persons who had "fled" an urban environment.

by applying pressure for the establishment of some land-use control measures, their efforts appear to have had little effect.

In 1963 and throughout the study period, the activities and interests of the university group was least well coordinated with the Study Area community, with the result that the relationship of the community to the group was often one of conflict rather than cooperation. The group's somewhat autonomous, uncoordinated position was repeatedly noted by Study Area residents, and cited as the reason that members of the university group were able to take an uncompromising antinuclear stand. This tended to increase the separateness of the university group, which, combined with the ideological and pragmatic opposition to the projects by some of the group members, was often used to characterize the university group and their long-term relationship to the other two groups in the Study Area.

The opposition of some members of the university group to the Nine Mile Point (and other nuclear) Stations increased the demands placed on the coordinative processes in the community, and resulted in prolonged conflict as those on opposing sides could not agree on mechanisms which would allow them to establish an effective cooperative effort to resolve the issue. The opposition of this university subgroup was consistently noted by area residents as a divisive force that was recognized to have increased the perception of difference between this subgroup and the other groups in the community. Consequently, although none of those interviewed in the Study Area felt that the Nine Mile Point projects had affected the underlying coordinative/cooperative processes in the community, the general consensus was that while the projects' substantial contribution to economic well being had lessened some intergroup tensions, it had aggravated others.

In 1963, Scriba Town was linked very closely to Oswego City, but the relationship was dominated by Oswego City since Scriba Town lacked major employment opportunities, social organizations, and public facilities, the latter due to limited revenue services. During the study period, the nature of the relationship between Scriba Town and Oswego City changed appreciably due to the project. The project-related employment opportunities in Scriba Town significantly altered its functional economic relationships with Oswego City; links became more reciprocal, and economic dependency was reduced. At the same time, the taxes Niagara Mohawk paid on its Nine Mile Point plants substantially raised Scriba Town's financial contributions to the Oswego City School District, but did not affect its representation on the school board. This lack of

advancement created a sense of unfairness in Scriba Town, where the sentiment was expressed that their contribution to school resources should have been accompanied by participation in the coordinating and decision-making processes.

Throughout the study period, the Study Area had numerous mechanisms that provided for communication among residents to support coordinative efforts. The Oswego City Palladium Times, along with several radio stations, provided local news and information. The city, county, and township governments and the Oswego City School Board each held regular, public meetings. The Oswego City library and the university library provided regional newspapers and other informational material to local residents. In general, community residents reported that contact and communication between groups in the community was relatively good and that particular efforts were made by community organizations to ensure that information was shared.

Nevertheless, the consequence of these patterns of social organization was that the Study Area exhibited only a moderate degree of cooperation and cohesion. The multiple governmental jurisdictions and the ties each of the Study Area groups had to similar groups in other nearby communities contributed to this situation. Scriba Town and Oswego City were two separate municipalities; the university was the equivalent of a third. Residents' identification with their own local governmental unit and differences such as governmental policies and tax structure definitely reduced the overall sense of cohesion within the Study Area.

The proximity of other governmental, social, and economic centers created overlapping demands for affiliation and a complex pattern of vested interests for Study Area residents. Yet, despite the salience of some of these jurisdictional and territorial disputes, the residents of the Study Area did feel and exhibit a degree of community cooperation and cohesion throughout the study period that influenced the growth and development of the area.¹ According to available evidence, although the construction and operation of the Nine Mile Point Stations created some important points of conflict and disagreement in the Study Area, these clashes served primarily to demonstrate

¹For example, to what extent one "bought local" was simultaneously seen by residents as a manifestation of community loyalty/cohesion and an indication of one's support of the community.

persistent, well established relationships between the groups in the community.¹ The projects, therefore, had little lasting effect on the cohesion or integration of residents in the Study Area. The inability of community leaders in Scriba Town to coordinate an effective response to land use planning and subdivision regulation, however, had a lasting effect on the way in which the community was affected by the projects.

¹It was suggested that the repeated clashes and accusations may have affected the overall relationship of Niagara Mohawk with the community by making community residents more suspicious and skeptical of utility competence and intentions.

CHAPTER 9: PUBLIC RESPONSE TO THE NINE MILE POINT STATIONS

9.1 Introduction

The purpose of this chapter is to describe the public response to the construction and operation of the Niagara Mohawk Point Stations, particularly that of the Study Area residents. The analysis includes responses directed at the projects and utilities themselves, addressing project-related effects such as traffic and jobs, and other closely related activities, such as the two proposed nuclear stations in the immediate vicinity of the Nine Mile Point Stations—New Haven and Sterling.

The response to the Nine Mile Point Stations included actors both inside and outside the Study Area. It consisted of two components: (1) formal public response by groups through normal governmental channels (such as at permit hearings) and by local governmental institutions (in the form of legislation or resolutions); and (2) informal public response through events or activities that took place outside existing political channels (such as the formation of public-interest organizations and organized public protests or support activities).

The chapter is divided into six major sections. The first describes the public response during the preproject period. The next three describe the response during the licensing process of each of the Nine Mile Point Stations—Nine Mile Point Unit 1, FitzPatrick, and Nine Mile Point Unit 2. The fifth section identifies and summarizes the response made to several project-related issues—high voltage transmission lines, a proposed rad-waste incinerator, project-related traffic, shipment of radioactive materials, the accident at Three Mile Island, seismic stress evaluation, and effects on livestock reproduction. The sixth summarizes the public response made to other generating facilities in the Study Area—the Niagara Mohawk fossil fueled stations located in Oswego City, and the proposed New Haven and Sterling nuclear stations.

9.2 The Preproject Period

The preproject period began in about 1960 and continued through 1964 when Niagara Mohawk began construction of NMP-1. During this period, Niagara Mohawk prepared the way for its initial experience with nuclear facilities, selected the site, and proceeded through the application and hearings for the construction permit. Throughout this period, a generally favorable public attitude prevailed.

During the planning phase, when Niagara Mohawk first determined that it would enter the nuclear energy field, the company employed a public relations firm to conduct extensive surveys throughout its service area to determine the acceptability of nuclear facilities. As the potential area of site selection was narrowed to the Oswego and Upper Hudson Valley areas, the company launched an extensive public relations campaign to introduce the concept of nuclear power and to encourage public acceptance (Albright, 1965).

In 1962, Niagara Mohawk purchased the Scriba Town site, and in 1963 announced its plans to construct a nuclear facility at Nine Mile Point. In April 1964, Niagara Mohawk filed a construction permit application with the AEC. Although concern was expressed about the health, safety, and environmental effects of the plant, with particular emphasis on Lake Ontario, the general response in the Study Area and the region was positive and focused on the potential economic benefits. According to the available data,¹ the response to Niagara Mohawk's announcement was very typical for the early 1960s—many questions regarding the technology and some concern regarding health hazards and thermal effects, but with basic confidence that the utilities and the United States Atomic Energy Commission (AEC) were diligent and competent in fulfilling their responsibilities (Kasperson et al, 1980). No available evidence indicated any significant public opposition to the first Nine Mile Point unit during the preproject period.

There is no indication that the siting of a nuclear facility at Scriba Town was an issue during this period, although some concern was expressed regarding the effects of the once-through cooling system on fish and other aquatic organisms. The suitability of the physical characteristics of the site was generally not contested. During the preproject period, no mention was made of the potential for siting a PASNY nuclear facility in the locale, although there was some discussion of the construction of a multiple unit facility by Niagara Mohawk.

Overall, the preproject period of the Nine Mile Point Stations (1960-1964) was marked by the efforts of Niagara Mohawk to provide a favorable and acceptable

¹Because neither Niagara Mohawk nor PASNY had maintained a clip file available to this research, it was not possible to extensively document early response.

introduction of nuclear power within its service area. According to utility officials, the public information program during this period focused on familiarizing the public with atoms and atomic power generation, introducing the new technology, and obtaining a favorable reception from key community leaders. As part of this campaign, utility officials spoke to groups and organizations throughout Oswego County, emphasizing the safety and advanced technology of nuclear power. (Albright, 1965; Burtch, personal communication, December 1980.)

By the time NMP-1 was announced in 1963, public support was forthcoming. Because it was one of the earliest commercial nuclear generating stations, many of the questions raised by the public during this period concerned the basic technology and physics of atomic reactions. The approach taken by the utility was particularly effective during the early 1960s because of the relatively high trust the public had in experts, persons in authority, and technology, and the general conviction by utility personnel that the development of nuclear power would be economically and environmentally preferable to fossil-fueled facilities.¹ One particular advantage considered at that time was that nuclear power did not discharge combustion products into the atmosphere and was therefore environmentally "cleaner."

During the 1960s, there was national scientific consensus and a political climate favoring nuclear power development. These factors, along with the presumption that nuclear plants would produce cheap power, supported the public's favorable disposition toward the project.

