

Virginia City Hybrid Energy Center
Response to Data Request
Vivian Thomson, Vice Chair, Virginia Air Pollution Control Board

Question (Page No. 6):

How many temporary and permanent local jobs does Dominion estimate will be created by this facility? What is the nature of these positions, what skills are required, and why does Dominion believe that these jobs will be filled locally? What reliable stream of annual economic benefits will flow to communities surrounding the facility? What would be the economic benefits be if Dominion washed, cleaned, or treated the coal before burning it?

Response:

Wise County commissioned an independent study by Virginia Tech’s Office of Economic Development (Attachment 1), which shows that the VCHEC will positively affect the economy of Wise County and the surrounding coalfield region.

Dominion expects to create approximately 1,200 jobs during construction alone. The total County output impact during construction is projected to be about \$300 million. Although the construction sector will generate a majority of this economic impact, other services such as architecture/engineering, wholesale trade, and telecommunications will also generate sizable economic impacts. Many workers during the construction phase will be from the Virginia coalfields i.e., subcontractor hires are equal to 30 percent of Shaw direct hires, and 50 percent of subcontractor hires are from Virginia Coalfield counties.¹

There will be a very large economic impact to Wise County and the surrounding areas during construction, but most of the economic benefits will come once construction is complete. The Virginia Tech study concluded the direct, indirect, and induced impacts of the Project will increase Wise County economic output by **\$439 million per year** once the facility is in operation. Dominion expects to employ 75 permanent workers with an average salary of approximately \$60,000, and an annual payroll of more than \$6 million during operation. Total employment for the County will increase by 528 jobs during operation, consisting mainly of coal mining and trucking employment, but also affecting construction, retail trade, and administrative service positions.

The Company expects that property taxes to Wise County to be about \$4 million per year in addition to other economic benefits that are created by services associated with the facility. As a point of clarification, the Project does not have the appropriate facilities to wash coal on site, and would rather have to purchase “processed” or “washed coal” from the coal suppliers. Since this processed coal has more demand in the global coal market than the run-of-mine that was the basis for the Project, the coal will be more expensive.

¹ Virginia Tech Office of Economic Development Report.

While coal can be washed as a matter of course, there are significant trade-offs and costs that increase as the amount of coal washing increases.

- Coal Washing is a trade-off
 - Marginal reductions in sulfur may be achievable but at a cost exceeding \$26,948 per ton.
 - Mercury can be washed out and possibly reduced on a lbs per year basis. But, this Mercury will stay at the processing facility and be placed in a waste coal pile or slurry impoundment.
 - As proposed, mercury generated from ROM coal will be safely secured within project's lined landfill subject to DEQ authority
 - Ratepayer to Pay More → Cost per lb of Hg removal (\$2,500,000/lb)
 - Coal Washing increases ratepayer costs significantly- and creates negative environmental externalities
- Dominion did not plan on washing coal because:
 - Coal washing is not as cost effective as other control technologies (e.g. redundant with CFB dry-scrubbing)
 - Coal washing will increase waste-coal piles (in conflict with DMME goals & objectives)
 - Coal washing may use an additional 1MG of water per day - doubling the Project's daily water needs
 - Minimizing water use was a priority for this project. For example, the project will employ an air cooled condenser to minimize regional water use by 90%
 - Washing process will remove Chlorine- effectively reducing the efficiency of the boiler to remove Hg
 - Washing coal will limit biomass consumption from 20% to 5% (- 90 mW equivalent of output)
 - This limitation of use of biomass will increase CO2 emissions
 - Washing will create slurry & fines that create operational issues for fuel handling and combustion
- Coal Washing will:
 - Increases thermal NOx
 - Reduce economic advantages to smaller local mining operations
 - Increase coal costs (less suppliers more demand for washed-coal)
 - Washing coal throws away up to approximately 15% of the heat energy into a gob pile. A ROM product in a CFB will recover up to 98% of the energy
 - Additional mining required to extract the equivalent of the lost energy due to washing the coal

ATTACHMENT 1



VirginiaTech

Outreach *and* International Affairs

Assessment of the Economic and Community Impact of a Coal-fired Power Plant on Wise County

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November, 2007

OFFICE OF ECONOMIC DEVELOPMENT



Invent the Future

Executive Summary

Virginia Power and Electric (Dominion) has announced its intent to construct a new power generation plant at the Virginia City site in Wise County, and is seeking the necessary local, state, and federal permits to allow construction and operation. The total cost of the project, according to Dominion, will be \$1.62 billion. The project will consist of a construction phase, which has begun in late 2007, and is scheduled for completion in April 2012. The Shaw Group is the general contractor and has been awarded a \$1.1 billion contract for power generation plant construction.

Wise County government has contracted with the Virginia Tech Office of Economic Development (OED) to conduct an analysis of the economic and fiscal impacts of the proposed project. OED partnered with the Department of Agricultural and Applied Economics and the Department of Educational Leadership and Policy Studies at Virginia Tech to provide an impact assessment of the proposed coal-fired power plant in Wise County. The study has two main components: the economic impact of the construction and operation of the power plant, and the impact of the operation of the power plant on the state's school funding formula called the composite index.

The impact assessment of the proposed power plant starts with the economic phase of the analysis has the following objectives:

- 1) Describe and analyze direct, indirect, and induced economic impacts of the project on the local economy and employment during the construction phase;
- 2) Describe and analyze direct, indirect, and induced economic impacts of the project during the operational phase;
- 3) Present appropriate recommendations to Wise County government with respect to the combined economic impacts of the project during both the construction and operational phases.

Results from the economic phase enter the second component of the study since the economic shift quantified in this phase will have a significant impact on the state's school funding formula. The composite index tracks a number of data points like local retail sales taxes, local adjusted gross income and local and state adjusted true values. As these values change over time, the county needs to have a better understanding how this will affect state funding for public education.

Economic impact analysis is used to predict the economic effects of a change in final demand within a given area. This study has employed the IMpact Analysis for PLANning (IMPLAN®) software and economic accounting databases to construct a descriptive model of the Wise County economy, and a predictive model was generated that describes the output, employment, and value added impacts of: 1) the construction phase of the Dominion project (2007-2012), and 2) the operations phase of the power plant after construction (2012 and thereafter).

The power plant construction and operations economic impact estimates, and the resulting estimates of impacts on the Composite Index, are based on very limited information about the project provided by Dominion and Shaw. As the economic impact study began and data sources were surveyed, Dominion notified the study team that it would not reveal further construction and operations information while in the midst of securing necessary permits, other than that already posted on the project website. Shaw representatives were helpful in gathering some information about their expected labor force and inputs, but the Shaw construction contract does not include Dominion announced investment of \$0.52 billion in addition to the plant contract. We can expect that there will be a positive economic impact on Wise County from that investment during the construction phase, but it is not possible to estimate its magnitude. We can only say that the economic impact estimates reported in this study are likely to underestimate the total project impacts during the construction phase.

For the construction phase, an annual timeline of workers on the site was estimated with information provided by Shaw. Along with estimates of Wise County resident workers and of worker expenditures, and the IMPLAN economic accounts, an economic impact model was constructed to estimate annual county economic impacts of the construction phase. The following table describes the annual economic impacts on the Wise County economy. The total county output impact over 2007-2012 in constant 2007 dollars is estimated to be \$311.8 million, the value added to the economy (gross revenue minus the cost of purchased intermediate goods and services) is \$149.1 million, and labor income to employees and sole-proprietors totals \$123.5 million by the time that construction is completed. Direct employment plus “multiplier effect” employment rises to a high of 1,358 jobs in 2010. There will be substantial Wise County economic impact during the construction phase from the local purchase of supplies and services, and from expenditures by construction workers. However, it is unlikely that many of these jobs will be permanent once the power plant is constructed, and the other economic impacts are also primarily temporary. Although the construction subsector generates more than two-thirds of the total county economic impact, other Wise subsectors that will generate sizeable economic impacts are Architecture/Engineering Services, Wholesale Trade, and Telecommunications.

Summary Economic Impacts of Construction Phase on Wise County Economy				
Year	Output (\$'000) ^b	Employment ^c	Value-Added ^b (\$'000)	Labor Income ^b (\$'000)
2007 ^a	3,379	36	1,616	1,337
2008	29,693	318	14,198	11,760
2009	96,855	1,038	46,302	38,357
2010	126,578	1,358	60,505	50,127
2011	50,469	541	24,130	19,988
2012 ^a	4,832	52	2,311	1,913
^a Annual basis				
^b Constant 2007 dollars				
^c Employment includes all full-time and part-time workers, annual basis.				

For the operations phase of the Dominion project, some information on output, workers, payroll, and supplies was available, and the model was designed to estimate the annual recurring economic impacts on the Wise county economy. The following table describes the annual economic impacts of the Dominion plant when in operation. In constant 2007 dollars, the direct, indirect, and induced impacts of the project will increase Wise County annual economic output by \$439.6 million, representing an increase in the value of all economic sectors in the county by approximately one-fifth. A better measure of economic output is value added, which removes double-counting of the value of intermediate goods and services. Under this measure of economic impact, the Wise County plant will generate \$258.5 million per year of value added for an indefinite number of operation years, which Dominion suggests may be 50 or more. Labor income to employees and single-proprietors will increase by \$29.1 million (approximately 4%) because of the Dominion project. Total employment will increase by 528 jobs, most in the supplying coal mining and trucking sectors.

Summary Annual Economic Impacts of Operations Phase on Wise County Economy					
		Output ^a (\$'000)	Employment ^b	Value-Added ^a (\$'000)	Labor Income ^a (\$'000)
Total		\$439,552	528	\$258,531	\$29,068
	Direct	\$363,977	75	\$217,278	\$6,068
	Indirect	\$66,397	356	\$35,630	\$20,424
	Induced	\$9,177	98	\$5,623	\$2,576
^a Constant 2007 dollars. Totals may not sum due to rounding. ^b Employment includes all full-time and part-time workers, annual basis					

The economic impacts of the Dominion Power Plant project are very large for the Wise County economy, as well as for neighboring area economies. To capitalize on this economic growth, Wise County may be able to take measures that make local natural, labor, and business resources more competitive and more closely linked with the power plant. In other words, the relevant questions are: are there public measures that can be taken to promote more local expenditures in the construction and operations phases? Many measures are already in consideration or in operation. Examples implied by this study include:

- 1) Job training programs for local construction craft workers, or for plant operations employees
- 2) Programs to promote capacity and competitiveness of supplying firms that locate in the county or existing local firms to expand their capacity to supply services to the plant, such as security, waste management, etc.
- 3) Programs to promote efficiency in local fuel supply industries, such as coal, wood products, and limestone. Programs to develop alternative sources of renewable fuels.
- 4) Programs to develop or improve housing, food, and entertainment services for construction employees.

As mentioned above, one of the most significant negative fiscal effects that Wise County will experience that will result from the construction of the Dominion Energy Production Facility is the loss of state appropriations for public K-12 schools. The Commonwealth of Virginia employs an equalization formula, i.e., foundation program, to distribute state funds to the localities for maintaining common schools constitutionally required by the Virginia Standards of Quality. The specific feature of the foundation program that will trigger the loss of state aid is its measure of local fiscal capacity. Known as the Local Composite Index (LCI), this algebraic algorithm is composed of three separate measures of fiscal capacity and two base divisors which are mathematically merged into a single index of fiscal capacity. The measures of fiscal capacity, True Valuation of Real and Public Service Corporation Property, Adjusted Gross Income, and Taxable Retail Sales Receipts and the base divisors, Average Daily Membership (ADM) of Pupils and Population will all be affected by the Dominion facility. Indices are conducted separately for each school division biennially and normally varies from .8000 for the high fiscally capacity divisions to approximately .1700 for the lowest capacity division. The FYs 2007 and 2008 LCIs for Wise County were .2036, placing it among the least fiscally capable localities in the Commonwealth.

Simulations were conducted for Wise County, based on data drawn from the economic impact projections, for the purpose of illustrating how the LCIs are likely to change for FYs 2009 through 2017. Due to the three and four year data lag between the time the data are actually generated and its employment in the calculation of the LCI, plus the gradual construction phase-in of the Dominion Energy Production Facility, the full fiscal effects will not be felt by Wise County until FY 2017. The simulated LCIs were entered into the series of Virginia state aid formulae, including the foundation program, i.e., Basic Aid, and state aid appropriations were projected for Wise County on a grant-by-grant basis concurrent with the projected LCIs. The projected LCIs and state aid appropriations are presented below:

Fiscal Year	LCI	FY 2007 State Aid	Projected State Aid ¹	Difference
2007	.2036	\$41,950,855	\$41,950,855	\$0
2009	.2036		\$44,631,649	\$2,680,794
2011	.2142		\$44,925,523	\$2,974,668
2013	.2570		\$42,972,888	\$1,022,033
2015	.2997		\$41,024,818	(\$926,037)
2017	.3211		\$40,048,501	(\$1,902,354)

¹Projected state aid appropriations are based on \$2007 dollars.

