

VAL 10.4.1.3-001

Calculation of Multipliers for Section 10.4 Based on 2006 NEI Report^a

Political Jurisdiction	SGS/HCGS Purchases 2004 ^c	Estimated 2004 Indirect/Induced Effects						Estimated Operation and Construction PSEG Site Indirect/Induced Effects					
		Output	Output Multiplier	New Employment	Average Cost per Employment	Average 2005-2008 Purchases ^d	Percent of 2005-2008 Total Purchases ^d	Projected Purchases for New Plant (Adjusted to 2200 Mwe) ^e	Projected New Plant Output	Projected New Plant Employment	Projected Average Expenditures for Construction ^f	Projected Average Construction Output	Projected Average Construction Employment
Federal													
Delaware	\$ 14,100,000	\$ 4,900,000	0.35	49	\$100,000	\$7,618,649	0.98	\$ 4,571,189	\$1,588,569	16	\$ 14,373,333	\$ 4,994,988	50
New Castle	\$ 14,100,000	\$ 4,400,000	0.31	41	\$107,317	\$6,773,114	0.88	\$ 4,063,868	\$1,268,158	12	\$ 12,906,667	\$ 4,027,612	38
New Jersey	\$ 54,800,000	\$ 126,100,000	2.30	1072	\$117,631	\$72,307,481	9.34	\$ 43,384,489	\$99,831,826	849	\$ 136,986,667	\$ 315,219,319	2680
Cumberland	\$ 816,000	\$ 900,000	1.10	10	\$90,000	\$2,285,912	0.30	\$ 1,371,547	\$1,512,736	17	\$ 4,400,000	\$ 4,852,941	54
Gloucester	\$ 6,100,000	\$ 4,700,000	0.77	52	\$90,385	\$8,351,326	1.08	\$ 5,010,796	\$3,860,777	43	\$ 15,840,000	\$ 12,204,590	135
Salem	\$ 3,700,000	\$ 11,700,000	3.16	121	\$96,694	\$5,779,051	0.75	\$ 3,467,431	\$10,964,578	113	\$ 11,000,000	\$ 34,783,784	360
Pennsylvania	\$ 87,600,000	\$ 37,200,000	0.42	555 ^b	\$67,027	\$105,793,142	13.67	\$ 63,475,885	\$26,955,513	402	\$ 200,493,333	\$ 85,141,005	1270
ROI	\$24,716,000	\$21,700,000	0.88	224				\$13,913,642	\$17,606,249	185			586
TOTAL DE, NJ, and PA	\$156,500,000	\$168,200,000	1.07	1676				\$111,431,564	\$128,375,908	1267			4000

^a Nuclear Energy Institute, *Economic Benefits of Salem and Hope Creek Nuclear Generating Stations: An Economic study by the Nuclear Energy Institute*, September 2006, 48 pages.

^b No 2004 employment data available. Numbers derived by subtracting PA employment in Table 3-12 from Other Employment in Table 3-19 of NEI report. of NEI report. (473 - 354 = 119) New employment for PA is Table 3-19 total of 674 minus 119 or 555.

^c No purchases noted in NEI Report for the State of Maryland.

^d From Table 2.5-28

^e Salem and Hope Creek Nuclear Generating Stations have a electrical output of 3655 MW (SGS-2390 MWe and HCGS-1265 MWe) and new plant 2200 MWe. Purchases adjusted by multiplying average 2005-2008 purchases by 2200/3655 or 0.6.

^f Based on projected construction cost of \$4000 per kW and total overnight cost of \$8.8 billion proportioned evenly over six years. Proportion going to each state and county assumed to be the same as for average 2005-2008 purchases.

NEI Tables 3.1 and 3.6

NEI Tables 3.12 and 3.19

Section 3: Economic and Fiscal Impacts

The economic and fiscal effects of Salem and Hope Creek’s operation go well beyond what the plants spend on employee benefits, purchases, salaries, taxes and wages. They also reflect the strong stimulus that the plants’ operations provide to key measures of economic activity—the value of electricity production, employment and labor income—in the local and state economies.

Salem and Hope Creek’s spending lifts economic activity throughout the local and state economies. Tax payments related to economic activity are another contributing factor. The private sector experiences this effect through increased sales and employment and the public sector through increased tax revenues to support public services.

This report estimated these effects by applying the Impact Analysis for Planning (IMPLAN) model to expenditure data provided by Public Service Enterprise Group (PSEG), operator and part owner of Salem and Hope Creek (for more information on IMPLAN, see Section 6). Each expenditure item was allocated geographically by ZIP code by PSEG.

3.1 Plant Spending in Local Areas Surrounding Salem and Hope Creek

Salem and Hope Creek expenditures in the four counties surrounding the plants totaled more than \$170 million in 2004. Of the expenditures in this area, labor represented \$145.5 million, while goods and services represented \$24.7 million. Spending within this region represents approximately 27 percent of the plants’ total spending of \$617.8 million, and 66 percent of the \$256.3 million spent in New Jersey and Delaware.

Table 3-1 summarizes Salem and Hope Creek’s spending in each of the four counties surrounding the plants. Total expenditures in Salem County amounted to \$58.1 million, including \$3.7 million for goods and services and \$54.4 million for labor. In Cumberland County, the plants spent approximately \$816,000 for goods and services and \$17.4 million for labor compensation, amounting to \$18.2 million in total expenditures. Salem and Hope Creek expenditures in Gloucester County totaled \$44.9 million, including \$6.1 million for goods and services and \$38.8 million on labor. Finally, the plants spent \$14.1 million for goods and services and \$34.9 million for labor in New Castle County, totaling \$49 million in expenditures.