Three additional factors contributed to the lack of organized opposition to the proposed Niagara Mohawk nuclear plant. First, Niagara Mohawk was already well established in the Study Area. It served the Study Area, had a number of generating facilities in the Study Area, and was in the process of constructing additional fossil-fueled plants in Oswego City at the time NMP-1 was announced. Thus, the project sponsor was a known entity with good political and economic connections with the community. Second, the plant site was far enough away from the population

¹The area was well acquainted with fossil-fueled generating facilities due to the four Niagara Mohawk steam stations in Oswego City. (Two additional units were added during the study period.)

concentration of Oswego City, and in a sufficiently isolated area that the plant itself was not observable to most area residents. Given the downtown location of the Niagara Mohawk fossil-fueled generating stations, the six miles to Nine Mile Point appeared quite distant to city residents and reduced their direct interest in the site. At this time, Scriba Town lacked an effective political organization, and the potential tax benefits from the project reduced the incentive to challenge its implementation. Third, the economic characteristics of the Study Area ensured that the employment and income effects of the project would elicit strong support by powerful organizations in the area as well as by the general public. The generally slow economy made the project-related employment look particularly beneficial to the local business people and labor organizations.

9.3 The Licensing of Nine Mile Point Unit 1

The construction permit hearing for NMP-1 was held in January 1965, well after preliminary construction work had begun, and lasted only one day. Few statements or appearances by the public were made at the hearing, and no organized opposition was presented. Strong supporting statements were made by the labor unions, the chamber of commerce, and other Study Area residents, primarily based on the anticipated economic effects of the project. A few admonitions of caution regarding the technology were made, largely by residents of Syracuse, New York. In addition, the hearing provided a forum for the State of New York to raise issues concerning state versus federal regulatory jurisdiction and for a Syracuse-based civil rights organization to call for racial equality in employment (NRC Docket No. 50-220, 1965). The construction permit was issued in April 1965.

The major issues discussed concerning the operating license for NMP-1 involved the intake-discharge system of the plant and its potential effect on fish and other aquatic life, and the design of the rad-waste system which controls the release of liquid and gaseous radioactive waste. Questions concerning the legislative and jurisdictional status of water quality and effluent standards received much attention. Largely because of the continuing ambiguity of these issues, the AEC issued only a provisional operating

license to Niagara Mohawk for NMP-1 in August 1969.¹ This license limited operation of the unit to about 80 percent of full capacity.

Following the passage of the National Environmental Protection Act (NEPA), which was definitively applied to nuclear power plants by the Calvert Cliffs decision, the AEC/NRC was required to prepare an environmental impact statement for all unlicensed plants prior to issuance of a full-term operating permit.

In August 1971, the limited operation license was amended to increase the power rating to full power, but its provisional status was retained. Not until January 1974 did the AEC issue the final environmental statement related to the operation of Nine Mile Point Unit 1. A full term (40-year) operating license was not issued until December 1974 (AEC, 1974:1-2; NRC Docket No. 50-220, 1974). The issuance of the full term license went almost unnoticed by the general public because it did not affect the construction or operation of the plant in a major way, and very few area residents were actively involved in the permitting and licensing process at that time.

9.4 The Licensing of the James A. FitzPatrick Plant

In May 1968, Governor Rockefeller authorized the Power Authority of the State of New York (PASNY) to develop nuclear and pumped-storage generating facilities. Almost immediately, PASNY entered into negotiations with the Niagara Mohawk Power Corporation to secure the major components of a nuclear generating station that Niagara Mohawk had ordered in anticipation of the siting of a nuclear plant at Easton, New York, on the Hudson River. A major factor in both the availability of the components and the location of the FitzPatrick plant at the Nine Mile Point site was the presence of organized opposition to the Hudson River project on environmental grounds (Burtch, personal communication, January 1979; The Wall Street Journal, 7 August 1968; The Wall Street Journal, 8 August 1968). Little immediate response was made to these decisions in the Study Area. However, the fact that plants sited in the Study Area were providing power for downstate New York because downstate residents were willing to tolerate

¹The debate included jurisdictional questions of the EPA and the Federal Water Pollution Control Act, as well as the State Water Resources Commission, which regulated thermal discharge (PASNY, 1970:5).

nuclear plants was not lost on area residents. This was a source of considerable resentment which resurfaced at various times throughout the study period.

The FitzPatrick plant was announced in August 1968 and by December 1968 PASNY had submitted its application to the AEC. Because the FitzPatrick plant was located on the same site as NMP-1, there was little discussion concerning the suitability of the site per se. Rather, environmental concern focused on the cumulative effects of the two plants, particularly of the thermal plumes created by cooling water discharged into Lake Ontario.

The tax-exempt status of the FitzPatrick plant was particularly noted by local businessmen, planners, and government officials but, except for a few Study Area residents, a positive "jobs and income" assessment prevailed. At this time, PASNY was noted for its production of low-cost hydroelectric power and it was anticipated that the FitzPatrick plant would further contribute to the availability of inexpensive electricity. An initial source of concern regarding the FitzPatrick plant was that PASNY was exempt from many provisions of state and local law. PASNY was not legally required to obtain some of the environmental permits, notably those issued by the New York State Departments of Health and Environmental Conservation regarding stream protection. To alleviate these concerns, PASNY publicly indicated its intention to apply for these permits (AEC 1973: I-3).

In the summer of 1969, the State of New York issued new, more stringent standards for thermal discharge. This raised questions about the ability of the FitzPatrick plant to meet the new standards, especially given its proximity to NMP-1. Nevertheless, in October 1969, the AEC granted PASNY a construction exemption which allowed the placement of concrete for the substructure prior to issuance of a construction permit. In January 1970, the AEC granted a second exemption which allowed below-ground placement of steel for the primary pressure suppression containment system, still without completion of the hearing process or issuance of the construction permit. (PASNY, 1970:2.)

In mid-March 1970, the AEC held a prehearing conference in Oswego City concerning PASNY's application for a provisional construction permit. The purpose of this conference was to identify and define issues to be addressed at the construction

hearing. No major new issues were identified, and the construction hearing was set for the end of March (NRC Docket No. 50-333, 1970).

At the construction permit hearings, a number of local residents and representatives of local organizations submitted statements or made limited appearances. Presenting statements in favor of the project were: the New York State Atomic Energy Commission; a representative from Pulaski Village (northeast of the plant site); Oswego, Jefferson and St. Lawrence counties; the Greater Oswego Chamber of Commerce; Operation Oswego County;¹ the Oswego County Labor Council; and the Oswego Building and Trades Council. Pulaski Village, which was located downwind from the site, gave its support with the provision that proper environmental safeguards be taken. The basis of all the favorable input was that the projects would provide economic growth and modern technology.

A New York State Conservation Council representative, a nonlocal who said the council represented over 250,000 conservationists in New York State, objected to the "unseemly haste" in the construction schedule of nuclear plants, to the issuance of the preconstruction exemptions, and to AEC's dual role as promoter and regulator of nuclear facilities. Of greatest concern to this group was the potential of radioactive release, especially into one of the Great Lakes, and the effects of the thermal pollution on the already stressed Great Lakes system (NRC Docket No. 50-333, 1970).

One long-time resident who lived on an island four miles downwind of the site and represented his resort/recreation community, objected to the speed of the nuclear plant sitings in the area and the risk of environmental damage. He particularly opposed the siting of the second plant because the power from it was to be shipped out to New York City and Albany.² He expressed concern over the "lack of friendly public relations," the fact that the burden of proof of environmental deterioration appeared to rest with the citizens, and the fact that, although the foundation of the FitzPatrick plant was 50

¹An organization promoting the economic development of Oswego County.

²"If this power were to be used only in industrial New York, three or four counties, maybe the damage of atomic power could be weighed against the benefits to the area, but this is not the case. Power is needed in Albany and New York City at the present time." (NRC Docket No. 50-333, 1970.)

percent completed, no construction license had been issued (NRC Docket No. 50-333, 1970).

The issues and positions presented at the hearing appeared to reflect most of those in the region except the generic opposition to nuclear facilities. The Study Area was represented at the hearing by local entrepreneurs and wage and salary workers who strongly supported the permit application, primarily on economic and employment grounds.

In May 1970, PASNY announced that the FitzPatrick plant would meet the rigid state thermal discharge standards, and the AEC issued the FitzPatrick construction permit (PASNY, 1970; AEC, 1973:I-4). Given the relatively advanced state of construction, little public response was made to the issuance of the permit. In April 1970, the New York State Department of Health issued PASNY a thermal discharge permit, and in July 1970 the United States Corps of Engineers granted permits for the construction of the FitzPatrick intake and discharge tunnels.