If the numbers of pupils in ADM increase, as predicted at 130 by FY 2009 and remain stable thereafter, Wise County should receive increased state aid through FY 2014 before the projected increases in wealth and fiscal capacity are entered into the LCI algorithm. At that time, Wise County should start incurring losses in state aid, projected at \$926,037 (each year) for FYs 2015 and 2016 and \$1,902,354 (each year) for FYs 2017 and 2018. In essence, when the full fiscal effects created by the Dominion Energy Production Facility are taken into consideration by the Commonwealth of Virginia pursuant to its public K-12 funding mechanism, Wise County is likely to incur annual losses of approximately \$2,000,000.



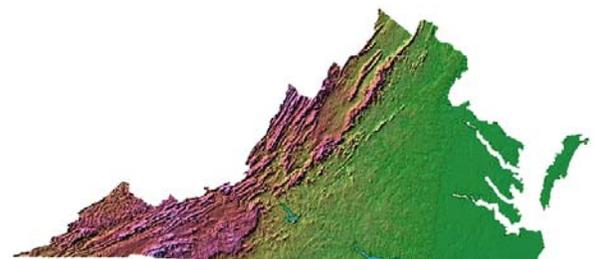
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PART I

Economic Impact Analysis

OFFICE OF ECONOMIC DEVELOPMENT



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Background and Objectives

In 2004 and 2007, the Virginia General Assembly passed legislation offering an enhanced rate of return on common equity for funds invested in new coal-fired power plants that would use only Virginia coal and which would be located in the coalfield counties of southwest Virginia (Code of Virginia 56-585.1). Additional benefits were offered for plants that would use renewable fuel sources such as wood for co-firing. In response, a coalition of power companies, led by Virginia Power and Electric (Dominion Virginia Power, referred to below as Dominion) began investigating potential sites in southwest Virginia. Dominion, the Commonwealth's largest power company, serves about 2.2 million customers in Virginia, and serves a total of 5 million retail customers in nine states. Dominion is one of the largest US integrated power utilities, with an electricity production capacity of more than 26,000 megawatts, as well as extremely large capacity in oil and natural gas.

Sites were evaluated on the basis of several criteria, including environmental impact, proximity to fuel and water, construction logistics, and access to transmission lines (Dominion 2006). In May 2006, Dominion announced that a 1,700 acre reclaimed surface mine site approximately 2 miles west of the town of St. Paul in Wise County had been selected. It sits adjacent to highway Alt-58, and approximately nine miles from the nearest major transmission line at the existing Appalachian Power Plant at Coeburn. Although several power companies had initially announced their intention to partner with Dominion in construction of the plant, Dominion has stated in its application to the State Corporation Commission that the company would build the plant on its own. The power station project is known as the "Southwest Virginia Power Station Project" or the "Virginia City Hybrid Energy Center," but will be referred to below as the Dominion Project. The Dominion artist rendering of the finished site is reproduced in the appendix to this report.

The generating unit will consist of two CFB boilers supplying steam to a single steam turbine generator. The boilers will use Circulating Fluidized Bed Combustion (CFBC) technology, certified by the US Department of Energy as a Clean-Coal Technology. According to the Department of Energy, "Fluidized beds suspend solid fuels on upward-blowing jets of air during the combustion process. The result is a turbulent mixing of gas and solids. The tumbling action, much like a bubbling fluid, provides more effective chemical reactions and heat transfer."¹ The technology is flexible, in that it can burn almost any sort of combustible material, such as coal, wood, or municipal solid waste, and can do so while producing much lower quantities of sulfur or nitrous oxides without the need for expensive external controls. The plant will be constructed so as to permit installation of carbon capture technology when such technology becomes economically practical. According to Dominion, the plant will have a nominal generating capacity of 585 megawatts, enough for 146,000 homes².

¹ US Department of Energy, http://fossil.energy.gov/programs/powersystems/combustion/fluidizedbed_overview.html, accessed Sept 28, 2007

² Dominion http://www.dom.com/about/stations/fossil/pdf/martin_update_0907.pdf, accessed Oct 6, 2007

Dominion is currently in the process of submitting and obtaining approval for environmental and other regulatory permits, but has awarded a \$1.1 billion engineering, procurement, and construction contract to The Shaw Group, an engineering, design, construction, and maintenance services company headquartered in Baton Rouge, LA, with 25,000 employees worldwide, fiscal year 2006 revenues of nearly \$5 billion, and a construction contract backlog totaling \$13.3 billion³. Among other engineering, design, construction, and maintenance services, Shaw is a global provider of turnkey power plants such as that contracted with Dominion. According to Dominion, limited site work will begin in fall 2007, and construction will be completed in April 2012, given successful and timely granting of permits. In its July 2007 filing with the State Corporation Commission, Dominion estimates that the total cost of the Project will be \$1.62 billion, including connection lines to the regional grid.

Wise County government has contracted with the Virginia Tech Office of Economic Development to conduct an analysis of the economic and fiscal impacts of the proposed project. The first phase of the analysis has the following objectives:

- 1) Describe and analyze direct, indirect, and induced economic impacts of the project on the local economy and employment during the construction phase;
- 2) Describe and analyze direct, indirect, and induced economic impacts of the project during the operational phase;
- 3) Present appropriate recommendations to Wise County government with respect to the combined economic impacts of the project during both the construction and operational phases.

³ (The Shaw Group, <http://www.shawgrp.com/about>, accessed October 7, 2007).

Economic Impact Analysis

Economic impact analysis is used to predict the economic effects of a change in final demand within a given area. It is based on a descriptive model of study area economic transactions between industries, households, government, and other economic players. This phase of impact analysis involves constructing economic accounts to describe the flow of goods and services from producers to intermediate and final consumers. US and regional economic accounts are used to construct estimates of local area multipliers, which are used to construct a predictive model of the economy, and which estimate the response of the economy to a projected change in demand or production.

The traditional framework for economic impact analysis is founded in export base theory. In this framework, the economy of a region consists of export (sometimes called “basic”) industries and local (sometimes called “service” industries). Basic industries provide the foundation for economic growth by producing goods and services for export from the region to markets outside the local area. Local industries produce goods and services for markets within the area. Sales generated by basic industries start a spending and re-spending cycle in the local area as they purchase inputs and hire labor, and such spending supports the local industries. An increase in demand for area export businesses introduces new money into the local economy and multiplies its effect through local purchases of intermediate goods and services and payments to owners of land, capital and labor, and taxes. New money re-spent within the local economy is eventually lost in “leakages” through such mechanisms as profits paid to outside residents, and payments for imported goods/services. The export/local dichotomy provides a basis for analysis of the total economic impact of a new or existing business or industry within a region. If economic data is collected measuring the economic relationships between area industries, then multiplier effects can be calculated to estimate the economic effects of a change in final demand.

Methods

This study will employ the Impact Analysis for PLANning (IMPLAN®) software and economic accounting databases (Minnesota IMPLAN Group). IMPLAN consists of two components: the regional accounting system, which allows construction of a consistent set of economic accounts and examination of economic impacts resulting from changes in final demand; and the databases, which include national-level input-output matrices and estimates of regional data for sales, value added, and employment for each county and state in the US. IMPLAN is widely used in analyzing projects of the type described here.

In terms of economic multiplier effects of an industry, IMPLAN and other input-output models reflect only backward linkages of an industry through its secondary impacts on related industries and value added factors such as labor income, property income, and indirect business taxes. As noted above, there are two phases of input-output modeling. The first is the descriptive model, which includes information about local and regional economic accounts. In other words, it describes a local economy in terms of a flow of dollars from sources of final demand (such as households) to producers (such as manufacturers). Direct and indirect effects are those stemming from transactions between basic goods and services producers and their suppliers. Induced effects come from households, and are the further cycles of spending as employees of the basic and supplying companies spend their wages and salaries within and outside of the local economy.

IMPLAN contains databases that represent sector production for 510 industries in the US. Several county-, state- and national-level economic accounts are used to construct the IMPLAN model. Most importantly, the National Use Table is a dataset that describes purchases from and sales of commodities to produce an industry's outputs. From this can be derived the proportional set of inputs necessary to produce the industry's output. Since an industry may produce more than one output, the National Make Table indicates the proportion of total industry production from each byproduct. Other national level data includes a set of deflators (or inflators) used to estimate impacts for previous or future economic activities taking place in some other year than the data contained in the IMPLAN database. A second type of data used by the IMPLAN software includes state and county-level industry output, employment, and value added; plus final demand by such entities as households, federal and state governments, and certain other trade or inventory uses.

In general, the IMPLAN study area is chosen by the analyst from a combination of counties or states. If the study area is small, the model will be characterized by a low level of economic linkage. Simply said, the multiplication of an industry's economic impact will be small, because re-spending will more likely occur outside the study area. On the other hand, if the study area is very large, the proportionate impact of a single industry or economic development project will be relatively small in comparison to the entire regional economy, but within-area linkages will likely be stronger. In general, a functionally self-sufficient economic area is characterized by a relatively high level of backward economic linkages within the region. In this study, Wise County decision

makers are interested in the county impacts of the proposed Dominion Project, and economic and fiscal effects on the county are the focus of this analysis. Stronger regional linkages are illustrated by subsequent runs of the Dominion project impact on the larger set of southwest Virginia Coalfield counties including Buchanan, Dickenson, Lee, Russell, Scott, Tazewell, and Wise counties, and the city of Norton.

Critical assumptions of input-output models, including the IMPLAN economic impact software, include:

- constant returns to scale
- no supply constraints
- fixed commodity input structure
- homogeneous sector output
- homogeneous technology.

Constant returns to scale means that if a certain combination of inputs can produce a quantity of output, then twice the inputs will produce exactly twice the output. In other words, all inputs and outputs increase proportionately. No supply constraints implies that all industries have unlimited access to inputs (such as capital, labor, or raw materials), and industry production is limited only by demand for its products. Fixed commodity input structure means that the industry will not purchase substitute inputs regardless of relative input prices. Changes in the economy do not cause the industry to change the mix of goods and services that it requires to make its products. Homogeneous sector output means that the industry will produce fixed proportions of its outputs. In other words, the industry cannot increase one of its output by-products without proportionately increase all others. The industry technology assumption is somewhat similar, in that the industry is assumed to use the same technology (or combination of inputs) to produce all its products.

Economic Structure of the Region

Critical dimensions of a county's economic structure are its people, their incomes, and their participation in the workforce. The 2006 estimate of Wise County population is 41,905 residents, up slightly from 2000 (US Census Bureau). Of critical concern is the 9.6% decline in working age population (20-64 years) from 2000-2030 projected by the Virginia Employment Commission⁴. Jobs must be created to maintain or grow the local workforce.

The size of the Wise County labor force over 1990-2006 is shown in Figure 1. The work force generally decreased during most of the 1990s, but recovered and increased dramatically until 2003, nearly reaching 17,500. In more recent years, the size of the workforce has been maintained roughly at the 2003 level. The employed workforce (Figure 2) has somewhat followed the same pattern, with strong increases from 1996-2003, and has held steady for the most recent years.

Wise County Labor Force, 1990-2006

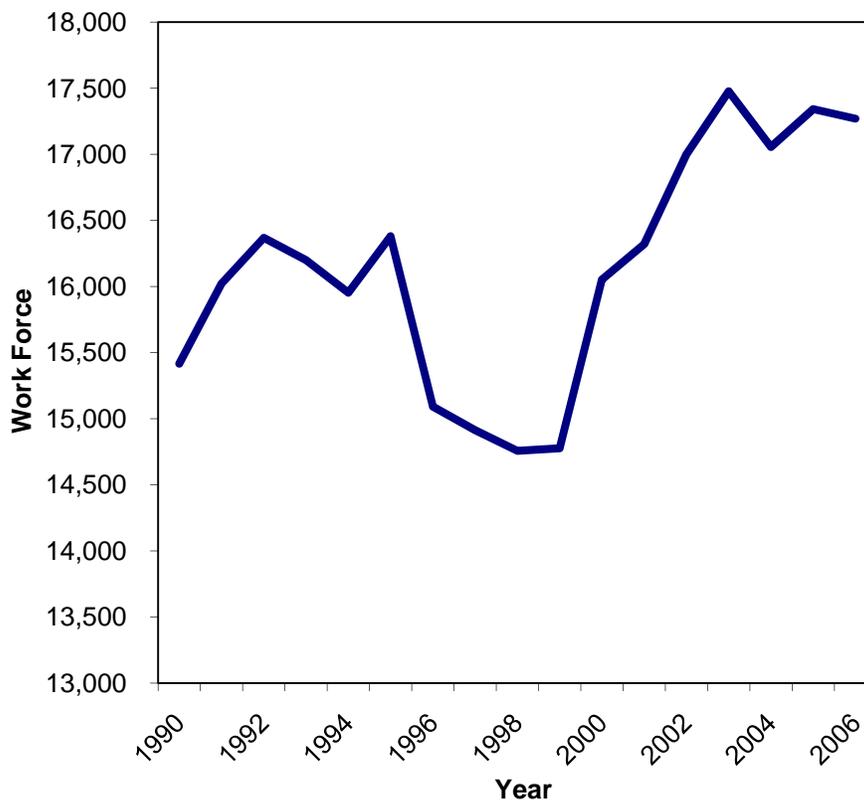


Figure 1. Wise County Labor Force, 1990-2006.