Table 3-1. Summary of Salem/Hope Creek Local Expenditures^a

County/State	Purchases	Total Compensation ^b	Total Expenditures
Salem/N.J.	\$3.7 million	\$54.4 million	\$58.1 million
Cumberland/N.J.	\$816,000	\$17.4 million	\$18.2 million
Gloucester /N.J.	\$6.1 million	\$38.8 million	\$44.9 million
New Castle/Del.	\$14.1 million	\$34.9 million	\$49 million
Local Study Area	\$24.7 million	\$145.5 million	\$170.2 million

^a Expenditure data provided by PSEG.

^b Total compensation includes wages, salaries and fringe benefits.

3.2 Plant Expenditures in States Surrounding Salem and Hope Creek

In 2004, Salem and Hope Creek spent \$356.4 million in New Jersey, Delaware and Pennsylvania. Labor represented almost \$200 million and goods and services represented \$156.5 million. Spending within these states represented approximately 58 percent of the plants' total expenditures of \$617.8 million. Table 3-6 summarizes expenditures made by Salem and Hope Creek in each of the three states surrounding the plants.

In 2004, Salem and Hope Creek's expenditures for products and services (including labor) in New Jersey totaled \$207 million. The plants spent \$152 million on labor and \$55 million on goods and services. This total includes \$121 million dispersed in the three New Jersey counties surrounding the plants, as well as expenditures of \$86 million spent in other areas of New Jersey.

Table 3-6. Summary of Salem/Hope Creek State Expenditures^a

State	Purchases	Total Compensation ^b	Total Expenditures
New Jersey	\$54.8 million	\$152.3 million	\$207.1 million
Delaware	\$14.1 million	\$35.1 million	\$49.2 million
Pennsylvania	\$87.6 million	\$12.5 million	\$100.1 million
Total	\$156.5 million	\$199.9 million	\$356.4 million

^a Expenditure data provided by PSEG.

^b Total compensation includes wages, salaries and fringe benefits.

3.5 Economic Impacts by Geographic Area

Table 3-12 presents summary economic impacts for each of the geographic areas analyzed. The three economic impact variables are:

- output—the value of production of goods and services
- labor income—the earnings of labor
- employment—the number of jobs provided.

Economic impacts can be divided into two categories: direct and secondary effects. The direct effects reflect the industry sector and geographical distribution of Salem and Hope Creek spending without any subsequent spending effects.

The direct output effects of Salem and Hope Creek Generating Stations consist of the value of power production from the three reactors, which reached \$1.15 billion in 2004. The report's authors used 2004 wholesale market values for electricity from Salem and Hope Creek to determine this value.

The report used wholesale prices because they provide a market value for electricity in the region and plant-specific rates are either unavailable or confidential. The wholesale rate used was \$51.95 per megawatt-hour⁷, which reflects the average 24/7 price for power in the Mid-Atlantic Area Council subregion in 2004. The revenue, or output value, of the plants includes salaries, taxes, plant purchases, investor returns and consumer benefits. It reflects the total output of products and services associated directly with Salem and Hope Creek. This total includes spending on products and services itemized in the tables presented earlier in this section.

Table 3-12. Economic Impacts of Salem/Hope Creek by Area

Indirect/Induced Effects^a			
Area	Output	Labor Income	Employment
Salem County	\$11.7 million	\$4 million	121
Cumberland County	\$900,000	\$300,000	10
Gloucester County	\$4.7 million	\$1.9 million	52
New Jersey	\$126.1 million	\$47.7 million	1,072
New Castle County	\$4.4 million	\$1.8 million	41
Delaware	\$4.9 million	\$2 million	49
Pennsylvania	\$37.2 million	\$16.9 million	354
United States	\$1.7 billion	\$628 million	14,730

^a Indirect impacts measure the effect of input suppliers on expenditures by Salem/Hope Creek, while induced impacts measure the effects produced by the change in household income resulting from Salem/Hope Creek expenditures.

⁷ Source: Energy Velocity/InterContinental Exchange

Table 3-19. Impact of Salem/Hope Creek on Industries in Pennsylvania

Description	Output	Labor Income	Employment
Architectural and Engineering Services	\$13.8 million	\$8.9 million	151
Owner-Occupied Dwellings	\$1.4 million	\$0	—
Wholesale Trade	\$1.1 million	\$400,000	8
Real Estate	\$1 million	\$100,000	5
Inorganic Chemical Manufacturing	\$900,000	\$200,000	2
Pump Manufacturing	\$800,000	\$200,000	3
Food Services and Drinking Places	\$600,000	\$200,000	17
Hospitals	\$600,000	\$300,000	6
Offices of Physicians, Dentists and Other Health Care Providers	\$600,000	\$400,000	7
Overhead Cranes and Hoists	\$500,000	\$200,000	2
Other	\$15.9 million	\$18.5 million	473
Total	\$37.2 million	\$29.4 million	674

Table 3-19 presents the 10 industries most affected by Salem and Hope Creek spending in Pennsylvania. Several sectors affected by the plants' operations in Pennsylvania are similar to those in New Jersey and Delaware, such as housing, restaurants and health care services. However, because relatively fewer members of the plants' employment base live in Pennsylvania, more plant-related services appear in the 10 most-affected sectors in the state, such as nuclear fuel, pump equipment and crane systems.