In 1971, following the first Earth Day in 1970, a local environmental group, Oswego County Ecology Action, was formed, headed by members of the university faculty. The original purpose of the group was to promote recycling. As was typical of many environmental groups, a high percentage of the active members of Ecology Action were women. (Post-Standard, 26 January 1980; Palladium Times, 23 April 1980.) Prompted by the existence of NMP-1, the continuing construction of the FitzPatrick plant, and the announcement of NMP-2, Ecology Action became involved with the issue of nuclear power generation. The group developed expertise in legal arguments and focused its efforts on regulatory hearings. Ecology Action, in conjunction with other environmental groups in the area, worked on a variety of nuclear-related environmental issues in the region. (Syracuse Herald-American, 8 June 1980.) One major objective was to thwart utility plans to make the Oswego area a nuclear power center for the northeast United States (Palladium Times, 23 April 1980).

In March 1973, the AEC issued the final environmental statement on the operation of the FitzPatrick plant, and in April it held a prehearing conference concerning the issuance of the operating license for the FitzPatrick plant. At this conference, two Study Area residents, members of Ecology Action, petitioned to intervene, and raised the issues of the plant's effects on water quality, aquatic life, and the plant's radioactive

emissions. Much of the discussion at the prehearing conference centered on the jurisdictional questions of water quality standards and control. (NRC Docket No. 50-333, 1973.) The other applicant for intervenor status was the New York State Department of Environmental Conservation which indicated that the state had no standards or statutes applicable to the FitzPatrick plant. It therefore set forth conditions regarding more stringent aquatic monitoring and sampling procedures, and the development of contingency thermal discharge plans. (NRC Docket No. 50-333, 1973.)

In early June 1973, hearings were held in Oswego City concerning the extension of the construction permit and issuance of the operating license. At the hearing, representatives of the Greater Oswego Chamber of Commerce and Operation Oswego County endorsed the project, stating that "considerable commercial impact has occurred" as a result of the project. Ecology Action again raised issues concerning health and safety considerations, the development of an adequate emergency plan, and radioactive releases. The New York State Atomic Energy Commission stated that it had no objections to the permit. The federal AEC stated that it had no objections to the permit; in fact, its staff came out in support of issuance of the operating permit. Because PASNY did not have sufficient trained personnel to operate the station, the full-power, full-term operating license issued in November 1974 specified that Niagara Mohawk would operate the plant until the license could be transferred to PASNY. This transfer was made in December 1976. Little response was made by the general public to either action. (NRC Docket No. 50-333, 1976.)

9.5 The Licensing of Nine Mile Point Unit 2

The Niagara Mohawk Power Corporation announced plans for NMP-2 in October 1971, and filed application for a construction permit in June 1972. Unlike the previous two plants, this announcement was greeted with both organized opposition and organized support. In 1972, the State of New York revised its permitting process with the enactment of Article 8 known as the "one-stop siting act." This legislation required certification of environmental compatibility and public need by the State Siting Board for all energy facilities exceeding 50 Mw that were already under construction. Because Niagara Mohawk had started preliminary construction activities and had obtained some of its permits by the time Article 8 was enacted, it was exempt from the new regulation. Nevertheless, Article 8 significantly modified the basis for opposition to new facilities proposed for construction in New York State.

At the time of the NMP-2 announcement, electrical generating facilities in the Oswego area that were in operation, under construction, being proposed, or under consideration included: (1) one hydroplant in Oswego City, (2) six fossil-fueled steam stations in Oswego City, (3) Nine Mile Point Unit 1, (4) FitzPatrick, (5) Nine Mile Point Unit 2, and (6) four proposed additional nuclear units, two in Oswego County and two in adjoining Cayuga County.

Although the four proposed units at New Haven and Sterling had not been formally announced by 1971, residents of the Study Area (encouraged by the organized opposition of several environmental and conservation groups) began to feel that they were providing more than their share of the electrical power generation in New York State, a sentiment which influenced their attitude toward NMP-2.

Niagara Mohawk applied for a construction permit in June 1972. Ecology Action, the New York Atomic Energy Council, and the Environmental Defense Fund¹ petitioned to intervene in the permit hearings. Issues admitted for consideration by the AEC (NRC Docket No. 50-410, 1974) included:

1. Radioactive effluents (non-zero discharge);
2. Fuel densification (not adequately guarded against);
3. Alternative sources of power (better sources available);
4. Energy conservation and the effect of the rate structure;
5. Need for additional power; and
6. Cost-Benefit ratio of the project.

Throughout the hearing process, the greater benefits of energy conservation over additional nuclear facilities were stressed by Ecology Action and the Environmental Defense Fund. The contention that additional electrical generating capacity was not needed was made repeatedly, using new demand forecasting methods. This position developed considerable public support from both within and outside the Study Area. Numerous prehearing conferences were held (January, April, September, and December

¹Concerned with rate restructuring.

1973). The projections of need (the legal briefs developed by Ecology Action) were the central foci of these conferences. Problems of thermal discharge and effects on fish were also raised.¹

The hearings for the construction permit for NMP-2 were completed in January 1974. An initial favorable decision regarding the construction permit was made by the Atomic Safety Licensing Board (ASLB) in June 1974. This decision was appealed by Ecology Action on the grounds that the additional capacity was not needed in the Niagara Mohawk service area and that the alternative of energy conservation had not been given sufficient attention. Attempts to raise issues of radiation and health in the appeal were denied. In April 1975, the ASLB Appeals Board upheld the decision to issue the permit (NRC Docket No. 50-410, 1975).

Sometime in 1976 or 1977, Niagara Mohawk decided to change its original plans for NMP-2, replacing the once-through cooling system with a natural draft cooling tower. This decision, which was not the result of public hearings or state/federal rulings, was not formally announced. According to the Niagara Mohawk Power Corporation, the decision was made in order to avoid further delays due to inevitable challenges of the open cooling system by environmental groups (Burtch, personal communication, December 1980).

Because of the substantially higher costs associated with the modified design, it is anticipated that cooling system design and decision-making procedures will be an issue for the NRC and the New York State Public Service Commission at the operating license hearings for NMP-2 (Dunkleberger, personal communication, February 1981). At the time of this study, these hearings had not been set, and the operating license for NMP-2 had not been issued.

9.6 Other Issues Related to the Nine Mile Point Stations

9.6.1 High Voltage Transmission Lines

Both Niagara Mohawk and PASNY were involved in the construction of transmission lines in the region. In July 1978, Niagara Mohawk received particularly strong opposition in the Study Area to the proposed construction of 765 kV transmission lines

¹The Sierra Club participated in this issue.

from NMP-2. Considerable controversy had developed regarding the visual, health, and safety issues of high voltage transmission lines from Niagara Mohawk's Massena plant near the Canadian border. The Lake Shore Alliance, an alliance of regional environmental groups, was formed to protest the construction of such lines. Ecology Action was a member of the Lake Shore Alliance, and intensive opposition was registered by some university members.¹

Although the line south from Canada was constructed, NMP-2 had not gone into operation by the end of 1980 and its 765 kV line was not yet completed although it was tentatively approved. (Palladium Times, 13 July 1978; Oswego Valley News, 9 November 1978.)

9.6.2 The Rad-Waste Incinerator

In 1978, Niagara Mohawk announced plans to construct a radioactive waste incinerator at NMP-1 to incinerate low-level waste. This proposal was made public during a period when a local chemical waste disposal plant with an incinerator was discovered to be severely polluting the area. Strong opposition developed, led by local antinuclear groups, and was well covered by the media. Petitions were circulated, and it was reported that more than 2,000 signatures were collected in opposition to the plan. (Syracuse Post Standard, 22 September 1978.) According to all available reports, opposition to the incinerator was widely spread throughout the community.

The issue, compounded by the proposed expansion of nuclear facilities in the area, prompted local antinuclear groups, particularly those at SUNY-Oswego, to stage an antinuclear rally at the Nine Mile Point Information Center. This rally reportedly drew about 50 participants, many of whom were students (Palladium-Times, 31 January 1978). An informational meeting on the proposal, held in Oswego City at the end of January, was attended by more than 200 persons. The majority of those who spoke were opposed to the proposal. (Palladium-Times, 31 January 1979.) In conjunction with this meeting, the Sierra Club, along with a number of local antinuclear groups,² sponsored a mail campaign against the incinerator (Syracuse Post-Standard, 30 January 1979).

¹Others involved in opposition to high voltage lines included agricultural people living outside the Study Area.

²Especially Ecology Action and Safe Energy for New Haven.

The principal concern expressed in the formal complaints was the health and safety implications of the incinerator. Also evident was anger that the utility was proceeding with plans for the incinerator without the proper supervision of the NRC and without providing the public with adequate information. (Reenert, personal communication, August 1980; Oswego Valley News, 3 January 1979; Palladium Times, 3 January 1979; Syracuse Post-Standard, 22 September 1978; Burtch, personal communication, August 1980).

The government of Scriba Town explored ways to prevent the construction of the incinerator when it appeared that local action might be necessary. An examination of legal alternatives concluded that the only way the town could prevent Niagara Mohawk from constructing the incinerator was to establish a comprehensive plan which established zoning to exclude the incinerator. This conclusion presented local residents and governmental officials with a dilemma, and heightened the community controversy over planning and zoning. A member of the town planning board was quoted as saying:

"If it comes to an incinerator or zoning, I'll take my chances with an incinerator." (Palladium-Times, 17 August 1978.)

