

August 1, 2006

MEMORANDUM TO: M. Christopher Nolan, Branch Chief
New Reactor Environmental Projects Branch
Division of New Reactor Licensing
Office of Nuclear Reactor Regulation

FROM: Jack Cushing, Senior Project Manager */RA/*
New Reactor Environmental Projects Branch
Division of New Reactor Licensing
Office of Nuclear Reactor Regulation

SUBJECT: NORTH ANNA ESP SITE AUDIT TRIP - SOCIOECONOMICS

The attached report summarizes the site audit conducted by Mr. John Jaksch, a socioeconomic expert from Pacific Northwest National Laboratory (PNNL) from December 8-12, 2003, for the North Anna ESP review and followup telephone interviews conducted from July 11-15, 2005, by Mr. Michael J. Scott, another socioeconomic expert from PNNL. The purpose of the visit was to tour the region for the North Anna Early Site Permit (ESP) site in north central Virginia. Interviews were held with many local officials and other contacts in regard to the social, economic, and environmental justice impacts affecting the proposed issuance of an ESP for the North Anna site. For each interview, Mr. Jaksch was accompanied by Ms. Leslie Fields, the Nuclear Regulatory Commission (NRC) staff.

Attachment: As stated

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DISTRIBUTION:

C. Nolan	B. Zalzman	N. Patel	J. Cushing
W. Beckner	A. Kugler	A. Williamson	M. Parkhurst, PNNL
R. Weisman	OGC	RLEP R/F	

*See previous concurrence
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NAME	J. Cushing	Y. Edmonds	R. Weisman	C. Nolan-MN
DATE	08/01/06	11/08/05	06/30/06	08/01/06

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NORTH ANNA EARLY SITE PERMIT
SERVICE LIST

Mr. David A. Christian
Senior Vice President and Chief Nuclear
Officer
Dominion Resources Services, Inc.
Innsbrook Technical Center
5000 Dominion Blvd.
Glen Allen, VA 23060-6711

Ms. Lillian M. Cuoco, Esq.
Senior Counsel
Dominion Resources Services, Inc.
Rope Ferry Road
Building 475, 5th Floor
Waterford, CT 06385

Mr. C. Lee Lintecum
County Administrator
Louisa County
P.O. Box 160
Louisa, Virginia 23093

Mr. David R. Lewis
Pillsbury Winthrop Shaw Pittman
2300 N Street, N.W.
Washington, D.C. 20037

Dr. W. T. Lough
Virginia State Corporation Commission
Division of Energy Regulation
P. O. Box 1197
Richmond, Virginia 23209

Office of the Attorney General
Commonwealth of Virginia
900 East Main Street
Richmond, Virginia 23219

Senior Resident Inspector
North Anna Power Station
U. S. Nuclear Regulatory Commission
1024 Haley Drive
Mineral, Virginia 23117

Mr. Robert B. Strobe, M.D., M.P.H.
State Health Commissioner
Office of the Commissioner
Virginia Department of Health
P. O. Box 2448
Richmond, Virginia 23218

Mr. David Lochbaum
Union of Concerned Scientists
1707 H Street, NW
Suite 600
Washington, DC 20006-3919

Mr. Paul Gunter
Director of the Reactor Watchdog Project
Nuclear Information & Resource Service
1424 16th Street, NW, Suite 404
Washington, DC 20036

Mr. Adrian Heymer
Nuclear Energy Institute
Suite 400
1776 I Street, NW
Washington, DC 20006-3708

Mr. Russell Bell
Nuclear Energy Institute
Suite 400
1776 I Street, NW
Washington, DC 20006-3708

Mr. James Riccio
Greenpeace
702 H Street, NW, Suite 300
Washington, DC 20001

Mr. Jay M. Gutierrez
Morgan, Lewis & Bockius, LLP
1111 Pennsylvania Avenue, NW
Washington, DC 20004

Mr. Gary Wright, Manager
Division of Nuclear Safety
Illinois Emergency Management Agency
1035 Outer Park Drive
Springfield, IL 62704

Mr. Glenn H. Archinoff
AECL Technologies
481 North Frederick Avenue
Suite 405
Gaithersburg, MD. 20877

Mr. Ed Wallace, General Manager
Projects
PBMR Pty LTD
PO Box 9396
Centurion 0046
Republic of South Africa

Mr. Brendan Hoffman
Research Associate on Nuclear Energy
Public Citizens Critical Mass Energy
and Environmental Program
215 Pennsylvania Avenue, SE
Washington, DC 20003