Source: US Bureau of Labor Statistics, <http://stats.bls.gov/>, Accessed Sept 28, 2007

⁴ Virginia Employment Commission, Population Projections to 2010, 2020, and 2030, <http://www.vec.virginia.gov/vecportal/>, accessed October 18, 2007

Wise County Employed Workers, 1990-2006

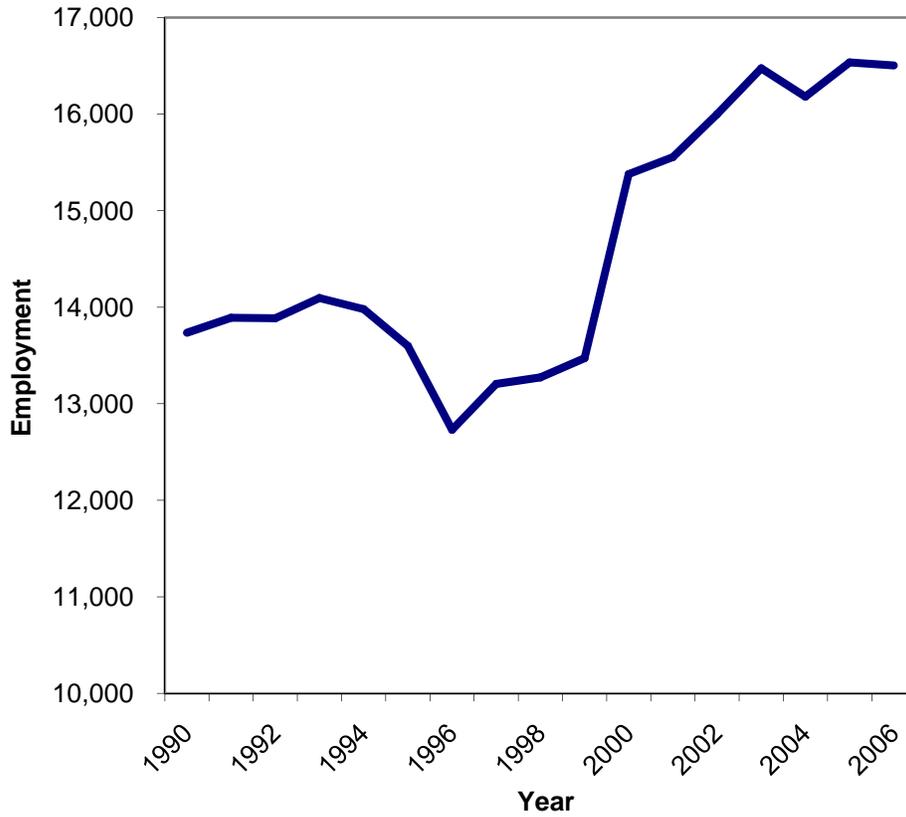


Figure 2. Wise County Employment, 1990-2006

Source: US Bureau of Labor Statistics, <http://stats.bls.gov/>, Accessed Sept 28, 2007

Table 1 indicates unemployment rates in Wise and other coalfield counties for 1990-2006. All counties and Norton show the same pattern of high unemployment rates through the 1990s, followed by a steady value or decline in unemployment in the past few years.

Table 1. Coalfield Counties, Norton, and Virginia Annual Unemployment Rates (%), 1990-2007

Year	Buchanan	Dickenson	Lee	Russell	Scott	Tazewell	Wise	Norton	Virginia
1990	11.2	16.8	9.5	11.5	8.0	9.4	10.9	9.6	4.4
1991	15.1	16.8	10.5	13.0	8.9	11.9	13.3	10.0	5.9
1992	15.8	17.3	14.3	12.5	8.5	13.4	15.2	8.7	6.2
1993	15.1	15.3	11.0	10.7	8.1	13.0	13.0	8.7	5.2
1994	17.8	18.3	10.1	12.8	8.5	13.5	12.4	8.8	4.7
1995	13.4	19.3	11.6	10.9	8.9	10.2	17.0	12.2	4.5
1996	14.8	20.2	11.6	11.2	7.3	9.5	15.7	10.9	4.3
1997	13.6	15.6	8.7	9.7	6.6	8.4	11.5	8.2	3.7
1998	14.0	15.6	7.8	8.9	7.6	8.4	10.1	7.0	2.8
1999	13.5	12.1	8.7	8.0	6.4	6.9	8.8	7.3	2.7
2000	5.8	5.8	4.2	5.1	3.8	5.1	4.2	4.1	2.3
2001	6.0	7.0	5.0	6.4	4.6	4.9	4.7	4.5	3.2
2002	7.1	7.8	5.7	6.3	5.3	5.8	5.9	4.9	4.2
2003	7.0	8.4	6.0	6.2	5.4	5.4	5.7	5.3	4.1
2004	5.6	6.1	5.5	5.7	5.5	4.6	5.1	5.3	3.7
2005	5.3	6.3	4.9	5.6	5.1	4.4	4.7	5.4	3.5
2006	4.8	5.0	4.3	5.8	4.8	4.0	4.4	5.1	3.0

Source: US Bureau of Labor Statistics, www.bls.gov, accessed Sept 28, 2007

Figure 3 shows graphically the path of Wise County unemployment for 1990-2006.

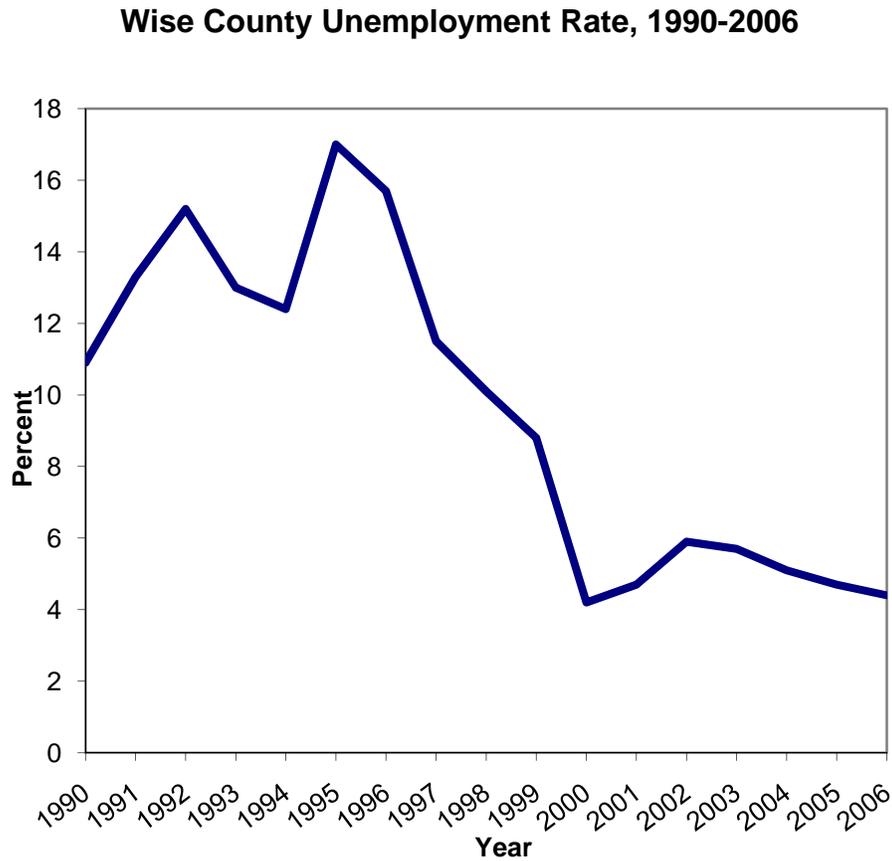


Figure 3. Wise County Unemployment, 1990-2006

Source: US Bureau of Labor Statistics, <http://stats.bls.gov/>, Accessed Sept 28, 2007

Year-to-year real per capita income change from 1990-2005 in the Wise & Norton area is illustrated in Figure 4. Over the period, real per capita income has increased at an average annual rate of 1.1%, relatively low compared to the 1.8% annual increase for the Commonwealth over the same period. Moreover, Wise real per capita incomes declined in 4 of the 16 years, while Virginia incomes declined only in 1990-1991.

Wise + Norton Real Per Capita Income Change
1990-2005

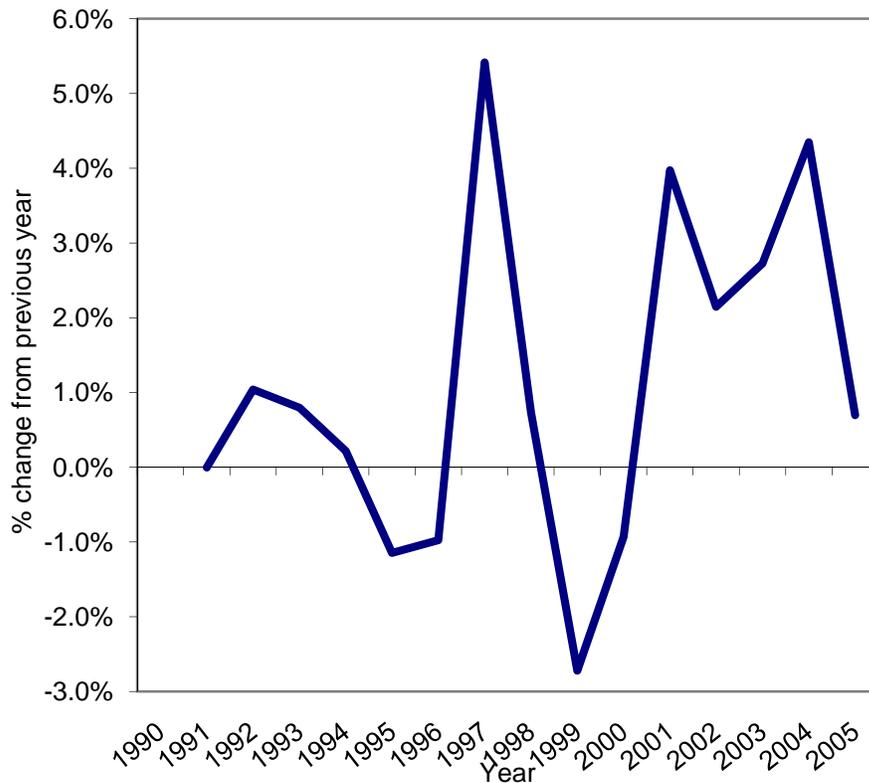


Figure 4. Wise County + Norton City Real Per Capita Income 1990-2005, Constant 2004 dollars
Source: Regional Economic Information System, Bureau of Economic Analysis, US Department of Commerce, <http://www.bea.gov/regional/reis/CA04fn.cfm>, accessed Sept 28, 2007

Table 2 indicates the Wise County plus Norton City employment by economic sector from 2001-2005. Total employment in the combined region has increased modestly over 2001-2005, with total employment passing 22 thousand in 2005. Confidentiality rules on data disclosure makes examination of most sectors impossible, but it can be seen that the mining sector fell as a proportion of total private employment from 17.4% in 2001 to 14.9% in 2004. In 2005, employment data for mining was not disclosed, possibly because of the falling number of mine employers. The Virginia Employment Commission reports 35 mining firms (except oil and gas) firms in Wise County with 1,371 employees. There were 57 mining firms in 2005 (US Census County Business Patterns), and 52 firms in 1998. Retail trade, the other reported large employer, rose slightly from 18.2% in 2001 to 18.9% of county employment in 2005.