The Safe Energy Coalition of New York State (led by Albany area workers) and Ecology Action (led by Study Area university group members) organized and coordinated the opposition and disseminated information concerning the incinerator to the media.

Design difficulties, combined with public opposition and NRC disapproval, caused Niagara Mohawk to cease active efforts to establish the incinerator (Patrick, personal communication, August 1980).

9.6.3 Project-Related Traffic

Throughout the study period, project-related traffic was an issue in the Scriba Town area. The increased traffic affected road safety, congestion, and maintenance. The principal public response concerning project-related traffic was made by Scriba Town residents (primarily members of the wage and salary workers group) living along the major access routes. Scriba Town residents wrote numerous letters to the the editors of area newspapers, and repeatedly raised the issue of traffic control at the Scriba Town Board meetings. These protests expressed displeasure at the inconvenience caused by the heavy traffic during shift changes, and concern for the safety of town children and other

residents. Proposals were made to improve traffic control with speed limits, additional traffic signals, and road signs. However, the town was generally not successful in obtaining cooperation or agreement from the State Highway Department, and traffic problems persisted throughout the study period.

9.6.4 Transport of Radioactive Materials

The use of local roadways for the transportation of radioactive materials, especially radioactive waste, became an issue in the late 1970s. By 1979, local antinuclear groups, local environmental groups, and local municipalities were in active opposition to the shipment of nuclear waste on area roads and bridges. Interstate Highway 81, which passed through the center of Oswego County, was a major route for the transportation of radioactive materials from Canada to disposal sites in the United States. In addition, regional roadways were used for the transport of nuclear waste from the Ginna nuclear station and the Nine Mile Point Stations. Furthermore, additional waste would have been transported on area roads if the New Haven and Sterling stations were constructed.

In 1979, various communities in New York State closed their roads to trucks carrying radioactive waste. A major focus of this issue was the Ogdensburg-Prescott Bridge from Canada to the United States on I-81. A variety of special interest groups, primarily those organized for antinuclear or environmental campaigns, fought radioactive waste transport in central and northern New York State. Several such groups with members from the Study Area were active in this opposition.¹

In May 1980, the United States Department of Transportation proposed regulations that would remove the power of local communities to regulate the transportation of nuclear waste on roadways within their jurisdiction (Palladium Times, 21 May 1980). This proposal prompted meetings of concerned citizens and groups in the study region.

Although by the end of 1980, neither Oswego City nor Scriba Town had taken action to limit transportation of radioactive materials, according to interviews with

¹Including Ecology Action, Safe Energy for New Haven, Concerned Citizens About Sterling, and other members of the Lake Shore Alliance.

Study Area residents, the activity surrounding this issue and the coverage given it in the local newspapers had heightened the perception of risk. In conjunction with the issues of the rad-waste incinerator, the Three Mile Island accident, and the proposed additional nuclear facilities, the issue of transporting nuclear materials contributed to an increased perception of risks regarding nuclear facilities per se. Nevertheless, it is important to note that few of those interviewed in the Study Area mentioned a concern for the safety aspect of the Nine Mile Point Stations unless the question was specifically posed to them. Without a statistically reliable measure of residents' perceptions, it is impossible to determine the distribution of perceptions of risk among the Study Area residents.

9.6.5 The Accident at Three Mile Island

The accident at Three Mile Island (TMI) in March 1979, occurred during a period when concern regarding nuclear facilities in the Study Area was particularly strong—construction on NMP-2 was underway and the proposals for siting the New Haven and Sterling nuclear stations were in the public eye. The design of the Nine Mile Point Stations differed from that of TMI (boiling water as opposed to pressurized water reactors); a difference stressed by the utilities and included in media reports. Nevertheless, many Study Area residents noted that the TMI accident, combined with the continuous issue-raising by the antinuclear groups and coverage by the news media, raised the perception of risk associated with nuclear facilities.¹ Distress over the accident was compounded by the generally held belief that the nuclear plants were being located in Oswego because other areas were unwilling to have them, and that the Study Area was exploited by the power users in downstate New York.

Following the Three Mile Island accident, the NRC initiated extensive re-evaluation of design standards and regulations for nuclear generating facilities. Niagara Mohawk cited this uncertainty regarding the re-evaluation as a major factor in the corporate decisions to delay construction efforts on NMP-2. Throughout 1980, Niagara Mohawk publicly stated that the utility would wait until the NRC completed its re-evaluation before making decisions on further activity at NMP-2 (Oswego Valley News,

¹Although the appreciation of risk was not new, the accident was said to have broadened and intensified the perception of risk. In 1976, the Oswego County Planning Board established an Energy Facilities Committee to "negotiate just compensation for Oswego County citizens as some solace for the inherent risks of living near nuclear power plants" (Oswego County Planning Board, 1979).

22 January 1980). This position resulted in widespread rumors in the Study Area, (publicly denied by a Niagara Mohawk official) that the entire project would be abandoned or that it would be converted into a coal-fired facility (Syracuse Post-Standard, 19 June 1980). The extent to which the accident at Three Mile Island actually affected the schedule of NMP-2 is unknown.

As a consequence of the Three Mile Island accident, new requirements for emergency evacuation plans were instituted, and greater public attention was given to emergency plans. The development of an emergency plan for the Nine Mile Point Stations received considerable press coverage in the Syracuse-Oswego area (Oswego Valley News, 22 January 1980 and 25 March 1980). In April 1980, about 200 Study Area residents attended an NRC-sponsored review of the proposed emergency plan (Palladium Times, 18 April 1980), and emergency preparedness was one of the issues raised in the response to the proposed New Haven and Sterling nuclear facilities.

Overall, the Three Mile Island accident appeared to have made Study Area residents somewhat more cautious about nuclear facilities and more aware of the risks associated with them. However, it does not appear that the accident had a drastic effect on area residents' attitudes or behaviors.

9.6.6 Seismic Stress

Shortly after the Three Mile Island accident, an error was discovered in the model used by Stone and Webster to analyze seismic (earthquake-caused) stress which resulted in underestimations of the stresses applied to critical parts (especially safety piping). The FitzPatrick nuclear plant was one of the five units built with designs developed from this model. The NRC declared that these plants were potential safety hazards and ordered all five units shut down pending re-evaluation of the actual design of the affected plants and correction of any deficiencies (Syracuse Post-Standard, 20 March 1979). Because of this re-evaluation requirement, the FitzPatrick station was out of operation from mid-March to mid-September 1979.

These events again raised concern about seismic faults at the Nine Mile Point site. In 1976, during excavation for the reactor building for NMP-2, a fault was discovered in the bedrock. Although it was determined that the fault was due to stress caused by the removal of glacial weight and was not associated with earthquake activity, it was associated with cracks found in the concrete wall of the reactor building of

NMP-1, and this resulted in design changes of the NMP-2 water intake system (Oswego Valley News, 30 August 1978, 24 July 1979 and 20 November 1979). Although they were covered in the local media, relatively little public response was made to either of these events.

9.6.7 Effects on Livestock Reproduction

In 1979 and 1980, several dairy farmers in Oswego County reported reproductive problems within their herds. The most severe problems were reported in New Haven Town, which was immediately adjacent to the Study Area and downwind from the Nine Mile Point site. Because no adequate explanation could be found for these problems despite extensive tests, dairy farmers were concerned that the problems were caused by either radioactive emissions from the Nine Mile Point Stations or leakage from unknown toxic waste disposal. State officials were required to increase pasture and milk samplings and to conduct studies to determine the cause of the premature births, spontaneous abortions, and birth defects (Syracuse Herald-American, 13 January 1980).

This issue was pursued most actively by two New Haven couples whose herds were most affected.¹ Members of the Oswego County Farm Bureau were divided in their position regarding appropriate strategy. Some members (characterized as antinuclear) wanted to make the issue as public as possible, to obtain state participation in determining the source of the problem, and to use the results in the fight against the proposed New Haven nuclear station. Others (including those characterized as pronuclear) felt that the problems were overstated, that extensive media coverage was harmful to the local dairy industry, and that over-reaction would reduce the area's chances of obtaining the New Haven project. (Syracuse Herald-American, 13 January 1980; Oswego Valley News, 11 March 1980; The New Times, 22 May 1980). During 1980, neither faction dominated; the issue of further state studies made little official headway although it was frequently in the local news.

