7.0 ECONOMIC AND SOCIAL EFFECTS OF PLANT CONSTRUCTION AND OPERATION

The purposes of this chapter are to identify the direct and indirect economic and social benefits and costs of the Project based on both temporary (construction) and long-term (operation) time periods, with an emphasis on effects not directly concerned with the use of electricity.

Socioeconomic impacts may occur when a project directly or indirectly changes a population, housing stock, or economic activities within a given area. Construction activities could also have temporary direct and indirect impacts. In addition, an indirect effect upon a project area could result from the potential significant impacts involving land use/neighborhood character, traffic, and noise.

Direct effects are those that are the result of the construction or operation of the Project. Indirect effects are those that are the result of changes in the livelihood of the people and business interests in the vicinity of the Project who, because of their proximity to the Site, may experience changes in their local environment, such as increased spending by the Project construction and operation personnel. Many of these effects are difficult to measure and qualitative assumptions are often made to assess the relative values of anticipated costs and benefits.

This chapter is divided into two parts: benefits and costs. Section 7.1 addresses the economic and social benefits of the Project, including analyses of the direct and indirect effects of Project construction and operation of PEEC. Section 7.2 addresses the economic and social costs of the Project and includes analyses of the temporary and long-term indirect costs involving Project construction and operation of PEEC. All costs and benefits are based on 2011 dollar values unless otherwise indicated. Washington Economic Group conducted the economic analysis.

7.1 Economic and Social Benefits

7.1.1 Direct Economic and Social Benefits

The Project is anticipated to benefit the economies of the City of Hollywood, Broward County, and Florida. Direct benefits from construction will include construction workforce jobs and sales of equipment and materials. Direct benefits from the operation of PEEC include the capital expenditures, operation and maintenance expenditures, employment, and property tax revenues.

FPL estimates that the total Project capital costs will be approximately $1.1 billion. Principal components include the major equipment ($500 million); materials ($200 million); engineering, licensing and other costs ($300 million); and labor ($100 million).

Onsite construction activities (dismantlement, required remediation, and construction of the 3-on-1 combined cycle unit) are anticipated to begin in 2012 and conclude in the summer of 2016. Dismantlement may start in 2012 and take approximately 14 to 16 months. During the dismantlement of the existing Units 1 through 4, workers will be employed who are specialized in removing recyclable materials and dismantling equipment, removing insulation, preparing structures for dismantlement, and material removal.

The peak construction workforce (mid 2015) is estimated to be approximately 650 people, with an average construction workforce estimated at 290 people. The categories of workers anticipated over the Project construction period are presented below. The construction payroll for the Project is estimated to be $55 million during the peak year (2015) with an annual average of $33.3 million for the period 2014 through 2016.

Trade Category	**Percent**
Laborers	12
Carpenters	6
Operators	5
Ironworkers	4
Millwrights	10
Boilermakers	6
Pipefitters	19
Insulators	2
Electricians	22
Painters	1
Supervision	13
Total	**100**

PEEC will become operational in mid-2016. The total direct employment for operation of PEEC will be similar to the existing Port Everglades Plant, at approximately 40 full time jobs. The annual operational payroll will be approximately $5.2 million (2016 dollars). Other fixed operational costs of PEEC, excluding fuel costs, are estimated to be approximately $4.8 million annually (2016 dollars).

Due to the proximity of the Site to the large labor markets in Broward, Palm Beach, and Miami-Dade Counties, the labor demand for the Project construction and operation is anticipated to be met by workers living in this area, as well as skilled labor from outside the area.

The operation of PEEC is expected to generate $372 million in property tax revenue from 2017 to 2046. This is comprised of approximately $114 million to the City of Hollywood, approximately $126 million to Broward County, approximately $122 million to the school district, and approximately $10 million to other taxing authorities (SFWMD and Florida Inland Navigation District).