Table 2. Wise County + City of Norton Employment, 2001-2005

	2001	2002	2003	2004	2005
Total employment	20,599	21,637	21,778	21,929	22,065
Farm employment	183	187	185	181	177
Nonfarm employment	20,416	21,450	21,593	21,748	21,888
Private employment	16,169	16,767	16,852	16,951	17,036
Forestry, fishing, related activities	78	70	68	62	(D)
Mining	2,816	2,542	2,424	2,529	(D)
Utilities	(D)	(D)	(D)	(D)	(D)
Construction	772	848	840	929	972
Manufacturing	600	526	515	547	549
Wholesale trade	(D)	(D)	(D)	(D)	(D)
Retail trade	2,936	3,132	3,130	3,149	3,217
Transportation and warehousing	(D)	(D)	(D)	(D)	(D)
Information	521	493	477	453	465
Finance and insurance	429	421	412	413	414
Real estate and rental and leasing	183	260	262	272	282
Professional and technical services	777	857	885	869	904
Management of companies/enterprises	(D)	(D)	(D)	146	179
Administrative and waste services	(D)	(D)	(D)	904	904
Educational services	(D)	(D)	(D)	(D)	(D)
Health care and social assistance	(D)	(D)	(D)	(D)	(D)
Arts, entertainment, and recreation	(D)	(D)	(D)	(D)	(D)
Accommodation and food services	(D)	(D)	(D)	(D)	(D)
Other services, exc. public admin	892	981	999	1,011	1,045
Government and government enterprises	4,247	4,683	4,741	4,797	4,852
Federal, civilian	267	276	275	276	266
Military	173	174	171	164	157
State and local	3,807	4,233	4,295	4,357	4,429
State government	1,698	2,121	2,092	2,121	2,161
Local government	2,109	2,112	2,203	2,236	2,268

(D) Undisclosed data, but included in totals. 2-digit NAICS sectors

Source: Regional Economic Information System, Bureau of Economic Analysis, US Department of Commerce, <http://www.bea.gov/bea/regional/reis/>, accessed Sept 28, 2007

A recent study (Atasoy et al 2007) described the economic structure of the Virginia Coalfield region, noting that three major trends can be seen in the region's economic structure: 1) slow growth in total employment (6% growth from 1988-2004 vs. 23% growth in Virginia as a whole), 2) long-term decline in mining employment (-49% from 1988-2000), and 3) decline in manufacturing employment (stagnant or declining 1988-2004).

As noted by Atasoy et al., the shift from mining and manufacturing jobs to service sector jobs is associated with a decline in regional earnings per worker. Table 3 displays real earnings per worker for selected Wise and Norton sectors. Sectors with consistently higher than average earnings per worker include mining and information services. On average, real earnings per worker in the Wise/Norton private sector increased by 2.1% per year over 2001-2005 (the same rate as real earnings per worker in the Commonwealth). Mining earnings per worker averaged 11.1% for 2001-2004⁵, while information services earnings per worker increased by only 2.5% per year. Earnings per worker in other service sectors such as retail trade and professional/ technical services increased by only 0.5% and 0.1% per year, respectively. Clearly, slower growth in wages and salaries per worker may be associated with a shift to more dependence on service sector employment.

Table 3. Earnings per Worker by Selected Economic Sector, Wise County and City of Norton^a

	2001	2002	2003	2004	2005	Average year-to- year change
Private earnings	\$33,895	\$33,304	\$35,128	\$36,916	\$36,761	2.1%
Mining	\$61,922	\$67,676	\$78,294	\$84,752	(D)	11.1%
Construction	\$22,175	\$20,220	\$22,286	\$23,620	\$23,385	1.6%
Manufacturing	\$32,535	\$36,144	\$35,481	\$37,207	\$36,696	3.2%
Retail trade	\$20,338	\$20,020	\$20,545	\$20,887	\$20,720	0.5%
Information	\$37,766	\$40,922	\$43,768	\$42,570	\$41,527	2.5%
Prof/tech services	\$34,661	\$31,478	\$34,200	\$34,564	\$34,501	0.1%

^a Constant 2004 dollars

Before proceeding to results of the economic analysis, it is important to review the IMPLAN database description of the Wise County economy. As noted above, IMPLAN combines Bureau of Economic Analysis, Bureau of Labor Statistics, Consumer Expenditure Survey, and other data to develop a consistent economic model of the economy. Corrections are made to some data, such as personal income, because such data is often understated. As such, the IMPLAN data may differ to some extent from other reporting sources. The 2004 IMPLAN model describes output, employment, and value added elements of the Wise County economy as in Table 4.

⁵ 2005 data is undisclosed.

Table 4. IMPLAN Description of 2004 Wise County Output, Employment, and Value Added

Industry	Output ^a	Employment	Employee Compensation ^a	Proprietary Income ^a	Other Property Income ^a	Indirect Business Tax ^a	Value Added ^a
Ag, Forestry, Fish & Hunting	\$12.1	231	\$1.0	\$0.2	\$1.9	\$0.1	\$3.2
Mining	\$908.6	2,691	\$151.4	\$97.8	\$147.6	\$91.1	\$487.9
Utilities	\$78.1	17	\$1.3	\$0.0	\$37.3	\$8.0	\$46.6
Construction	\$84.9	921	\$24.7	\$3.0	\$4.6	\$0.4	\$32.7
Manufacturing	\$92.8	504	\$20.6	\$0.1	\$10.0	\$0.5	\$31.2
Wholesale Trade	\$58.3	424	\$21.2	\$0.7	\$8.9	\$9.0	\$39.9
Transportation & Warehousing	\$100.6	751	\$35.5	\$0.3	\$15.2	\$1.4	\$52.4
Retail trade	\$118.7	2,093	\$42.5	\$2.3	\$11.1	\$15.5	\$71.4
Information	\$51.6	230	\$9.2	\$0.1	\$10.3	\$2.8	\$22.3
Finance & insurance	\$31.5	271	\$8.9	\$0.5	\$13.5	\$0.4	\$23.2
Real estate & rental	\$12.7	127	\$2.6	\$0.3	\$3.1	\$0.8	\$6.7
Professional- scientific & tech svcs	\$57.5	627	\$22.9	\$2.5	\$3.7	\$0.4	\$29.5
Management of companies	\$22.6	131	\$10.2	\$0.0	\$3.5	\$0.2	\$13.9
Administrative & waste services	\$32.8	882	\$16.4	\$0.4	\$2.8	\$0.5	\$20.1
Educational svcs	\$1.0	24	\$0.4	\$0.0	\$0.2	\$0.0	\$0.6
Health & social services	\$98.8	1,588	\$44.2	\$1.2	\$6.1	\$0.7	\$52.1
Arts- entertainment & recreation	\$1.3	58	\$0.4	\$0.2	\$0.1	\$0.1	\$0.7
Accommodation & food services	\$53.9	1,259	\$15.9	\$0.2	\$4.7	\$2.7	\$23.5
Other services	\$59.0	764	\$18.1	\$1.7	\$11.6	\$2.5	\$34.0
Government & non NAICs	\$299.7	4,702	\$170.0	\$0.0	\$89.0	\$12.0	\$271.1
Totals	\$2,176.5	18,294	\$617.5	\$111.3	\$385.1	\$149.3	\$1,263.2

^aMillions of 2007 dollars, estimated from IMPLAN 2004 databases

Wise County total value of production across all economic sectors in 2004 was over 2 billion dollars, of which the mining sector contributed 42%, followed by government (14%)⁶ and retail trade (5%) transportation/warehousing (5%), and health/human services (5%). The reliance on mining makes the county economy vulnerable to economic downturns in the rest of the US and world economy, and to the benefits of recent higher coal prices. All across the county economic structure, coal is the key sector. The sector offers 15% of county employment, 25% of all employee compensation, 88% of income to owner-operator businesses (proprietary income), 38% of corporate dividends/interest, and 61% of indirect business taxes. Since summed compensation, proprietary income, other property income, and indirect business taxes equals value added, the mining sector contributes 39% of all county value added. No other sector than mining and government generates more than 6% of county value added. The Dominion Project offers the opportunity to expand the county economy “portfolio” into the Utilities sector, which in 2004 generated only 4% of total value added, while stimulating the already-strong mining sector and its economic linkages with other local sectors.

⁶ Government value of production is an imputed value, since there are limited “sales” by government agencies.

Economic Impact of Dominion Project

The Project can be divided into two distinct stages. First, the initial design and procurement phase of the construction stage has begun in fall 2007, and will continue for more than 4 years until the turnkey plant is delivered to Dominion in April 2012. At that point, the operations stage will begin and continue throughout the economic life of the power plant (50 years or more, according to the filing with the SCC). The construction stage is distinct from the operations stage because economic multiplier effects are temporary rather than permanent. The general contractor (Shaw) is not local to the area, nor are expected to be many of the subcontracting firms. Construction workers on the project will be primarily migrant rather than current residents. As such, the economic impact of the construction stage is primarily through: 1) local purchases of supplies and materials, such as cement, office furnishings, and wire; and 2) local purchases of nonresident workers, such as housing, food, and apparel.

Data Available for Analysis

With IMPLAN and its industry databases, it is possible to conduct an economic impact analysis of a new firm knowing little more than the number of employees and the dollar output of the firm. Further estimation accuracy can be obtained if payroll information is available, and even better estimates are obtained if detailed company pro forma budgets are made available. However, as the economic impact study began and data sources were surveyed, Dominion decided that revealing confidential construction and operations information while in the midst of securing necessary permits was not in its interest. As such, representatives communicated to the authors that the only information they could divulge was that already available on their web site (<http://www.dom.com/about/stations/fossil/swva.jsp>).

Data for Construction Stage

Dominion has stated in its July 13 filing (Virginia State Corporation Commission) that its contract with Shaw is \$1.1 billion, and its total investment in the Project will be \$1.62 billion. A portion of the difference is the cost that Dominion will incur for land purchase and preparation, transmission line construction, and other costs not related to plant construction. There is no available information to describe or document those costs. As such, the construction stage impact estimates described herein relate only to the Shaw subcontract, and will underestimate local economic impacts to the extent that: 1) Dominion expends funds in Wise County for local goods and services and payroll; and 2) companies and individuals receiving payments from Dominion react by purchasing goods and services in Wise County.

Shaw is currently obtaining bids for various subcontracts, such as security, engineering support, sanitation. In as much as Shaw or its subcontractors are: 1) local businesses, 2) purchase goods or services from local manufacturers or vendors, or 3) hire local workers, they will impact the economy of Wise County. Shaw representatives have stated that they would prefer to subcontract locally for as much as one-third of the construction

expenditures, and would spend \$50-\$75 million on local supplies, but could not provide more detail. One valuable set of information provided by Shaw was the expected monthly timeline of their hired workers on the construction site from 2007-2012. Using the Shaw timeline of direct hires and their estimate of the number of hires from Southwest Virginia, and the following assumptions/estimates, Table 5 was constructed of estimated annual full-time equivalent employees:

- 1) Subcontractor hires are equal to 30% of Shaw direct hires, and 50% of subcontractor hires are from Virginia Coalfield counties;
- 2) Wise County hires are 50% of estimated Virginia Coalfield county hires;

Table 5. Estimated Construction Stage Workforce, 2007-2012^a

Year	Total Workforce on Site ^b	Estimated Workforce from Virginia Coalfield Counties	Estimated Workforce from Wise County
2007	23	3	2
2008	203	32	16
2009	662	94	47
2010	865	115	58
2011	345	52	26
2012	33	5	3

^aAnnual full-time equivalents, rounded to integers

^bShaw + subcontractors

The number of employees by craft and their salaries are not known, so reliance must be placed in the IMPLAN databases for the appropriate economic sector. Sector 41 in IMPLAN is the Other New Construction sector, which contains tables reflecting the construction of power plants. The existing Wise and Coalfield Counties industries are small compared to the magnitude of the Dominion Project, so it was decided to use US Sector 41 output/worker and earnings/worker for this analysis, implying that, on average, construction workers will earn \$40,216 per year during the construction stage of the project, and that workers will generate \$98,575 of “local construction value” per worker per year. This impact is the Wise County direct output effect of the construction phase. The indirect construction output impact is estimated as well through demands by construction contractors and subcontractors for local supplies and support services.

Induced effects in IMPLAN analyses derive from local expenditures of salaries and wages by local resident workers. In this case, because few employees are local, induced effects are separately estimated for the construction phase by summing expenditure impacts of nonregional workers (in effect, construction workers whose residence is outside the Coalfield Counties), of Coalfield County residents from outside Wise County, and of Wise County residents. The total construction impact is then compiled of the direct, indirect, and induced effects.

Since most construction workers at the Project site will not be Wise County residents, the economic impacts of their purchases for meals, lodging, auto services, apparel, and

entertainment were estimated separately thru IMPLAN. Table 6 displays the estimated per-worker-day expenditures used in the impact analysis.

Item	Expenditure/day	Explanation
Meals	\$29.24	75% of General Service Administration allowable
Lodging	\$8.60	70% of Wise County rental rate, double occupancy (Bureau of Census)
Auto services	\$4.32	Bureau of Labor Statistics, Consumer Expenditure Survey
Apparel	\$1.70	Bureau of Labor Statistics, Consumer Expenditure Survey
Entertainment	\$2.45	Bureau of Labor Statistics, Consumer Expenditure Survey

^a2007 dollars

In addition, many nonresident workers will commute from other Coalfield Counties to work at the construction site. It is assumed that these Coalfield County residents will purchase only certain meals and auto services in Wise County. Table 7 indicates these expenditures.