This issue was the culmination of a long history of concern in Oswego County over the effects of nuclear facilities on the dairy industry. These concerns were aggravated

¹One of these couples had actively opposed the nuclear stations and was a leading force in the establishment of a local group (Safe Energy for New Haven) opposed to the proposed New Haven project.

by the occasional occurrence of unexpected low-level radioactive releases from the Nine Mile Point Stations and by the findings of the milk and pasture monitoring programs. In 1980, for example, milk monitoring tests found unusually high levels of cesium-137 in the milk from a farm near Nine Mile Point. Although this finding was not linked to any known emission from the plants, such occurrences heightened the concerns of the environmental links and potential consequences of a major release from the Nine Mile Point Stations (Oswego Valley News, 11 March 1980).

Although the antinuclear component of the dairy farmers received support from the other antinuclear and environmental groups in the area, the issue did not generate general public interest. Nonetheless, it did serve to keep questions of health and safety concerning nuclear power before the public and to highlight each instance of radioactive release from the Nine Mile Point Stations.

9.7 Other Generating Facilities

9.7.1 The Oswego Steam Stations

The response of the public to the Nine Mile Point Stations was influenced by the presence in Oswego City of the four Niagara Mohawk fossil-fueled steam stations and one hydroelectric station and the construction of two additional fossil-fueled units during the study period.

The initial power plant in Oswego City was the hydroelectric facility developed in 1925 by the Oswego River Power Corporation following a power struggle with the Oswego City mayor who wanted municipal development of the river (Palladium Times, 19 May 1980; White, personal communication, December 1980).

Little information was obtained concerning the response made to the construction of the first four coal-fired steam stations in Oswego City. However, it was noted that location of the stations within the municipal boundaries was strongly sought by city officials for tax purposes (White, personal communication, December 1980).

By the time Niagara Mohawk announced plans for NMP-1, four coal-fired units were located in downtown Oswego City. Although residents in neighborhoods near the stations periodically protested about damage and danger from the plants, the general public paid little attention (White, personal communication, December 1980; Palladium Times, 21 May 1979).

In 1971, Niagara Mohawk announced that the steam stations would be converted from coal to oil, and that two additional 850 Mw oil-fueled units (Units 5 and 6) would be constructed on the site. These units were constructed simultaneously with the Nine Mile Point Stations; Unit 6 was completed in 1980.

Throughout this period, public attention was focused on nuclear energy, and most assessment work and regulations addressed nuclear facilities (Oswego County Planning Board, 1979). Nevertheless, the greatly excessive generating capacity and the accompanying transmission lines (and, until 1972, coal trains) created by the steam stations contributed to a general sense of "overbuilding" and area exploitation. This was further aggravated during the 1970s by additional proposals for generating facilities and, most particularly, by rapid and repeated electrical rate increases.

In May 1979, a fire in one of the steam station oil storage tanks required the evacuation of a three-block area in the city, thus demonstrating the risks of living adjacent to these facilities (Palladium Times, 1 May 1979). Although environmentalists and area residents applauded the conversion of the steam stations from coal to oil, they were less pleased that Niagara Mohawk had obtained a permit from the Department of Environmental Conservation to use high sulfur oil (2.8 percent sulfur) (Palladium Times, 13 June 1980).

The Niagara Mohawk steam stations, along with the proposed nuclear facilities, became political issues in the 1978 state assembly elections. An assemblyman elected from the Oswego City district took an active part in these debates and made the question of energy a focus of his attention following the election.

9.7.2 The Proposed Sterling Nuclear Station

In the early 1970s, Rochester Gas and Electric (RG&E) initiated site evaluation studies for a major generating facility. Both coal and nuclear fuel were considered. Two major site alternatives were identified: Ginna, the site of an existing RG&E nuclear facility 40 miles west of Oswego City; and Sterling, on the shore of Lake Ontario in Cayuga County. In 1974, RG&E selected the Sterling site for a two-unit, 1200 Mw nuclear station. The proposed site was about 10 miles from Oswego City (Palladium Times, 24 January 1980).

In 1974, RG&E, as the sole owner, applied to the NRC for a construction permit and to the New York State Board of Electric Generation Siting and the Environment (New York State Siting Board) for a certificate of environmental compatibility and public need. In 1975, ownership of the Sterling project was expanded to include Niagara Mohawk and three other New York utilities, although RG&E retained the responsibility for construction, operation, and licensing.¹ Also in 1975, the utility publicly announced that the proposed facility would be nuclear rather than coal-fueled. These decisions resulted in the active intervention of the area's established antinuclear groups, led by Ecology Action and the Genesee Valley People's Power Coalition (a Rochester area coalition) and by a new group (Citizens Concerned About Sterling) organized especially to oppose the Sterling plant.

Ecology Action led the legal battle against the permit for construction of the Sterling plant in both the NRC and the New York State Siting Board hearings. The hearings for the NRC construction permit were held first. At these hearings (NRC Docket No. 50-485, n.d.), the major contentions of the opponents were:

1. The demand forecasts made by the utility were inadequate and inaccurate because of the basic methods used, lack of consideration of factors which would affect growth in demand, and potential modifications in reserve requirements.
2. The applicants had not adequately assessed the potential effects of the project on the facilities and services in the area, either in terms of overlap with other proposed projects (NMP-2 and New Haven) or in terms of environmental effects of normal operation and potential accidents.
3. The effects of the thermal emissions were negative and were not adequately addressed, particularly the cumulative effects of the proposed project and the Nine Mile Point Stations.
4. The selection of the site (Sterling as opposed to Ginna, where a nuclear facility was already located) was incorrect.
5. The health and public safety risks were underestimated and represented unnecessary and undesirable effects.

¹Ownership was RG&E (28 percent), Niagara Mohawk (22 percent), Orange & Rockland Utilities (33 percent), and Central Hudson Gas and Electric (17 percent) (NRC Docket No. 50-485, 1976).

Despite this intervention, the NRC issued a construction permit for the Sterling facility in 1977. The opposition then focused on the New York State Siting Board hearings, making essentially the same contentions. The Sterling project was the first to go through this process.

In addition to the legal opposition to the project, public resistance to the proposed project was solicited by the local antinuclear groups, both individually and through the Lake Shore Alliance. Several demonstrations were held, some on the university campus (Fair Haven Register, 29 June 1978).

In December 1977, the New York State Siting Board voted 4 to 3 to issue a construction permit for the Sterling facility.¹ However, shortly after the permit was granted, the New York State Power Pool issued its annual forecasts of energy demand which were substantially lower than those used in the permit application. Based on these projections, opponents of the project challenged the New York State Siting Board's decision on the grounds that the facility did not meet the requirements of Article 8 in terms of demonstration of public need. In May 1978, the New York State Siting Board ordered new hearings. The Department of Environmental Conservation commissioned a study to re-evaluate the project (Herald-American, 28 January 1979; Palladium Times, 24 January 1980; Syracuse Herald-Journal, 24 January 1980). Based on briefs prepared by Ecology Action, the study concluded that there was no need for new power plants of any type for at least fifteen years. The Department of Environmental Conservation ruled in January 1980 by a vote of 4 to 1 to vacate the certificate of public need and environmental compatibility (Syracuse Herald-Journal, 24 January 1980).

Thus, despite the fact that the proposal was supported by the Cayuga County Legislature, the Sterling Town Board, the Fair Haven Village Board, the Auburn City Council, a state assemblyman, and a state senator, the project was discontinued. This decision was greeted as a major victory by the antinuclear interest groups in the region. By making nuclear power a public issue, the antinuclear groups felt that they had not only increased public awareness of nuclear issues but had also successfully challenged the utilities. However, emphasis on the proposed Sterling plant also served to divert

¹Two of those opposed to the issuance at the Sterling Site voted in favor of the alternative proposal for a coal-fired facility at the Ginna Site.

attention from the Nine Mile Point Stations since the opponents to them were otherwise occupied. As indicated by the central role played by Ecology Action, some Study Area residents, primarily those in the university group, played an active leadership role in this response.

9.7.3 The Proposed New Haven Nuclear Station

Almost concurrent with the Sterling proceedings was a proposal for a two-unit, 2,500 Mw nuclear station to be sited near the village of Mexico in New Haven Town, about 15 miles east of Oswego City. The principal sponsor of the New Haven project was New York State Electric and Gas (NYSEG). An extensive site evaluation process was initiated in 1976 which focused on four alternatives: (1) a coal-fueled plant at the New Haven site; (2) a nuclear-fueled plant at the New Haven site; (3) a coal-fueled plant at a site in Stuyvesant, New York, on the Hudson River; and (4) a nuclear-fueled plant at the Stuyvesant site.

In response to the site evaluation process, several local opposition groups were formed, notably the Safe Energy for New Haven group, led by one of the area's dairy farmers¹. They campaigned openly against the siting of a nuclear facility in New Haven. Safety was a primary issue, although overloading of facilities and services was also cited as an undesirable consequence of the project (Palladium Times, 17 January 1978). The local groups were supported by the dense network of antinuclear groups in the Rochester-Syracuse region.

In April 1978, the nuclear-fueled plant at the New Haven site was identified as the preferred alternative (Syracuse Post-Standard, 27 April 1978), and NYSEG subsequently applied for construction permits from the NRC and the New York State Siting Board.