7.1.2 Economic Benefits of Construction

It is anticipated that the majority of the Project's expenditures, excluding major equipment, will be spent within Broward County and the surrounding region. These expenditures will create additional demands for goods and services. As this money is spent, it will create a multiplier effect within the area, thereby generating additional jobs, earnings, and tax revenues. These synergistic economic benefits of the Project will be enjoyed by other businesses whose sales will increase as a result of the Project. For example, sales could increase for commercial services including gas stations, convenience stores, and restaurants. If construction workers were to frequent businesses before, during, or after their workday, it would result in increased business to area merchants. During the construction period, area suppliers could also benefit by supplying needed materials such as concrete, stone, drainage piping, and other building materials that are normally manufactured or produced in the region. In addition, construction equipment may be rented locally.

The economic benefits of the Project were determined using an economic model that incorporates the latest U.S. Department of Commerce data on income and employment for Florida. The synergistic economic benefits were determined for the direct, indirect, and induced effects, and include labor income and value added effects. Indirect effects result from an increase in demand that results from the need for material inputs. Induced effects are the regional economic growth resulting for indirect effects. Value-added effects are the portions of business revenues that are available to pay compensation to workers, capital income, and indirect business taxes. Value-added effects are also the principal source of income to households and a key measure of PEEC's contribution to the Broward County economy.

The PEEC construction activities were determined to have a projected economic benefit of $858 million during the construction period, including direct, indirect, and induced benefits. The direct and indirect labor income benefits are projected to be $375 million and value added benefits are projected to be $483 million.

The economic benefits of the construction of PEEC will result in approximately 7,105 direct and indirect jobs. The industries associated with these jobs are:

- 4,373 jobs in knowledge-based services (Information Services, Finance & Insurance, Real Estate, Professional Services, Administrative, Educational Services, Health & Social Services, Arts, Entertainment & Recreation and Other Services).
- 1,934 jobs in construction.
- 298 jobs in retail trade.
- 227 jobs in visitor industry (includes accommodation and food services).
- 156 jobs in wholesale trade and transportation services (includes wholesale trade, transportation and warehousing).
- 74 jobs in manufacturing.
- 43 jobs in government and other industries.

7.1.3 Fiscal Benefits to Local Governments

The net economic impact of the Project on the City of Hollywood, Broward County, and other governmental entities, from years 2017 to 2046, is the difference between the total benefits and costs.

Operating revenues to government entities include *ad valorem* tax revenue, occupational licenses, building permit fees, utility taxes, State revenue proceeds, and charges for services (e.g., potable water and wastewater disposal) paid by FPL. Services are required for all residents who are working in the City and County. As a result, the City of Hollywood and Broward County will incur costs for these services related to the Project and its employees.

Operating costs to government entities include costs for services such as financial and administrative expenses, emergency and disaster relief, legislative and executive expenses, and comprehensive planning. Both the City and County governments also receive capital revenues and pay capital expenses. Capital revenues are based on impact fees, and capital expenses are costs related to purchases for roads, fire rescue, law enforcement, etc.

For PEEC, annual property taxes will accrue to the City of Hollywood, Broward County, the Broward County School District, and other taxing authorities. These funds are then distributed to the various entities within the governmental jurisdictions. The operation of PEEC is expected to generate $372 million in property tax revenue from 2017 to 2046. The property tax revenues for the PEEC Project are estimated over the assumed life of PEEC to be approximately $114 million to the City of Hollywood, approximately $126 million to Broward County's general fund, approximately $122 million to the school district, and approximately $10 million to other taxing authorities (SFWMD and Florida Inland Navigation District). Together, these economic benefits far outweigh the services that would be required by the operation of PEEC and its employees.

7.1.4 Economic Benefits of Operation

The Project will have significant direct, indirect, and induced economic benefits of its ongoing operation. During operation, the total direct, indirect, and induced economic benefits are projected to be $27 million per year. This includes labor income and value-added benefits. Assuming the Project lifespan of over 30 years, the total benefit is projected to be over $800 million.

7.1.5 Environmental Benefits

Construction and operation of the Project will not cause any adverse environmental impacts or impacts to the recreational values of the area. Environmental impacts of Project construction will be minimized.