Item	Expenditure/day	Explanation
Meals	\$12.87	33% of General Service Administration allowable
Auto services	\$4.32	Bureau of Labor Statistics, Consumer Expenditure Survey

^a2007 dollars

Finally, the economic impacts of Wise County resident construction workers were estimated by estimating increased disposable income of \$24,682 for US households earning \$35,000 - \$50,000 per year. It is assumed that the consumption patterns of these households are similar to the Wise County construction worker households, and the economic impacts of these purchases were also estimated separately through IMPLAN.

Data for Operations Stage

The primary information available for analysis of the operations phase of the Project is that detailed in the July 13 filing (Virginia State Corporation Commission). From testimony made public by the SCC, it is possible to estimate the annual effective output and to estimate a producer-level price of electricity, thus determining an annual sales estimate. It should be emphasized that the estimated value of output is very conservative, representing what Dominion calls its “all-in” price that returns its investment (Table 8). Sensitivity analysis was also conducted using a higher price.

Item	Quantity	Unit	Explanation
Annual net electricity production	4.6 million	Megawatt hours	90% capacity
Producer price	8.9	Cents/kilowatt hour	2007 dollars
Annual Value of Production	\$410,480,460		2007 dollars

Source: Estimated or recorded from Virginia State Corporation Commission, case number PUE-2007-00066, established July 20, 2007.

Fuel and limestone inputs, trucking costs, and payroll will form the majority of operations cost of the new power plant. Dominion has stated that 75 permanent employees would earn on average \$60,000 per year at the plant during the operations phase, and from this an estimate of payroll was made (Table 9).

Number of Permanent Employees	Average Annual Salary / Employee	Total Salary + Benefits ^a
75	\$60,000	\$6,075,000

^a Benefits are assumed to be 35% of salary

Further inquiries to knowledgeable informants on the basis of the Dominion web site information prompted the following estimates of annual input purchases (Table 10). Note that Dominion does not guarantee to use any gob coal or wood products, but will incorporate such materials depending upon economic conditions. It has been assumed that Dominion will use 2.5 million tons of fuel per year.

Input	Quantity (tons)	Price/ton (2007 dollars)
Run-of-mine coal	2,000,000	\$41.73
Gob coal	250,000	\$18.00
Wood products	250,000	\$18.00
Limestone	300,000	\$9.00

The large amount of fuelstock transferred to the power plant site will entail a large increase in trucking. Dominion estimates 250-300 trucks per day entering the property during the operations stage. Although there has been some discussion of coal transport by rail in the future, it appears that Dominion will receive fuelstock in trucks for the foreseeable future. Given the proximity to coal mines, sites with gob coal, and sites with waste wood, it is estimated that the average round-trip truck haul will be 30 miles, and costs are estimated for trucking. This distance will expand over time, as more easily reached fuelstock sources are exhausted.

Construction Phase Economic Impacts on Wise County

Table 11 summarizes the annual economic impacts of the Dominion Project construction phase in terms of output, employment, value added, and labor income. The Project will have a temporary but substantial impact on the Wise economy.

Year	Output (\$'000) ^a	Employment ^c	Value-Added ^a (\$'000)	Labor Income ^a (\$'000)
2007 ^b	3,379	36	1,616	1,337
2008	29,693	318	14,198	11,760
2009	96,855	1,038	46,302	38,357
2010	126,578	1,358	60,505	50,127
2011	50,469	541	24,130	19,988
2012 ^b	4,832	52	2,311	1,913

^a Constant 2007 dollars

^b Annual basis

^c Employment includes all direct employment, plus indirect employment and induced employment, all on annual basis.

Economic impact estimates generated by the construction sector in IMPLAN must be treated with some caution. First, we know that the Shaw contract will total approximately \$1.1 billion, but the sum of output impact (in real \$2007) is only \$311 million. In this case, only output impact on the Wise County is estimated, and other elements of the Shaw contract are presumed to involve procurement of capital equipment and other materials purchased and brought onto the site from outside the county, and Shaw profits from the contract. In addition, IMPLAN does not tabulate as industry output the capital investment made in a project, such as the value of the boilers and turbines, but instead counts only the materials that are “used up” in the construction, such as cement, wire, or plumbing supplies.

The same cautions apply to the other economic indicators of the construction impact. Estimated employment impact includes all direct employment, as estimated in Table 12 above, but also includes indirect and induced employment caused by economic linkages through the local economy. It is not certain that many of the jobs created during the construction phase of the project will continue once the plant is in operation.

The impacts on the local economy are temporary, not a permanent addition to the economy, as would be the effects of a new manufacturing industry. Wise County will experience a temporary increase in economic production during the construction phase of the Dominion Project, and local subcontracts, local materials purchases, and the expenditures of temporary construction workers will inject money into the Wise economy. These economic effects, although temporary, will not be trivial. The total value added to the Wise economy during the construction phase is estimated to be \$149.1 million (in 2007 dollars), which on average over the construction period is equivalent to 3% of total county value added from all economic sectors in 2004. Most value added (\$123.5 million) is labor income, which consists of wages and salaries paid to employees,

plus payments to single proprietors (owner-operators). On average over the construction period, this impact on Wise County labor income is equivalent to approximately 4% of total county labor income in 2004.

Table 12 indicates the construction output impact on aggregate economic sectors in the Wise County economy. Of course, the Construction Sector generates most of the output impact (71%), but other strongly impacted sectors include Profession/Technical Services (9%) and Accommodation/Food Services (6%).

Cautions are necessary when reviewing construction and other sector impacts. As in the previous table, it should be noted that IMPLAN does not account for capital investments, so much of the Project investment is not reflected. The construction output effects on the Wise economy are temporary, and do not represent a permanent increase in economic production.

Table 12. Output Impact of Construction Phase, by Economic Sector, 2007-2012*

	2007	2008	2009	2010	2011	2012	Total
Ag, Forestry, Fish & Hunting	\$5.2	\$45.7	\$149.0	\$194.8	\$77.6	\$7.4	\$479.7
Mining	\$11.8	\$103.0	\$335.3	\$437.8	\$174.9	\$16.8	\$1,079.6
Utilities	\$18.9	\$165.1	\$536.8	\$700.6	\$280.2	\$27.1	\$1,728.7
Construction	\$2,380.7	\$20,956.7	\$68,341.7	\$89,298.5	\$35,616.1	\$3,406.8	\$220,000.7
Manufacturing	\$66.3	\$583.5	\$1,902.7	\$2,486.1	\$991.6	\$94.9	\$6,125.2
Wholesale Trade	\$46.0	\$403.2	\$1,313.1	\$1,714.7	\$684.9	\$65.9	\$4,227.9
Transportation & Warehousing	\$32.4	\$284.2	\$926.3	\$1,209.9	\$482.9	\$46.4	\$2,982.1
Retail trade	\$94.3	\$824.5	\$2,680.8	\$3,498.1	\$1,399.4	\$135.0	\$8,632.1
Information	\$53.3	\$466.8	\$1,519.9	\$1,984.5	\$792.8	\$76.2	\$4,893.4
Finance & insurance	\$14.1	\$123.2	\$399.7	\$521.0	\$208.9	\$20.2	\$1,287.3
Real estate & rental	\$17.2	\$151.4	\$493.2	\$644.2	\$257.2	\$24.7	\$1,587.9
Professional-scientific & tech svcs	\$317.2	\$2,791.1	\$9,101.2	\$11,891.7	\$4,743.3	\$453.9	\$29,298.3
Management of companies	\$12.3	\$108.0	\$351.6	\$459.2	\$183.4	\$17.6	\$1,132.1
Administrative & waste services	\$50.7	\$445.3	\$1,451.4	\$1,896.1	\$756.6	\$72.5	\$4,672.5
Educational svcs	\$0.1	\$1.0	\$3.0	\$3.9	\$1.6	\$0.2	\$9.7
Health & social services	\$8.5	\$71.0	\$222.6	\$285.1	\$118.6	\$12.4	\$718.2
Arts- entertainment & recreation	\$3.3	\$27.8	\$92.2	\$121.6	\$47.6	\$4.6	\$297.1
Accommodation & food services	\$192.7	\$1,675.5	\$5,528.7	\$7,272.0	\$2,862.4	\$272.6	\$17,803.8
Other services	\$36.6	\$321.5	\$1,046.9	\$1,367.0	\$546.0	\$52.4	\$3,370.5
Government & non NAICs	\$17.0	\$144.3	\$458.3	\$590.8	\$242.4	\$24.6	\$1,477.4
Total	\$3,378.7	\$29,692.7	\$96,854.5	\$126,577.6	\$50,468.5	\$4,832.2	\$311,804.2

* Thous. of constant 2007 dollars

Table 13 indicates the top 10 output impacts on Wise County economy subsectors. By far the largest impact is on the Other New Construction subsector, that portion of the construction sector most directly affected by Project construction. Over two-thirds of the output impact is concentrated in this subsector, and other output impacts are associated with local purchases of goods and services needed by the construction subsector.

Table 13. Construction Output Impacts on Principal Wise County Subsectors, 2007-2012

Rank	Subsector	Output Impact ^a	%Total Output Impact
1	Other new construction	\$ 219,540,230	68.9%
2	Architectural and engineering services	\$ 26,904,442	8.4%
3	Wholesale trade	\$ 4,227,876	1.3%
4	Telecommunications	\$ 4,097,506	1.3%
5	Employment services	\$ 2,762,316	0.9%
6	Commercial machinery repair and maintenance	\$ 2,348,600	0.7%
7	Ready-mix concrete manufacturing	\$ 2,098,701	0.7%
8	Truck transportation	\$ 2,265,295	0.7%
9	Power generation and supply	\$ 1,728,739	0.5%
10	Motor vehicle and parts dealers	\$ 1,378,929	0.4%

^a Constant 2007 dollars

There are additional cautions necessary in examining the implications of the subsector impact. In addition, it should be taken into consideration before drawing implications from the above table that the IMPLAN mix of subsector effects is repeated each year, but the software cannot take into account the sequencing of activities in the construction project. For example, we would assume that most architectural work would be completed at the beginning of the project, but IMPLAN doesn't reflect timing in that way. An additional caution refers to the particular mix of goods and services used by the Construction Sector to generate output. In this case, the Other New Construction subsector purchases services from the Architectural/Engineering and other Services subsectors, plus goods from the Wholesale Trade and other Goods sectors in proportion to the construction output, subject to local availability from the other subsectors. The mix and proportions of goods and services to produce construction output is estimated from national accounts, and may not reflect the production of construction output in Wise County, nor represent the proportions for this particular project. However, we would expect that these subsectors would represent the typical construction project for the Other New Construction subsector.

Operations Phase Economic Impact on Wise County

As described above, the basis on any economic input/output model is the multiplier effect of an increase in final consumption (demand), causing local firms to increase production, purchase goods and services from supplier firms, and each paying workers. This multiplier effect continues until economic leakages from the local economy eliminate the local economic impacts of the initial increase in demand. Economic sectors with many backward supply linkages to the local economy will generate more output, employment,

and/or value added if demand for their products increases. Table 14 displays the IMPLAN-generated Social Accounting Matrix (SAM) multipliers for Wise County subsectors that are primarily impacted by the Dominion Project. Such multipliers include not only the industry impacts, but also the household and government impacts as well. The output multipliers can be interpreted as follows: if the power generation industry (as below) exhibits a 1.21 output multiplier, then a \$1 million increase in final demand for the industry's products generate \$1.21 million through indirect and induced effects on the economy. Similarly, the value added multiplier of 1.19 implies that a \$1 million increase in value added of the Power Generation industry will generate an additional \$0.19 million in value added of related sectors. Since the Power Generation industry in Wise County has an employment multiplier of 7.04, an increase of 1 job in the Power Generation industry in Wise will cause an additional 6.04 jobs to be generated through indirect and induced effects.

In the 2012 (the Project completion year) and 2013 (the first complete year of operations), Table 15 summarizes the estimated economic impacts on Wise County. The annual output impact of the Dominion Power Plant on the Wise County economy is estimated to be \$439.552 million dollars (constant 2007\$). Such an output impact represents an approximately 20% increase in the size of the Wise County economic output. Total employment is estimated to increase by 528 jobs, primarily in the mining sector. The Dominion plant will increase annual returns to owners of land, labor, and capital (value added) by \$258.531 million, an increase of approximately 20% in size of the economy. Labor income earnings to wage/salary employees as well as to single-owner proprietors will increase by \$29.068 million, approximately 4% higher than prior to the Project.