In February 1978, NYSEG applied to the NRC to add three additional utilities as co-owners—Central Hudson Gas and Light, Long Island Light Company (LILCO), and Rochester Gas and Electric (RG&E). This application was approved by the NRC in October 1978 (NRC Docket No. 50-410, 1980).

¹Owner of one of the dairy herds reported to be experiencing animal reproduction difficulties.

During the ensuing process, which involved a number of public hearings and several rallies, the overbuilding of nuclear facilities, particularly in the local area, emerged as a major contention of the opponents.¹ According to newspaper reports, attendance at public meetings on the project was divided almost evenly between proponents and opponents. Labor leaders were among the staunchest supporters of the project; many speaking in favor of the proposal were Study Area residents and members of the wage and salary workers group.

Ecology Action again participated in the preparation of legal briefs for the New York State Siting Board, and obtained intervenor status in the NRC proceedings. In July 1979, the New York State Public Service Commission voted formally to recommend dismissal of the NYSEG application on the basis of unclear ownership, a recommendation which had been developed principally by Ecology Action. Ecology Action contended that LILCO, a co-owner of the proposed facility, had no interest in the project, did not need the increased generating capability, and was merely "holding places" in the permit application (Palladium Times, 28 May 1980; Post Standard, 6 July 1979; Caplan, personal communication, December 1980).

In October 1979, the New York State Siting Board expressed doubt that the proceedings could continue in "an orderly and expeditious manner" given the uncertainty of LILCO's status as an applicant with a clear intent to own a share of the facility. The Board dismissed the utilities' proposal on the grounds that the plan lacked viable co-applicants (Post Standard, 28 May 1980; Palladium-Times, 27 February 1980 and 28 May 1980).

NYSEG requested a rehearing, but the New York State Siting Board denied the request. This action, combined with New York State's Energy Master Plan which emphasized the use of coal and natural gas, and which declared a moratorium on the construction of new nuclear plants, indicated further pursuit was futile. In February 1980, NYSEG announced that it was abandoning the project and was not renewing its

¹The Mayor of Mexico wrote a letter to the television news program, 20/20, asking, "When is all this going to stop, and why should rural areas have to bear the burden?" This prompted a 20/20 program, aired on 27 February 1979, that was largely negative toward the project.

leases with 48 property owners in New Haven (Palladium-Times, 8 August 1979 and 27 February 1980).

9.8 Summary

Construction of the Nine Mile Point Stations extended from 1963, when public and political opinion was generally very favorable regarding the development of nuclear generating facilities and when growth was relatively unchallenged in the United States, to 1980, when public and political opinion was much more divided. The issues revealed by the public response to the three Nine Mile Point Stations reflect this temporal shift in public concerns.

The public response made to the Nine Mile Point Stations illustrates the influence that project timing, legal procedures, and other related activities can have on the actions taken by the public. Of particular importance in the response made to the Nine Mile Point Stations was: (1) the accumulation of generating facilities in a relatively rural area which did not need the increased electrical capacity; (2) the opposition made to nuclear facilities in other parts of the state; (3) changes in New York State legislation and political sentiment in the late 1970s; and (4) the emergence of a dedicated, sophisticated, and skilled network of antinuclear interest groups throughout upstate New York.

The analysis of available material indicates that the public response of the vast majority of the Study Area residents changed greatly throughout this entire period. This material also indicates, however, that the issues associated with nuclear facilities were not of primary concern for most Study Area residents. Indeed, interviews revealed strong support for the existing facilities and a much greater salience of their beneficial economic consequences than of their potential risk.

In the Study Area, few residents actually participated in the actions taken to either support or oppose the Nine Mile Point Stations or other nuclear projects. Total membership of Ecology Action in 1980 following the Sterling and New Haven activities was about 75 persons. While it is important not to underestimate the power of such groups, it is equally important not to overestimate their representativeness.

CHAPTER 10: EVALUATION AND SIGNIFICANCE OF THE SOCIOECONOMIC EFFECTS OF THE NINE MILE POINT STATIONS

10.1 Introduction

The purpose of this chapter is to summarize the evaluation of the socioeconomic effects of the construction and operation of the Nine Mile Point Stations by each of the groups in the Study Area and their importance to the Study Area community and its residents. The discussion in this chapter is based on an analysis of the objective changes that occurred during the study period, of the public response to those changes, and of interviews with key informants from each group. Given the size and diversity of the Study Area population, this discussion can appropriately be made only in general terms.

10.2 Economic Effects

10.2.1 Summary

The analysis of the economic effects of the plants focused on the magnitude, duration, and distribution of project-related employment and income. Direct project-related effects started in 1963 when the construction of Nine Mile Point Unit 1 began and continued to 1979-1980, at which time the Nine Mile Point Unit 1 and James FitzPatrick plants were in operation and Nine Mile Point Unit 2 was under construction.

Total project-related employment and income in the Study Area went through three cycles as each successive unit was constructed. Maximum employment and income due to the projects occurred in 1979 when about 3,200 jobs and \$45 million (constant 1972 dollars) in income were generated in the Study Area on a place of work basis. At that time, project-related jobs were held by an estimated 1,550 Study Area residents who earned about \$20.7 million in income (constant 1972 dollars).

At its maximum, project-related employment accounted for about 20 percent of the total number of jobs in the Study Area and provided between 6 and 8 percent of the jobs held by Study Area residents.

Because a large proportion of the project-related economic effects were temporary, the structural consequences of the projects were smaller than might otherwise have occurred. However, the symbolic effect of the project, as both a major industrial activity and a modern, future-oriented technology, somewhat counteracted its temporary nature. Locating the project site in Scriba Town resulted in a slight alleviation of the economic imbalance between Scriba Town and Oswego City.

Project-related employment and income gains not only enhanced the relative economic position of skilled craft-workers and some entrepreneurs, but also provided jobs for a variety of other wage and salary workers and contributed to the overall local economy.

10.2.2 Evaluation

All three Study Area groups (Entrepreneurs, Wage and Salary Workers, and University) applauded the local employment and income that resulted from the Nine Mile Point Stations and identified them as the most important positive effects of the project on the Study Area as a whole. The entrepreneur group, which received primarily indirect employment and income benefit from the projects, tended to place a very high value not only on personal and group economic well-being but also on the economic vitality of the whole community.¹ Consequently, virtually all members of this group considered the economic effects of the plants very important to their own group and to the community, although less important overall than the Alcan plant. It thus appears that the entrepreneur group viewed the effects of the plants in a somewhat larger perspective than mere employment and income effects received by group members. Although members of this group tended to view the major benefits of the plants as temporary and expected the permanent employment and income effects to be quite small,² they nevertheless felt that the projects had injected money and jobs into the local economy at a critical time and had played an important role in the revitalization of the Study Area economy.

The wage and salary workers group received the largest proportion of the employment and income effects of the project. As with the entrepreneur group, the wage and salary workers group generally identified the economic effects of the plants as being the most obvious and the most important consequences. Unlike the other two groups, members of the workers group were more likely to first mention the economic benefits of the projects for themselves and other individuals, and then to mention the economic benefits for the Study Area as a whole. In this group there was widespread appreciation for the importance of the jobs and income to individual members of the community. However, as shown previously, the great majority of the project-related jobs

¹The two are obviously not unrelated. Nevertheless, economic prosperity appeared to be a generalized value of the entrepreneur group.

²In fact, most of those interviewed underestimated the size of the permanent operations work force at the plants.

and income accrued to this group (see Table 8-2). Not surprisingly, given their visibility and high pay, the jobs and income most frequently identified as beneficial were the construction jobs on the project itself (direct basic). Reflecting the relatively integrated group networks, many members of this group knew at least one person who either had been or currently was employed at the plants. Many mentioned the projects' importance to the local trade unions. Overall, members of this group appeared to have been very aware of the employment and income effects of the projects and to have considered them both positive and important to the welfare of the group.

As discussed previously, most members of the university group were not active participants in the local economy; many were not in the labor force at all, and a large proportion were only temporary residents of the Study Area. Consequently, the employment and income effects of the project had little direct effect on members of the university group and were much less salient for them than for members of the other two groups. Employment and income effects were mentioned much less frequently by this group as the most important aspects of the Nine Mile Point Stations. Nevertheless, university group members did consider the employment of area residents beneficial. On the whole, this group tended to be less enthusiastic about economic growth than were the other groups in the Study Area. In general, the negative view held by many members of the group regarding the expansion of large utilities and nuclear facilities tended to overshadow the more positive economic aspects of the plants. Consequently, some members of this group devalued the importance of project-related jobs and focused instead on other project-attributed effects.