Most importantly, the Project allows for the redevelopment of Units 1 through 4 and will result in more efficient power generation without using any additional land, water sources, or transmission line rights of way. PEEC will have a much sleeker profile, with the height of the new structures (stacks) at less than 150 feet compared to the approximately 343 foot height of the existing stacks. PEEC will reduce air emissions by approximately 90 percent and will reduce the rate of CO_2 emissions by approximately 50 percent. During the operation of PEEC, from years 2016 to 2047, the CO_2 reduction in FPL's system with PEEC will be approximately 22 million tons.

The existing Port Everglades Plant has been a refuge for the endangered manatee during the wintertime for decades. With the completion of PEEC, the Site will continue to serve as a refuge for this important Florida species long into the future. During the dismantlement and construction period, FPL will continue to provide a warm-water refuge for the manatees consistent with the Manatee Protection Plan established pursuant to the existing Plant's IWW Permit.

7.2 Economic and Social Costs

7.2.1 Temporary External Costs

Over 55,854 construction workers reside within Broward, Palm Beach, and Miami-Dade Counties (UF/BEBR, 2011). Ample labor supply for the Project exists within commuting distance of the Site and thus a labor surplus exists within the region. As is typical with construction projects of similar duration, it is not anticipated that workers will relocate to the immediate area and alter the demands on public facilities and services.

As is typical with similar construction projects, some skilled workers from outside the region will commute from longer distances and will choose to live in transient accommodations (i.e., motels and hotels). Transient accommodations are plentiful in the area with approximately 106,551 units in apartment buildings, rooming houses, rental condominiums, and transient apartment building units in Broward County in 2010 (UF/BEBR, 2011).

Since workers will predominately commute and not relocate permanently into the region, it is not anticipated that construction will create new or unusual impacts or demands on public facilities or services.

Labor demands associated with the construction of the Project and operation of PEEC are not anticipated to create any labor shortages. Expenditures for equipment and materials and consumption by construction workers will boost incomes within the City, County, and surrounding counties. Population and housing impacts associated with the Project will be slight due to minimal in-migration expected into the area.

Temporary external social costs of the Project include the generation of traffic and noise during construction. Project construction, including dismantlement, remediation as necessary, and the construction of the 3-on-1 combined cycle unit, will last approximately 3.5 years with a peak period of approximately 12 months (mid-2015). The roadways utilized for the construction traffic associated with the Project will continue to operate at an acceptable level of service. Level of service deficiencies may be experienced during peak hours at the intersection of Eller Drive/SE 14th Avenue.

A traffic management plan will be developed which may include using traffic management specialists during peak construction periods. Alternatively, FPL or its contractors may desire the use of buses to transport construction workers to the Site from offsite parking areas that would reduce the construction traffic to the Site.

Construction-related activities will be contained within the Site and the construction parking and laydown areas.

Construction of the Project will not significantly impact residential, commercial, or recreational values and will improve the visual qualities in the vicinity of the Site.

Although the local community may experience some temporary impacts during the construction period, overall socioeconomic impacts associated with the construction of the Project will be favorable.

7.2.2 Long-Term External Costs

The external social cost impacts of PEEC operation will be minimal and localized. The Site provides access to FPL's existing transmission system, which minimizes interconnection requirements. The operation of PEEC will not cause any adverse impacts to public or private facilities used for recreational purposes or impairment to recreational values, result in any deterioration of aesthetic and scenic values, or restrict access to areas of scenic values.

The operational workforce for PEEC is anticipated to be approximately the same as for the existing Plant. As a result, there will be no adverse impacts of the operation of PEEC upon local services (e.g., schools, police, and transportation). PEEC will result in modifications of the current FPL property values that will in turn increase the *ad valorem* revenue. The long-term revenue source that will be paid to the City of Hollywood, Broward County, the School District, and other taxing authorities will be significantly greater than current sources and, with the operational practices to remain consistent with current practices, there will not be an increase of costs to the local government for public facilities or services.

FPL will minimize PEEC's impacts on the environment and the community, and the PEEC design will incorporate features that reduce the visual and other impacts, such as a lower profile, noise attenuation, and air pollution control equipment.