	Output (\$'000)	Employment	Value-Added (\$'000)	Labor Income (\$'000)
Year 2012^a				
Total	\$329,664	396	\$193,898	\$21,801
Direct	\$272,983	56	\$162,959	\$4,551
Indirect	\$49,798	267	\$26,723	\$15,318
Induced	\$6,883	73	\$4,217	\$1,932
Year 2013 and after)				
Total	\$439,552	528	\$258,531	\$29,068
Direct	\$363,977	75	\$217,278	\$6,068
Indirect	\$66,397	356	\$35,630	\$20,424
Induced	\$9,177	98	\$5,623	\$2,576

^aConstant 2007 dollars. Totals may not sum due to rounding.

^aPartial year, annual basis

Table 16 presents annual output, employment, labor income, and value added impacts of the power plant operations by Wise County economic sector, and by percentage of total impact. The Utilities sector, the directly affected portion of the economy, is estimated to generate over four-fifths of total impact to output and value added. However, the capital intensity of the power generation sector is apparent from the relatively smaller impact on employment (75 jobs, or 14.2% of the total) and labor income (20.9%). Mining sector output and value added make up approximately one-tenth of the total Wise County impact, but have a much larger impact on employment and labor income. It is estimated that 115 mining jobs will be created in Wise County, and that labor income from the mining sector will form more than 40 percent of total increases in this element of value added.

Other sectors that will contribute a substantial number of jobs to the Wise economy include the Transportation/Warehousing (69 jobs), Retail Trade (40 jobs), Construction (40 jobs), and Administrative/Waste Services sectors (36 jobs). An additional 84 new jobs will be distributed among other sectors not detailed here. Labor income increases in the transportation/warehousing sector will make up over 10 percent of total impacts.

Table 16. Annual Output, Employment, Labor Income, and Value Added Impacts of Dominion Power Plant Operations by Selected Wise County Sector

	Output ^a (\$000)		Employment		Labor Income ^a (\$000)		Value Added ^a (\$000)	
Utilities	\$364,529.9	82.9%	75	14.2%	\$6,078	20.9%	\$217,608	84.2%
Mining	\$43,136.6	9.8%	115	21.8%	\$12,039	41.4%	\$23,413	9.1%
Transportation & Warehousing	\$8,720.8	2.0%	69	13.1%	\$3,122	10.7%	\$4,303	1.7%
Government/other	\$2,700.4	0.6%	3	0.6%	\$152	0.5%	\$1,969	0.8%
Wholesale Trade	\$2,299.1	0.5%	16	2.9%	\$864	3.0%	\$1,572	0.6%
Scientific & Technical Services	\$3,203.9	0.7%	25	4.6%	\$1,060	3.6%	\$1,545	0.6%
Retail Trade	\$2,490.2	0.6%	40	7.6%	\$936	3.2%	\$1,496	0.6%
Construction	\$2,398.4	0.5%	40	7.6%	\$1,282	4.4%	\$1,466	0.6%
Health & Social Services	\$1,689.9	0.4%	25	4.8%	\$796	2.7%	\$903	0.3%
Administrative & Waste Services	\$1,363.8	0.3%	36	6.9%	\$726	2.5%	\$854	0.3%
Other	\$7,019.50	1.6%	84	15.9%	\$2,013	6.9%	\$3,402	1.3%
Total	\$439,552.5	100%	528	100%	\$29,068	100%	\$258,531	100%

^a Direct, indirect, and induced effects, in constant 2007 dollars

Table 17 further details the Dominion Project top 10 output impacts on Wise County subsectors. The Project directly affects the Power Generation subsector of the Utilities sector, and its direct impact accounts for 8.2% of total output impact. Coal mining within the Mining sector accounts for 9.7% of total output impact, and only truck transportation within the Transportation/Warehousing sector generates more than 1% of total project impacts. However, there are several subsectors that will increase their output by at least \$1 million as an indirect result of the Dominion Project.

Rank	Sector	Output Impact* (\$000)	Percent of Total Impact
1	Power Generation and Supply	\$364,530	82.9%
2	Coal Mining	\$42,508	9.7%
3	Truck Transportation	\$6,868	1.6%
4	Wholesale Trade	\$2,299	0.5%
5	Other Maintenance & Repair Construction	\$2,218	0.5%
6	Owner-occupied Dwellings	\$2,103	0.5%
7	Food Services & Drinking Places	\$1,715	0.4%
8	Rail transportation	\$1,439	0.3%
9	Professional & Technical Services	\$1,132	0.3%
10	Management of Companies & Enterprises	\$1,010	0.2%

*Constant 2007 dollars

Conclusions

The Dominion Power Generation Plant offers an economic growth opportunity with many benefits for the Wise County and regional economies. In effect, the county will utilize its locally produced coal, gob coal, and waste wood products to add value and export electricity. The backward economic linkages will provide substantial stimulus to other sectors of the local and regional economy. During the construction phase, sectors receiving economic stimulus will include construction industry, architectural/engineering services, wholesale trade, and telecommunications. After the plant is in operation, principal sectors impacted will include power generation utilities, coal, and trucking.

The total output impact (in real \$2007) for the construction phase will be \$311.8 million over 2007-2012. The construction phase direct impact from contractor and subcontractor firms will total \$219.5 million dollars. The indirect impact from local purchases made by the contracting construction firms will be \$67.0 million dollars, and the induced effect from employee local purchases will be \$32.1 million dollars. The total additional value added to the economy after removing the cost of intermediate inputs will equal \$149.1 million. Direct, indirect, and induced employment from the construction phase will rise to as high as 1,358 jobs in 2010. Although these jobs and other economic impacts will be temporary, the local economy will experience a significant boost during the construction phase.

Once the plant begins operations, the annual direct, indirect, and induced output impact (in real \$2007) will total \$439.6 million per year, approximately one-fifth higher than output of all Wise County economic sectors before the project. Value added to the Wise County economy through increased employee earnings, sole-proprietor income, corporate income, and indirect business taxes will total \$258.5 million per year. Although the plant will directly employ only 75 employees, the jobs effect throughout the Wise County economy will total 528 new hires, primarily in the mining and trucking sectors, but also affecting retail trade, construction, and administrative/waste management services.

Certain caveats should be made while reviewing results of this study. Dominion's decision to withhold project information has severely limited development of the input-output model. However, the authors consider the study results to be as accurate as possible given the available information, and the results will serve as a suitable guide to local policy decisions. Although local area economies do not change rapidly, it should be noted that IMPLAN economic databases are constructed from the most recent (2004) data, and do not completely reflect current or future economic conditions. Finally, the simplifying assumptions of economic input-output models noted in the study should be considered.

The economic impacts of the Dominion Power Plant project are very large for the Wise County economy, as well as for neighboring area economies. To capitalize on this economic growth, Wise County may be able to take measures that make local natural, labor, and business resources more competitive and more closely linked with the power plant. In other words, the relevant questions are: are there public measures that can be

taken to promote more local expenditures in the construction and operations phases? Many measures are already in consideration or in operation. Examples implied by this study include:

- 1) Job training programs for local construction craft workers, or for plant operations employees
- 2) Programs to promote capacity and competitiveness of supplying firms that locate in the county or existing local firms to expand their capacity to supply services to the plant, such as security, waste management, etc.
- 3) Programs to promote efficiency in local fuel supply industries, such as coal, wood products, and limestone. Programs to develop alternative sources of renewable fuels.
- 4) Programs to develop or improve housing, food, and entertainment services for construction employees

Glossary

- Output:** Dollar value of industry output in a study area.
- Employment:** Number of jobs for each industry, including full-time and part-time employment by wage, salary, and self-employed individuals
- Final Demand:** Within a study area, goods and services for final demand are consumed, i.e. not used for further production within that time period. Most consumption is by household consumption, and by governments.
- Value Added:** Dollar value of income received by the factors of production (land, labor, and capital) at a specific stage of production, or alternatively, the unit value of a final good minus the value of intermediate goods used up in its production. Value added is a better measure of economic activity than output, because it avoids double-counting the value of inputs incorporated into intermediate goods. Value added in IMPLAN includes employee compensation (wage & salaries plus benefits), proprietary income (received by self-employed individuals), other property income type income (rents, royalties, dividends, and corporate profits), and indirect business taxes (excise, property and sales type taxes, plus fees and licenses).
- Multiplier** The multiplier effects describe the economic effect of a change in final demand for a given industry. Within a study area, an increase in final demand causes increased output by a supplying industry (direct effect). In order to produce increased output, the affected industry increases its demand for inputs (intermediate goods), thus increasing output of secondary industries (indirect effect). Indirect and direct effects also increase wages and salaries of employees, thus increasing consumption (induced effect). The multiplier effects continue until leakages (imports, nonlocal profits, wages, or consumption) stop the cycle.

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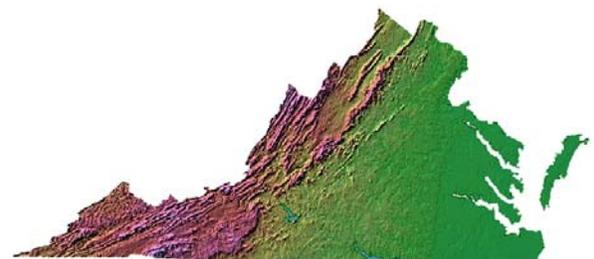
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PART II

Impact on the Composite Index

OFFICE OF ECONOMIC DEVELOPMENT



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Wise County State School Revenue Simulations

Whenever there is a substantial change in the fiscal capacity of a Virginia locality, the allocation of state school equalization aid ultimately will be affected. If a major industry, including a public corporation, decides to relocate or ceases to operate, the Local Composite Index (LCI), the Virginia method of evaluating local fiscal capacity, will decrease and the state will allocate increased amounts of school equalization aid to the affected locality. Conversely, if the locality acquires a major industry, such as an energy production facility, the LCI will increase and the state will reduce its allocations of state school equalization aid. However, due to the reliance by the Commonwealth on prior economic and demographic data, neither the increases nor decreases in state school aid will be felt for 3 to 4 years, i.e., first and second years of a biennium, following the departure or entry of wealth and economic activity in the locality.

For the purpose of simulating the fiscal effects that Wise County likely will experience as a result of the construction of the Dominion Energy Production Facility, the following procedures were employed:

1. The variable components of the LCI for Wise County, including Average Daily Membership (ADM), Population, True Valuation of Real and Public Service Corporations, Adjusted Gross Income (AGI), and Taxable Retail Sales Receipts, were determined for each biennium;
2. The variable components of the LCI for Wise County, stimulated by the establishment of the Dominion Energy Production Facility, was sequenced into the data base commencing for FY 2009, continued for the first years of each biennium thereafter, and concluded for FY 2017. Simulations were not calculated for the second years of each biennium since identical LCIs are used by the Commonwealth for both years of a biennium;
3. The variable LCI components for all other Virginia localities, as well as the Commonwealth as whole, were held constant throughout the simulations. Thus, the fiscal effects on public K-12 funding resulting from the establishment of the Dominion Energy Production Facility were isolated; and
4. Actual FY 2007 public K-12 allocations were used to establish a fiscal benchmark for contrasting subsequent allocations to Wise County.

Since negotiated annual tax payments from the completed Dominion Energy Production Facility to Wise County have been established, the valuation of public service corporation property was determined by applying the current real property tax rate of \$0.57 per \$100 Assessed Valuation. Other data were derived from the total impact analysis to determine the total valuation of real and public service corporations for Wise County. The seven-step procedure is presented below:

Calculation of Real & Public Service Corporation Tax Base – Wise County

Step 1:	Identify Total Impact from Real & Public Service Corporation Taxes	\$ 14,663,945
Step 2:	Calculate Total Impact from Real & Public Service Corporation Valuation (\$14,663,945/.0057)	2,005,253,509
Step 3:	Identify Total Valuation Impact by Actual Dominion Energy Production Facility	1,620,000,000
Step 4:	Calculate Total Negotiated Public Service Valuation Impact by Dominion Energy Production Facility (\$6,000,000/.0057)	1,052,631,579
Step 5:	Calculate Difference between Actual Public Service Valuation and Negotiated Valuation Impact by Dominion Energy Production Facility (\$1,620,000,000 -\$1,052,631,579)	567,368,421
Step 6:	Calculate Difference between Actual Public Service Valuation and the Difference in Negotiated Valuation Impact by Dominion Energy Production Facility (\$2,572,621,930-\$567,368,421)	2,005,253,509
Step 7:	Calculate Total True Valuation of Real & Public Service Corporation (LCI 2006-08 True Valuation \$1,614,542,134 + Impact \$2,005,253,509)	\$3,619,795,643

Displayed in Table 1, for illustrative purposes, are the components used by the Commonwealth to calculate the Local Composite Indices for the past six biennia, including the current 2006-08 biennium. Arrayed in Table 2 are the adjusted components, based on the impact analysis, employed to project the LCIs that are used in the simulations of projected state K-12 allocations due to the location of the Dominion Energy Production Facility in Wise County for the biennia 2010-18. Note the construction effects of the Dominion Energy Production Facility have been phased-in commencing with the 2010-12 biennium which in turn, is based on FY 2007 data. As indicated previously, there is a three and four year lag between the base data year used to calculate the LCIs and their effective fiscal year implementation. The LCIs for Wise County are projected to increase gradually from its current 0.2036 index to 0.3211, effective for the 2016-18 biennia.