10.3 Demographic Effects

10.3.1 Summary

The demographic effects of the projects were closely tied to project-related employment and housing conditions in the Study Area. The maximum population increase attributed to the projects occurred in 1979 when an estimated 2,590 project-related persons resided in the Study Area (900 in-migrants and 1,690 retained out-migrants). The project-related population accounted for a varying percentage of the Study Area population, ranging from about 1.6 percent of the total Study Area population in 1970 and 1975 to a high of about 10.7 percent in 1979.

According to the analysis presented in Chapters 5 and 8, the major population effect was not the influx of in-migrants to the Study Area but rather the retention of

potential out-migrants. Because of the diverse characteristics of the existing population in the Study Area and the presence of numerous persons with attributes similar to those of the project-related population, the projects did not cause a major change in the cultural, ethnic, or demographic make-up of the community.

10.3.2 Evaluation

The entrepreneur group generally favored both economic and population growth. Consequently, their evaluation of the overall demographic effects of the project were positive. However, interviews with group members indicated that the magnitude of diminished out-migration was not appreciated by many members of the group, although there was a general awareness that the effect was occurring.

The entrepreneur group was more interested in the projects' population effects on the total Study Area than in the effects on the size of its own group. This may have been due, in part, to the plants' rather modest population effects on the group (a maximum of about 90 people—32 in-migrants and 59 retained out-migrants). However, it is more likely that this represented a reflection of the priorities of the group during the study period, and the increasingly dominant position of the small, non-elite proprietors and professionals whose businesses benefited from the heightened economic activity associated with population growth. In general, this group tended to equate increased population with increased employment.

The size and influence of the entrepreneur group, relative to the total work force, declined throughout the study period, with a gradually decreasing distinction (in cultural, demographic, and income characteristics) between the entrepreneurs and the wage and salary workers. For the elite, the plants provided increased opportunities as well as increased competition in terms of economic, political, and social status. Indeed, the projects appeared to contribute to this decreasing status by paying high wages and salaries to the workers group.

The entrepreneur group's positive evaluation of the project-related population growth was influenced by the fact that most of the group lived in Oswego City where the growth had not substantially affected residential patterns or public facilities/services, but had contributed to local sales taxes, property revenues, and business activities.

The wage and salary workers group received the great majority of the increased population due to the projects—an estimated 2,120 persons in 1978. A good deal of this population was the result of reduced out-migration. Consequently, the population effects due to in-migration were seldom mentioned as either beneficial or detrimental by most group members.

Although the wage and salary workers group also recognized the general effect of the plants on reduced out-migration, this effect was seldom addressed in population terms except by union officials. Instead it was seen as giving local residents the opportunity to remain in the Study Area in well-paying jobs, an effect viewed as both positive and important by group members and union officials alike. Particularly noted as a benefit of the Nine Mile Point Stations was the magnitude and sequential phasing of the individual projects.

The magnitude of the projects was noted by group members, union officials, and members of other groups as indirectly contributing to the size, influence, and prosperity of the wage and salary workers group, particularly workers in the construction trade unions. The influence and visibility of the local construction trade unions increased considerably during the study period as the number of members (many of them long-time local residents) increased, and as the unions succeeded in negotiating and overseeing the high-paying, consistent local employment of their membership.

During their stay in the community, transient workers were viewed as temporary members of the wage and salary workers group. Although generally they were welcomed into the social activities of the group, they were associated with the increased housing demand which had raised rents in Oswego City and modified residential patterns in Scriba Town. Nevertheless, members of the wage and salary workers group generally felt that the presence of temporary workers was a key indication that good employment opportunities existed for long-time local residents.

As the projects continued through the 1960s and 1970s, and into the 1980s, many of the temporary workers essentially became permanent members of the community, largely as part of the wage and salary workers group. This provided new perspectives, experiences, and skills to the group and broadened its economic and social base. Many members of this group had themselves been transient workers at one time, and this seemed to create a greater understanding and acceptance of the difficulties and

circumstances of temporary residents. Common membership in unions or fraternal and civic organizations also assisted in the integration and positive (or neutral) evaluation of the increased population.

In contrast, the population effects of the project had little direct effect on the university group. There is, however, some evidence that the number of university students and faculty living in the Study Area may have diminished as a result of the competition for housing (see Chapter 6).

Because the size of the university had grown so dramatically over the study period while the size of the Oswego City population had remained relatively unchanged, members of the university group generally did not perceive a large population effect from the projects, and thus were not particularly concerned about project-related population effects. Nonetheless, due to the increased housing costs and decreased housing availability, the university group tended to consider the population effects of the project in slightly negative terms. However, among some of the faculty members, particularly the long-term residents, there was an appreciation for the economic implications of the increased population and a somewhat more positive evaluation of these effects.

10.4 Settlement Patterns and Housing Effects

10.4.1 Summary

Both jurisdictions within the Study Area experienced population growth during the study period. The effects of the projects on settlement patterns were slightly greater in Scriba Town than in Oswego City, although neither community was greatly affected. In both cases the changes followed local and national trends, indicating that the projects may have largely affected changes that would have occurred anyway.

Because the project site itself was in Scriba Town, which had a predominantly rural character in 1963, the potential for change due to the projects was substantial. This potential was enhanced by the complete absence of planning ordinances or land-use controls in the town. Nevertheless, by 1979, settlement patterns in Scriba Town had been affected only moderately. The greatest change was due to expanded residential development, (including mobile home parks), although only a portion of this was attributable to the Nine Mile Point Stations.

Because Oswego City had only minimal area available for new development, little change occurred in overall settlement patterns within the city during the study period. The change that did occur was largely the result of urban renewal and the conversion or replacement of single-family homes by multi-family units.

In 1967, the project-related housing demand in the Study Area represented about 210 units, almost half of which was housing retained by local residents because of project-related employment. By 1979, total project-related housing demand had increased to almost 890 units. Although this demand represented less than 10 percent of the total housing stock in the Study Area, when combined with other pressures on the housing market it contributed to the increased costs and the decreased availability of Study Area housing that were discussed in detail in Chapters 6 and 8.

10.4.2 Evaluation

Obtaining an independent evaluation of the actual project effects on housing and settlement patterns was very difficult, as most of those interviewed did not distinguish the project-related housing effects from nonproject-related housing effects or other effects associated with the project-related population.

In general, members of the entrepreneur group showed little concern regarding housing costs or availability, and seldom mentioned either as an important consequence of the projects. When prompted, most group members attributed these effects to university-related demand. Although they acknowledged that prices tended to be inordinately high for the quality of the housing, they generally viewed the situation favorably as the normal outcome of market forces.

The wage and salary workers group was much more likely to identify housing effects as one of the important changes in the community during the study period. They attributed the majority of the problem to the expansion of the university, and members of this group in Oswego City tended to negatively view the changes in availability, cost, type, and location of housing. This response was much stronger among Oswego City residents than among Scriba Town residents. Despite the concern over the expansion of mobile homes in Scriba Town expressed by planners and others associated with local government, the residents of Scriba Town made little comment about the mobile homes except for the occasional mention of sewage problems. This may be due to a stronger identification with neighborhoods in Oswego City than in Scriba Town. In addition, some

members of the wage and salary workers group were concerned about the distributional effects of the project on the poorer members of the group. Of particular concern were the effects of increased housing costs on the poor and the elderly, and the absence of an effective effort to employ or otherwise improve the economic and social position of the unskilled members of the group who were not benefiting from the general prosperity created by the projects.

The university group, which bore much of the burden of increased housing costs, viewed the increased cost of housing and the tight housing market as negative. Most attributed the effect to competition among university students, however, and did not link it closely to the Nine Mile Point Stations.

10.5 Government and Public Service Effects

10.5.1 Summary

In Chapters 7 and 8, the structure and function of the county and local governments were examined to determine the effects of the projects. Of particular interest were project-related effects on the balance between the supply and demand for public services.

All four governmental jurisdictions—Oswego County, Scriba Town, Oswego City, and the Oswego City Consolidated School District—received substantial increases in tax revenues because of the Niagara Mohawk nuclear plants.¹ In 1978, Niagara Mohawk paid Oswego County \$2.5 million in property taxes on its Nine Mile Point plants. This represented 16.5 percent of the property tax revenues collected by Oswego County and 5.4 percent of total county revenues (1978 dollars). Niagara Mohawk also paid Scriba Town \$0.3 million (1978 dollars) in property taxes on the plants. This payment represented 73.6 percent of the town's total property tax revenues in 1978. The Oswego City Consolidated School District received \$3.2 million in property tax payments on the Niagara Mohawk nuclear plants in 1978-79, which comprised 27.4 percent of the district's total tax levy. Oswego City did not receive any property taxes from the nuclear plants but, because the city levied a sales tax, it received an estimated \$0.3 million in project-related sales tax revenues which accounted for approximately 9 percent of its total sales tax revenues.

¹The FitzPatrick plant held tax-exempt status because it was owned by PASNY.