NORTH ANNA EARLY SITE PERMIT
SERVICE LIST

-2-

Mr. Paul Leventhal
Nuclear Control Institute
1000 Connecticut Avenue, NW
Suite 410
Washington, DC 20036

Mr. Thomas Mundy
Director, Project Development
Exelon Generation
200 Exelon Way, KSA3-N
Kennett Square, PA 19348

Mr. Charles Brinkman
Westinghouse Electric Co.
Washington Operations
12300 Twinbrook Pkwy., Suite 330
Rockville, MD 20852

Ms. Joanne Tetrault
Librarian
Louisa County Public Library
881 Davis Highway
Mineral, VA 23117

Mr. Marvin Fertel
Senior Vice President
and Chief Nuclear Officer
Nuclear Energy Institute
Suite 400
1776 I Street, NW
Washington, DC 20006-3708

Ms. Abhaya Thiele
406 Key West Drive
Charlottesville, VA 22911

Dr. Glenn R. George
Co-Head, Energy Capital Markets
Nomura Securities International, Inc.
2 World Financial Center, Bldg. B, 21st
Floor
New York, NY 10281-1198

Mr. J. Randall Wheeler
Spotsylvania County Administrator
P.O. Box 99
Spotsylvania Courthouse
Spotsylvania, VA 22553

Mr. William C. Rolfe
Assistant County Administrator
P.O. Box 111
Orange, VA 22690

Mr. Arthur R. Woods
Enercon Services, Inc.
500 TownPark Lane
Kennesaw, GA 30144

Ms. Sandra Sloan
Areva NP, Inc.
3315 Old Forest Road
P.O. Box 10935
Lynchburg, VA 24506-0935

Ms. Vanessa E. Quinn, Chief
Radiological Emergency Preparedness
Branch
Nuclear and Chemical Preparedness and
Protection Division
Department of Homeland Security
1800 South Bell Street, Room 837
Crystal City-Arlington, VA 22202-3546

Mr. Robert E. Sweeney
IBEX ESI
4641 Montgomery Avenue
Suite 350
Bethesda, MD 20814

Mr. Michael M. Cline, State Coordinator
Virginia Department of Emergency
Management
10501 Trade Court
Richmond, Virginia 23236-3713

Mr. Dick Clark
President, Oakridge Civic Assn.
2212 Founders Bridge Rd.
Midlothian, VA 23113

Mr. Jim Debiec
Director - Power Production
Old Dominion Electric Cooperative
4201 Dominion Blvd
Glen Allen, VA 23060

Mr. Harry Ruth
For the Friends of Lake Anna
C/O 230 Heather Drive
Bumpass, VA 23024

Ms. Myra Cramer, Manager
Hanover Branch Library
7527 Library Drive
Hanover, Virginia 23069

Louisa County Library Branch
Jefferson-Madison Regional Library
881 Davis Highway
Mineral, Virginia 23117

Ms. Barbara Davidson, Manager
Salem Church Library
2607 Salem Church Road
Frederick, Virginia 22407

Internal e-mail

SCollins
MDapas
RBlough
MGamberoni
BHollan
WTravers
LPlisco
VMcCree
CCasto
JCaldwell
GGrant
CPederson
MSatorius
BMalet
TGwynn
DChamberlain
AHowell

External E-mail

tom.miller@hq.doe.gov or
tom.miller@nuclear.energy.gov
Eugene_Grecheck@dom.com
Jack_Davis@dom.com
Marvin_Smith@dom.com
Joseph_Hegner@dom.com
Tony_Banks@dom.com
Lillian_Cucco@dom.com
David_Sommers@dom.com
Vicki_Hull@dom.com
Margaret_Bennett@dom.com
david.lewis@pillsburylaw.com
erg-xl@cox.net
gzinke@entergy.com
sandra.sloan@areva.com
mwetterhahn@winston.com
whorin@winston.com
gcesare@enercon.com
louis.quintana@ge.com
steven.hucik@ge.com
sfrantz@morganlewis.com
ksutton@morganlewis.com
jgutierrez@morganlewis.com
patriciaL.campbell@ge.com
bob.brown@ge.com
david.hinds@ge.com
chris.maslak@ge.com
james1beard@ge.com
mark.beaumont@wsms.com
eddie.grant@exeloncorp.com

**North Anna ESP Site Audit Trip
Report—Socioeconomics**

December 8, 2003 through December 12, 2003

North Anna ESP Site Audit Trip Report—Socioeconomics

December 8, 2003 through December 12, 2003

John A. Jaksch and Michael J. Scott

Filed August 11, 2005

With additional Telephone Interviews

- February 26, 2004 through September 29, 2004 (John A. Jaksch)
- July 11, 2005 through July 15, 2005 (Michael J. Scott)

Trip Report

Over a five-day period from December 8, 2003 through December 12, 2003, John Jaksch traveled the affected region of the North Anna Early Site Permit (ESP) Site in north central Virginia and interviewed many local officials and other contacts in regard to the social, economic, and environmental justice impacts affecting the proposed issuance of an ESP at the North Anna site. For each interview, John Jaksch was accompanied by Leslie Fields of the Nuclear Regulatory Commission (NRC) staff. Facts and impressions shared during the interviews are noted below.