Contained in Tables 3-7 are the projected state K-12 allocations, by funding grant, for the first years of each biennium. The second year calculations, for each biennium, are identical since the LCIs are held constant by the Commonwealth. The other variables, e.g., per pupil amount of grant, number of pupils in Average Daily Membership (ADM), etc., that affect each locality's allocations do vary between the first and second years of the biennium; however, for the purpose of the simulations, these variables also are held constant. Displayed in Table 8 is a summary of projected K-12 allocations and the corresponding projected local required expenditures for Wise County for the first years of the biennia 2010-18. Due to the increased fiscal capacity accruing to Wise County from the Dominion Energy Production Facility, it is projected that a reduction in state aid will total approximately \$1.9 million.

**Table 1: LOCAL COMPOSITE INDEX COMPONENTS,
FY s 1991 to 2003**

DIVISION	BASE YEAR	FISCAL YEARS	TRUE VALUE OF PROPERTY	ADJUSTED GROSS INCOME	TAXABLE RETAIL SALES	MARCH 31, ADM	TOTAL POPULATION	COMPOSITE INDEX
Wise County	1991	1995,96	958,025,000	349,529,269	192,606,018	8,437	39,642	0.2109
State			352,909,343,000	81,733,661,195	41,147,978,865	1,008,317	6,285,930	0.4500
Wise County	1993	1997,98	1,038,823,086	354,983,695	200,517,779	8,145	40,000	0.2155
State			355,750,235,291	91,013,428,503	46,693,223,662	1,035,063	6,490,700	0.4500
Wise County	1995	1999,00	1,133,484,343	365,382,313	214,050,078	7,817	39,300	0.2245
State			376,573,338,506	99,521,060,580	51,964,369,087	1,069,907	6,616,900	0.4500
Wise County	1997	2001,02	1,190,223,671	386,942,145	225,787,890	7,509	38,700	0.2241
State			405,171,176,599	116,075,017,602	56,954,915,683	1,099,999	6,737,000	0.4500
Wise County	1999	2003,04	1,290,784,478	405,965,743	236,952,447	7,097	39,900	0.2150
State			460,028,908,796	142,470,541,865	63,952,851,120	1,122,191	7,011,000	0.4500
Wise County	2001	2005,06	1,423,344,738	419,516,015	247,460,742	6,842	41,600	0.2061
State			573,954,932,642	151,235,799,099	68,641,730,340	1,143,019	7,197,200	0.4500
Wise County	2003	2007,08	1,614,542,134	439,960,249	260,897,621	6,636	41,300	0.2036
State			717,952,088,227	161,563,552,811	74,776,365,127	1,165,905	7,364,100	0.4500
Wise County % Change		1991-2003	68.53%	25.87%	35.46%	-21.35%	4.18%	
State % Change		1991-2003	103.44%	97.67%	81.73%	15.63%	17.15%	
Mean								
Wise County % Change		1991-2003	4.89%	1.85%	2.53%	-1.52%	0.30%	
State % Change		1991-2003	7.39%	6.98%	5.84%	1.12%	1.23%	

**Table 2: Adjusted Local Composite Index Components and LCIs,
Fiscal Years 2006-18**

Base Fiscal Year	Effective Fiscal Year	Phase-In Property & Public	Adj Total Property & Public	Phase-In Income	Adj Total Income	Phase-In Sales Receipts	Adj Total Sales Receipts	Adj LCI
2003	2006-08	-						0.2036
2005	2008-10							0.2036
2007	2010-12	334,208,922	1,948,751,056	3,970,249	443,930,498	33,920,435	294,818,056	0.2142
2009	2012-14	1,002,626,766	2,617,168,900	11,910,748	451,870,997	101,761,306	362,658,927	0.2570
2011	2014-16	1,671,044,609	3,285,586,743	19,851,247	459,811,496	169,602,176	430,499,797	0.2997
2013	2016-18	2,005,253,531	3,619,795,665	23,821,496	463,781,745	203,522,611	464,420,232	0.3211

**Table 3: Worksheet: Calculation of State
Aid, Wise County-FY 2009**

I. SOQ Programs	Composite Index:	0.2036	FY 2009 State Share	FY 2009 Local Share
	Projected ADM	6,870.45		
	Prior Year ADM	6,665.71		
→ Basic Aid			\$23,328,553	\$5,963,955
Sales Tax ⁸			6,420,091	N./A.
→ Textbooks			548,695	140,274
→ Vocational Education			1,034,137	264,378
→ Gifted Education			224,337	57,352
→ Special Education			1,893,183	483,993
→ Prevention, Intervention & Remediation			733,198	187,442
→ VRS Retirement (Includes RHCC)			1,926,012	492,386
→ Social Security			1,285,832	328,724
→ Group Life			65,660	16,786
→ English as a Second Language			13,109	3,351
Remedial Summer School ⁷			<u>90,888</u>	<u>N.A.¹</u>
	Subtotal - SOQ Accounts³		\$37,563,695	\$7,938,640
II. School Facilities:				
	Lottery		\$1,209,175	\$309,126
	Additional Lottery		0	0
	School Construction Grants Program⁴		<u>209,311</u>	<u>43,781</u>
	Subtotal - School Facilities³		\$1,418,486	\$352,907
III. Incentive Programs:				
	Alternative Education ^{5,6}		\$255,761	N.A. ¹
	At-Risk		880,380	225,069
	At-Risk Four-Year-Olds Program		567,435	145,065
	Compensation Supplement		1,526,584	390,272
	Early Reading Intervention		102,781	20,926
	Enrollment Loss		0	N.A. ¹
	Academic Year Governor's School ⁵		0	N.A. ¹
	ISAEP		23,576	N.A. ¹
	<u>K-3 Primary Class Size Reduction</u>		941,619	240,725
	School Breakfast		11,198	N.A. ¹
	SOL Algebra Readiness		96,384	24,641
	Special Education - Regional Tuition ^{5,7}		0	N.A. ¹
	Supplemental Basic Aid		0	N.A. ¹
	Hold Harmless Sales Tax		0	N.A. ¹
	Technology - VPSA ⁵		<u>518,000</u>	<u>103,600</u>
	Subtotal - Incentive Accounts³		\$4,923,717	\$1,150,298

IV. Categorical Programs

Adult Education ⁶	8,813	N.A. ¹
Electronic Classroom ⁷	453,300	N.A. ¹
Foster Care ⁷	28,184	N.A. ¹
School Nutrition ⁷	37,444	N.A. ¹
Special Education - Homebound ⁷	84,339	N.A. ¹
Special Education - State-Operated Pgms ⁶	0	N.A. ¹
Special Education - Jails ⁷	0	N.A. ¹
Career and Technical Education ^{5,6}	<u>113,671</u>	<u>N.A.¹</u>
Subtotal - Categorical Accounts³	725,751	0
Total State and Local Funds³	\$44,631,649	\$9,441,846

- ¹ "N.A." = no local match required for this program.
- ² ADM projections shown are based on final March 31, 2007, ADM for FY 2007 and the Department of Education's latest projections for FY 2008 are used for FY 2015.
- ³ Columns may not add due to rounding.
- ⁴ School Construction Grants Program entitlement calculated using the DOE's projected, or actual if available, ADM for the previous fiscal year.
- ⁵ Includes state funding for regional vocational, special, and alternative education programs and Academic Year Governor's Schools.
- ⁶ Projected enrollment. Final reimbursements will be based on actual expenditures, up to the projected entitlement.
- ⁷ Projected enrollment. Final reimbursements will be based on actual expenditures, subject to the availability of funds.
- ⁸ Projected revenue estimate. Semi-monthly payments will be based on actual sales tax receipts. Pursuant to Appropriations Act, the Basic Aid calculation is based on the appropriated sales tax distribution and is not adjusted for the actual sales tax received.
- Equals SOQ accounts requiring a local match for purpose of meeting Required Local Effort.
Bold = Account funding based on ADM;; any changes in ADM numbers will result in a change in the entitlement amount.

**Table 4: Worksheet: Calculation of State
Aid, Wise County-FY 2011**

I. SOQ Programs	Composite Index:	0.2142	FY 2011 State Share	FY 2011 Local Share
	Projected ADM	7,000.45		
	Prior Year ADM	6,870.45		
→ <u>Basic Aid</u>			\$23,453,591	\$6,393,178
Sales Tax ⁸			6,541,570	N./A.
→ Textbooks			551,636	150,369
→ Vocational Education			1,039,680	283,405
→ Gifted Education			225,539	61,479
→ Special Education			1,903,330	518,826
→ Prevention, Intervention & Remediation			737,128	200,933
→ VRS Retirement (Includes RHCC)			1,936,336	527,823
→ Social Security			1,292,724	352,382
→ Group Life			66,011	17,994
→ English as a Second Language			13,179	3,592
Remedial Summer School ⁷			<u>89,679</u>	<u>N.A.¹</u>
	Subtotal - SOQ Accounts³		\$37,850,403	\$8,509,981
II. School Facilities:				
	Lottery		\$1,215,656	\$331,374
	Additional Lottery		0	0
	School Construction Grants Program⁴		<u>206,525</u>	<u>46,061</u>
	Subtotal - School Facilities³		\$1,422,181	\$377,434
III. Incentive Programs:				
	Alternative Education ^{5,6}		\$255,761	N.A. ¹
	At-Risk		897,036	244,522
	At-Risk Four-Year-Olds Program		559,883	152,618
	Compensation Supplement		1,534,766	418,359
	Early Reading Intervention		102,781	22,016
	Enrollment Loss		0	N.A. ¹
	Academic Year Governor's School ⁵		0	N.A. ¹
	ISAEP		23,576	N.A. ¹
	<u>K-3 Primary Class Size Reduction</u>		929,086	253,258
	School Breakfast		11,198	N.A. ¹
	SOL Algebra Readiness		95,101	25,923
	Special Education - Regional Tuition ^{5,7}		0	N.A. ¹
	Supplemental Basic Aid		0	N.A. ¹
	Hold Harmless Sales Tax		0	N.A. ¹
	Technology - VPSA ⁵		<u>518,000</u>	<u>103,600</u>

Subtotal - Incentive Accounts³	\$4,927,188	\$1,220,296
IV. Categorical Programs		
Adult Education ⁶	8,813	N.A. ¹
Electronic Classroom ⁷	453,300	N.A. ¹
Foster Care ⁷	28,184	N.A. ¹
School Nutrition ⁷	37,444	N.A. ¹
Special Education - Homebound ⁷	84,339	N.A. ¹
Special Education - State-Operated Pgms ⁶	0	N.A. ¹
Special Education - Jails ⁷	0	N.A. ¹
Career and Technical Education ^{5,6}	<u>113,671</u>	<u>N.A.¹</u>
Subtotal - Categorical Accounts³	725,751	0
Total State and Local Funds³	\$44,925,522	\$10,107,711

¹ "N.A." = no local match required for this program.

² ADM projections shown are based on final March 31, 2007, ADM for FY 2007 and the Department of Education's latest projections for FY 2008 are used for FY 2011.

³ Columns may not add due to rounding.

⁴ School Construction Grants Program entitlement calculated using the DOE's projected, or actual if available, ADM for the previous fiscal year.

⁵ Includes state funding for regional vocational, special, and alternative education programs and Academic Year Governor's Schools.

⁶ Projected enrollment. Final reimbursements will be based on actual expenditures, up to the projected entitlement.

⁷ Projected enrollment. Final reimbursements will be based on actual expenditures, subject to the availability of funds.

⁸ Projected revenue estimate. Semi-monthly payments will be based on actual sales tax receipts. Pursuant to Appropriations Act, the Basic Aid calculation is based on the appropriated sales tax distribution and is not adjusted for the actual sales tax received.

→ Equals SOQ accounts requiring a local match for purpose of meeting Required Local Effort.

Bold = Account funding based on ADM; any changes in ADM numbers will result in a change in the entitlement amount.