As indicated by these figures, the project-related increases in resources were substantial. The general assessment in the Study Area was that these increased resources were adequate, or more than adequate, to meet the increased demand associated with the projects. Because both Scriba Town and Oswego City were included in the same school district, and because the county provided a substantial proportion of services within the county, the uneven distribution of project-related revenues and population did not constitute a significant problem. Indeed, several public facilities were improved as a result of project-related demand and resources. These facilities included the schools in the Study Area, the roads (although traffic was a problem), the recreational facilities, and local governmental facilities in Scriba Town. Despite the increase in governmental revenues in Scriba Town and the increasingly intense debate over town planning or land-use controls, no major change in the town's approach to governing occurred during the study period.

10.5.2 Evaluation

Members of the entrepreneur group tended to identify the property tax effects of the Niagara Mohawk Nine Mile Point plants as an important project effect, and one which was beneficial to both their group and the community as a whole. Interestingly, the effects of the project on Oswego City sales taxes were seldom mentioned, although analysis showed them to be a significant source of city revenues. The effect of the Niagara Mohawk properties (both the Nine Mile Point plants and the Oswego steam stations) on the Oswego City School District was noted by the entrepreneur group as one of the benefits of the project that positively affected their group as well as the entire community. Members of this group seldom mentioned the transportation effects of the project, although those living in Scriba Town evaluated the increased traffic as a problem and the improved roads as a benefit.

Although the establishment of the Scriba Town park was considered beneficial, the park was not generally identified as a project effect and, except for Scriba Town residents, was considered of little consequence. The members of the entrepreneur group residing in Scriba Town cited the park as a focal point which promoted civic pride and contributed to the residential quality of Scriba Town. Nevertheless, even the Scriba Town residents did not consider the park a major project effect.

One consequence of the Nine Mile Point Stations that did arouse the attention of the entrepreneur group was the expansion of governmental agencies in the Study Area.

Some residents of the Study Area, particularly members of this group, were opposed to the expansion of state government (e.g., the New York Port Authority, the state university, and PASNY), not only because expansion would increase the presence and influence of nonlocal political and economic actors and interests, but also because it would increase the amount of tax exempt property in the Study Area. During the study period, the growth in state government activities in the Study Area was dramatic: the college expanded to about 8,000 students and completed a major expansion in physical facilities, and PASNY constructed the FitzPatrick nuclear plant. These expansions were seen as a reflection of undesirable state government expansion throughout the state of New York.

The wage and salary workers group tended to identify the tax and facility/services effects of the project as generally beneficial. However, they considered these effects secondary to the projects' effects on jobs and income for the blue-collar workers, particularly those in organized labor. Although the effects on the school system were considered beneficial to the group, only a few members of this group evaluated these effects as very important.

Members of the workers group who lived in Scriba Town considered the traffic problem as a significant negative effect of the project, viewing it both as an inconvenience and as a hazard. Numerous attempts were made to alter the traffic pattern within Scriba Town but most were unsuccessful (see Chapter 9).

Although members of this group, particularly those residing in Scriba Town, appreciated the town park, they generally did not identify it as an effect of the project. The same was true for the improved quality of roads in Scriba Town, although these improvements tended to be more clearly attributed to the projects.

The university group was not principally concerned with the tax or facility/services effects of the projects on the local jurisdictions. In general, members of this group considered increased educational quality, decreased property tax levies, improved roads, and community parks as benefits. Although increased traffic congestion was viewed as a problem, most members felt that the positive effects of Nine Mile Point Stations outweighed the negative effects, for both its group and the community.

10.6 Effects on Social Structure

10.6.1 Summary

The effects of the projects on the social structure in the Study Area were discussed in detail in Chapter 8. All three groups in the Study Area—the entrepreneur group, the wage and salary workers group, and the university group—were affected by the projects.

Both the entrepreneur group and the wage and salary workers group benefited economically from the increased employment and economic activity due to the project. The university group generally did not receive a substantial proportion of the project-related employment or income. Both the entrepreneur group and the wage and salary workers group increased in size as a result of project-related in-migration and reduced out-migration. The presence of a substantial number of craftworkers within the wage and salary workers group enabled in-migrating construction workers to be assimilated into this group with relative ease.

The increased cost and decreased availability of housing that resulted from project-related housing demands were felt most acutely by new arrivals to the community and by local renters, who belonged primarily to the university group and the wage and salary workers groups.

Changes in the characteristics of the functional groups in the community were the result of a combination of economic, political, and social processes in which the Nine Mile Point Stations had a significant, but not dominant, role. This was particularly true of the changes that occurred in the patterns of interaction with, and between, the groups in the Study Area during this period. As discussed in Chapter 8, the opportunities and challenges presented by the Nine Mile Point Stations increased the diversity and complexity of the economic and social processes in the Study Area. It also increased the number and character of outside ties and the role outsiders played in the community.

The projects did not introduce a major new population group into the area, or effectively alter the characteristics of the existing population or the economy. Generally, the nature of the Nine Mile Point Stations was similar in most aspects to the other economic activities in the Study Area. Consequently, their effects on the social structure in the Study Area was not dramatic, but incremental.

10.6.2 Evaluation

For the majority of the entrepreneurs and the wage and salary workers, the increased diversity and complexity created by the project represented "progress" and "keeping up with the times," especially at the beginning of the study period before the full implications of the governmental regulations and the technology were recognized.

It is unclear how the university group viewed the differentiation effects of the project within the Study Area. Because of their relative isolation from the everyday activities of the Study Area, they appeared to be basically unaffected by these changes.

The three groups in the Study Area utilized both existing and new outside ties in different ways and for different ends (see Chapter 9). The changes in outside ties were viewed with mixed emotions by members of the three Study Area groups. On the one hand, ties to the larger society and outside sources of power were seen as indicators of modernity and integration with regional or national affairs. This was most important to the entrepreneur group and to some members of the wage and salary workers group. On the other hand, the power held by the outside actors, and the complexity and formalization associated with their presence in the community, was seen as changing not only the locus of decision making, but also the manner in which business and politics were conducted. With regard to the Nine Mile Point Stations, each group identified some aspects of these changes as advantageous and others as disadvantageous. Consequently, those interviewed did not present a clear group evaluation of the changing pattern of outside ties.

Two area residents considered the projects to have been responsible for significant changes in the social organization of the community, as most of the project effects were viewed as the natural consequence of local conditions.

Overall, the changes experienced in the social organization of the community were considered to be less significant than those experienced in the economy and in the national political arena (vis nuclear plant siting).

10.7 Overall Significance of the Effects on the Community

According to key informants, the Nine Mile Point Stations had become part of the economic environment of the area, and were not a focus of continued attention or active concern for most Study Area residents. Almost invariably, those interviewed first

described the economic effects of the projects, usually in terms of jobs and income, followed by the tax effects, especially on the school system. Only the most active antinuclear residents and some of the university students deviated from this pattern.

In a very real sense, this response appeared to reflect the orientation, priorities, and concerns of the Study Area residents, especially those in the entrepreneur group and wage and salary workers group who derived their livelihood from the local economy. Because the projects were perceived to have contributed both substantively and symbolically to the economic vitality of the Study Area, area residents generally considered the economic effects of the projects as important and beneficial to themselves and to the community. To many of the Study Area residents, community well-being was primarily associated with economic well-being.

Only after the recognition and approval of the economic consequences of the projects had been made did most of those interviewed voice concern, frustration, or anger regarding the projects, often only with considerable prompting. The negative comments tended to focus on the injustice of the concentration of nuclear facilities in the Study Area and on the risks associated with their presence. The perception of risk was reported to have increased substantially following the accident at Three Mile Island.

Nevertheless, few of those interviewed identified the Nine Mile Point Stations or any aspect of nuclear power as specific problems for area residents. In general, respondents' concerns regarding the community were focused on economic issues, revealing strong anxiety about the long-term economic conditions in the community and the region.

Generally, only those whose livelihood was independent of the local economy (such as members of the university group and some farmers) felt that environmental, social, or safety issues took precedence over economic concerns.

It is within this context of concern for personal and community economic viability that the public response and statements of evaluation by members of the three Study Area groups regarding the Nine Mile Point Stations and other proposed nuclear facilities must be viewed if they are to be correctly understood.

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16. ABSTRACT (200 words or less) This report documents a case study of the socioeconomic impacts of the construction and operation of the Nine Mile Point and Fitzpatrick nuclear power stations. It is part of a major post-licensing study of the socioeconomic impacts at twelve nuclear power stations. The case study covers the period beginning with the announcement of plans to construct the reactor and ending in the period, 1980-81. The case study deals with changes in the economy, population, settlement patterns and housing, local government and public services, social structure, and public response in the study area during the construction/ operation of the reactor. A regional modeling approach is used to trace the impact of construction/operation on the local economy, labor market, and housing market. Emphasis in the study is on the attribution of socioeconomic impacts to the reactor or other causal factors. As part of the study of local public response to the construction/operation of the reactor, the effects of the Three Mile Island accident are examined.				11. FIN NO. B6268	
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