**Table 5: Worksheet: Calculation of State
Aid, Wise County-FY 2013**

I. SOQ Programs	Composite Index:	0.2570	FY 2013 State Share	FY 2013 Local Share
	Projected ADM	7,000.45		
	Prior Year ADM	6,870.45		
→ <u>Basic Aid</u>			\$22,176,149	\$7,670,620
Sales Tax ⁸			6,541,570	N./A.
→ Textbooks			521,590	180,415
→ Vocational Education			983,052	340,033
→ Gifted Education			213,255	73,764
→ Special Education			1,799,662	622,494
→ Prevention, Intervention & Remediation			696,979	241,081
→ VRS Retirement (Includes RHCC)			1,830,870	633,289
→ Social Security			1,222,314	422,792
→ Group Life			62,416	21,589
→ English as a Second Language			12,461	4,310
→ Remedial Summer School ⁷			<u>84,794</u>	<u>N.A.¹</u>
	Subtotal - SOQ Accounts³		\$36,145,111	\$10,210,388
II. School Facilities:				
	Lottery		\$1,149,443	\$397,587
	Additional Lottery		0	0
	School Construction Grants Program⁴		<u>195,276</u>	<u>55,264</u>
	Subtotal - School Facilities³		\$1,344,719	\$452,851
III. Incentive Programs:				
	Alternative Education ^{5,6}		\$255,761	N.A. ¹
	At-Risk		897,029	310,278
	At-Risk Four-Year-Olds Program		529,388	183,113
	Compensation Supplement		1,451,172	501,953
	Early Reading Intervention		102,781	26,415
	Enrollment Loss		0	N.A. ¹
	Academic Year Governor's School ⁵		0	N.A. ¹
	ISAEP		23,576	N.A. ¹
	<u>K-3 Primary Class Size Reduction</u>		878,482	303,862
	School Breakfast		11,198	N.A. ¹
	SOL Algebra Readiness		89,921	31,103
	Special Education - Regional Tuition ^{5,7}		0	N.A. ¹
	Supplemental Basic Aid		0	N.A. ¹
	Hold Harmless Sales Tax		0	N.A. ¹
	Technology - VPSA ⁵		<u>518,000</u>	<u>103,600</u>

Subtotal - Incentive Accounts³	\$4,757,307	\$1,460,324
IV. Categorical Programs		
Adult Education ⁶	8,813	N.A. ¹
Electronic Classroom ⁷	453,300	N.A. ¹
Foster Care ⁷	28,184	N.A. ¹
School Nutrition ⁷	37,444	N.A. ¹
Special Education - Homebound ⁷	84,339	N.A. ¹
Special Education - State-Operated Pgms ⁶	0	N.A. ¹
Special Education - Jails ⁷	0	N.A. ¹
Career and Technical Education ^{5,6}	<u>113,671</u>	<u>N.A.¹</u>
Subtotal - Categorical Accounts³	725,751	0
Total State and Local Funds³	\$42,972,889	\$12,123,562

¹ "N.A." = no local match required for this program.

² ADM projections shown are based on final March 31, 2007, ADM for FY 2007 and the Department of Education's latest projections for FY 2008 are used for FY 2013.

³ Columns may not add due to rounding.

⁴ School Construction Grants Program entitlement calculated using the DOE's projected, or actual if available, ADM for the previous fiscal year.

⁵ Includes state funding for regional vocational, special, and alternative education programs and Academic Year Governor's Schools.

⁶ Projected enrollment. Final reimbursements will be based on actual expenditures, up to the projected entitlement.

⁷ Projected enrollment. Final reimbursements will be based on actual expenditures, subject to the availability of funds.

⁸ Projected revenue estimate. Semi-monthly payments will be based on actual sales tax receipts. Pursuant to Appropriations Act, the Basic Aid calculation is based on the appropriated sales tax distribution and is not adjusted for the actual sales tax received.

→ Equals SOQ accounts requiring a local match for purpose of meeting Required Local Effort.

Bold = Account funding based on ADM,; any changes in ADM numbers will result in a change in the entitlement amount.

**Table 6: Worksheet: Calculation of State
Aid, Wise County-FY 2015**

I. SOQ Programs	Composite Index: Projected ADM Prior Year ADM	0.2997 7,000.45 6,870.45	FY 2015 State Share	FY 2015 Local Share
→ Basic Aid			\$20,901,692	\$8,945,077
Sales Tax ⁸			6,541,570	N./A.
→ Textbooks			491,614	210,391
→ Vocational Education			926,556	396,529
→ Gifted Education			200,999	86,019
→ Special Education			1,696,236	725,920
→ Prevention, Intervention & Remediation			656,924	281,137
→ VRS Retirement (Includes RHCC)			1,725,650	738,508
→ Social Security			1,152,068	493,038
→ Group Life			58,829	25,176
→ English as a Second Language			11,745	5,026
Remedial Summer School ⁷			<u>79,921</u>	<u>N.A.¹</u>
	Subtotal - SOQ Accounts³		\$34,443,804	\$11,906,822
II. School Facilities:				
	Lottery		\$1,083,385	\$463,645
	Additional Lottery		0	0
	School Construction Grants Program⁴		<u>184,054</u>	<u>64,446</u>
	Subtotal - School Facilities³		\$1,267,439	\$528,091
III. Incentive Programs:				
	Alternative Education ^{5,6}		\$255,761	N.A. ¹
	At-Risk		897,021	383,889
	At-Risk Four-Year-Olds Program		498,964	213,536
	Compensation Supplement		1,367,774	585,352
	Early Reading Intervention		102,781	30,803
	Enrollment Loss		0	N.A. ¹
	Academic Year Governor's School ⁵		0	N.A. ¹
	ISAEP		23,576	N.A. ¹
	<u>K-3 Primary Class Size Reduction</u>		827,996	354,349
	School Breakfast		11,198	N.A. ¹
	SOL Algebra Readiness		84,754	36,271
	Special Education - Regional Tuition ^{5,7}		0	N.A. ¹
	Supplemental Basic Aid		0	N.A. ¹
	Hold Harmless Sales Tax		0	N.A. ¹
	Technology - VPSA ⁵		<u>518,000</u>	<u>103,600</u>
	Subtotal - Incentive Accounts³		\$4,587,824	\$1,707,800

IV. Categorical Programs

Adult Education ⁶	8,813	N.A. ¹
Electronic Classroom ⁷	453,300	N.A. ¹
Foster Care ⁷	28,184	N.A. ¹
School Nutrition ⁷	37,444	N.A. ¹
Special Education - Homebound ⁷	84,339	N.A. ¹
Special Education - State-Operated Pgms ⁶	0	N.A. ¹
Special Education - Jails ⁷	0	N.A. ¹
Career and Technical Education ^{5,6}	<u>113,671</u>	<u>N.A.¹</u>
Subtotal - Categorical Accounts³	725,751	0
Total State and Local Funds³	\$41,024,818	\$14,142,713

¹ "N.A." = no local match required for this program.

² ADM projections shown are based on final March 31, 2007, ADM for FY 2007 and the Department of Education's latest projections for FY 2008 are used for FY 2015.

³ Columns may not add due to rounding.

⁴ School Construction Grants Program entitlement calculated using the DOE's projected, or actual if available, ADM for the previous fiscal year.

⁵ Includes state funding for regional vocational, special, and alternative education programs and Academic Year Governor's Schools.

⁶ Projected enrollment. Final reimbursements will be based on actual expenditures, up to the projected entitlement.

⁷ Projected enrollment. Final reimbursements will be based on actual expenditures, subject to the availability of funds.

⁸ Projected revenue estimate. Semi-monthly payments will be based on actual sales tax receipts. Pursuant to Appropriations Act, the Basic Aid calculation is based on the appropriated sales tax distribution and is not adjusted for the actual sales tax received.

→ Equals SOQ accounts requiring a local match for purpose of meeting Required Local Effort.

Bold = Account funding based on ADM,; any changes in ADM numbers will result in a change in the entitlement amount.

**Table 7: Worksheet: Calculation of State
Aid, Wise County-FY 2017**

I. SOQ Programs	Composite Index:	0.3211	FY 2017 State Share	FY 2017 Local Share
	Projected ADM	7,000.45		
	Prior Year ADM	6,870.45		
→ Basic Aid			\$20,262,972	\$9,583,798
Sales Tax ⁸			6,541,570	N./A.
→ Textbooks			476,591	225,414
→ Vocational Education			898,242	424,843
→ Gifted Education			194,857	92,162
→ Special Education			1,644,402	777,754
→ Prevention, Intervention & Remediation			636,849	301,211
→ VRS Retirement (Includes RHCC)			1,672,917	791,241
→ Social Security			1,116,862	528,243
→ Group Life			57,031	26,974
→ English as a Second Language			11,386	5,385
Remedial Summer School ⁷			<u>77,479</u>	<u>N.A.¹</u>
	Subtotal - SOQ Accounts³		\$33,591,158	\$12,757,025
II. School Facilities:				
	Lottery		\$1,050,278	\$496,751
	Additional Lottery		0	0
	School Construction Grants Program⁴		<u>178,429</u>	<u>69,048</u>
	Subtotal - School Facilities³		\$1,228,708	\$565,799
III. Incentive Programs:				
	Alternative Education ^{5,6}		\$255,761	N.A. ¹
	At-Risk		897,018	424,263
	At-Risk Four-Year-Olds Program		483,716	228,784
	Compensation Supplement		1,325,977	627,149
	Early Reading Intervention		102,781	33,003
	Enrollment Loss		0	N.A. ¹
	Academic Year Governor's School ⁵		0	N.A. ¹
	ISAEP		23,576	N.A. ¹
	<u>K-3 Primary Class Size Reduction</u>		802,694	379,651
	School Breakfast		11,198	N.A. ¹
	SOL Algebra Readiness		82,164	38,861
	Special Education - Regional Tuition ^{5,7}		0	N.A. ¹
	Supplemental Basic Aid		0	N.A. ¹
	Hold Harmless Sales Tax		0	N.A. ¹
	Technology - VPSA ⁵		<u>518,000</u>	<u>103,600</u>

Subtotal - Incentive Accounts³	\$4,502,884	\$1,835,310
IV. Categorical Programs		
Adult Education ⁶	8,813	N.A. ¹
Electronic Classroom ⁷	453,300	N.A. ¹
Foster Care ⁷	28,184	N.A. ¹
School Nutrition ⁷	37,444	N.A. ¹
Special Education - Homebound ⁷	84,339	N.A. ¹
Special Education - State-Operated Pgms ⁶	0	N.A. ¹
Special Education - Jails ⁷	0	N.A. ¹
Career and Technical Education ^{5,6}	<u>113,671</u>	<u>N.A.¹</u>
Subtotal - Categorical Accounts³	725,751	0
Total State and Local Funds³	\$40,048,501	\$15,158,135

¹ "N.A." = no local match required for this program.

² ADM projections shown are based on final March 31, 2007, ADM for FY 2007 and the Department of Education's latest projections for FY 2008 are used for FY 2017.

³ Columns may not add due to rounding.

⁴ School Construction Grants Program entitlement calculated using the DOE's projected, or actual if available, ADM for the previous fiscal year.

⁵ Includes state funding for regional vocational, special, and alternative education programs and Academic Year Governor's Schools.

⁶ Projected enrollment. Final reimbursements will be based on actual expenditures, up to the projected entitlement.

⁷ Projected enrollment. Final reimbursements will be based on actual expenditures, subject to the availability of funds.

⁸ Projected revenue estimate. Semi-monthly payments will be based on actual sales tax receipts. Pursuant to Appropriations Act, the Basic Aid calculation is based on the appropriated sales tax distribution and is not adjusted for the actual sales tax received.

→ Equals SOQ accounts requiring a local match for purpose of meeting Required Local Effort.

Bold = Account funding based on ADM; any changes in ADM numbers will result in a change in the entitlement amount.

**Table 8: SUMMARY: State Aid Simulations for Wise County
Public Schools, FYs 2009, 2011, 2013, 2015, and 2017**

Fiscal Year	Basic Aid		School Facilities		Incentive Programs		Categorical Programs		Total	
	(State)	(Local)	(State)	(Local)	(State)	(Local)	(State)	(Local)	(State)	(Local)
2007	\$36,073,456	\$7,668,457	\$1,439,484	\$357,131	\$3,741,079	\$821,407	\$696,836	\$0	\$41,950,855	\$8,846,995
2009	37,563,695	7,938,640	1,418,486	352,907	4,923,717	1,150,298	725,751	0	\$44,631,649	\$9,441,845
2011	37,850,403	8,509,981	1,422,181	377,434	4,927,188	1,220,296	725,751	0	\$44,925,523	\$10,107,711
2013	36,145,111	10,210,388	1,344,719	452,857	4,757,307	1,460,324	725,751	0	\$42,972,888	\$12,123,569
2015	34,443,804	11,906,822	1,267,439	528,091	4,587,824	1,707,800	725,751	0	\$41,024,818	\$14,142,713
2017	\$33,591,158	\$12,757,025	\$1,228,708	\$565,799	\$4,502,884	\$1,835,310	\$725,751	\$0	\$40,048,501	\$15,158,134
2017-2007	-\$2,482,298	\$5,088,568	-\$210,776	\$208,668	\$761,805	\$1,013,903	\$28,915	\$0	-\$1,902,354	\$6,311,139