Interviews

Robert Gibson, Director of Economic Development, Louisa County. December 8, 2003

- The No. 1 taxpayer in Louisa County is Dominion, which operates the two units currently at the North Anna site. Addition of more units means a "more livable" budget for the county. Also contributing are two gas-fired peaking electrical plants located elsewhere in Louisa County. There is no other strong industrial base in the county. North Anna has proved to be good for the county - economic circumstances are better than some surrounding counties.
- 55 percent of the workers in the county commute. Within the last two years Wal-Mart located at the intersection of Rts. 264 and 15, employing 534 people and making an investment of \$75M.
- Residential growth: There are three areas - Lake Anna retirees and empty nesters, southeast of I-64 and 522 in the Richmond area, and I-64/15 near Charlottesville. There were 2000 approved building permits at Zion crossroads. Richmond/Charlottesville was No. 1 area.
- North Anna is not a draw for industry. Maybe it could be used to draw higher skills to the area, but it is not used as a marketing asset. If Mr. Gibson needs to prove reliability of electricity to a recruited industry, he would bring in a Dominion person, but not from North Anna.

- Working at Dominion requires about 2 years training. Can get the necessary training through the school system. Salaries start at \$32K, can achieve about \$60K within five years.
- Construction work force came from all over: Richmond, Charlottesville, Fredericksburg, and Washington, DC areas.
- Louisa County is split three ways in terms of business - Charlottesville (from town of Louisa-west), Fredericksburg (east of Lake Anna), and Richmond (Louisa-east).
- Transportation – nothing planned. There is nothing planned in the county in the short term for construction. For movement, a number of roads could handle construction traffic with upgrades.
- They are opening up a log chipping plant at Buckner. The logs go to the mill by truck. Chips are sent by rail. They pull business from about 100 miles around: 250 trucks per week to the plant, or 13,000 loads per year.
- Planned growth is around I-64 or in parts of the county that have rail service. All commercial development is near the interstate (I-64). There is a new grocery store in town.
- Unemployment is at 4.5 percent and economic health of the county is good.
- Lake Anna tourism is on the Spotsylvania County side of the lake. On the Louisa side, direct water front lots cost \$150K to \$250K and are $\frac{3}{4}$ to 1 acre in size. Septic tanks and wells used.

George Hayfield, Louisa Town Manager. December 8, 2003

- The town is not independent of county, as are cities (e.g. Richmond, Fredericksburg).
- Rental rates are out of line for a small area – \$750/mo for a two-bedroom apt. (Note: These are fairly upscale new apts. The County Manager lives there). Not affordable for most people. For three apt. complexes, there is a total 75/100 units available out of 400 total units. The new units are largely rented. The reason may be the Wal-Mart distribution center. Push rents higher given the shortage of apartments. Lower cost units around \$400 for two bedroom. Upscale - also townhouses. Rental houses \$500 to \$800/mo-quality varies.
- Services: Drinking Water – 1 Million gallon per day, but a lot of the capacity is not used. Town is service-oriented, not industrial.
- Population: 1450 in 2000. Still have room to grow and have undeveloped parts. Just starting to think about attracting business. There are three people employed in city government.
- There is a traffic problem in downtown Louisa. Rt. 33, the main east-west highway, gets 9,000 to 10,000 vehicles/day. Truck traffic is bad where 208 meets with 33 in

the middle of town. There is a planned 208 bypass of Louisa with the project expected to begin in January 2004.

- Highest priced housing in the general region is in Fredericksburg and Charlottesville. A developer would have an easier time getting permits in Louisa - 2 month rather than the 4 months in Fredericksburg.
- With construction of the plant, expect that they could handle the increase in population. The police department would have to expand, and the fire department (currently volunteer) might have to go to paid status. When the manager came to town 8 months ago, he found 15 houses available to rent.
- There is no hospital in Louisa. The doctors are oriented toward Charlottesville, where there are two hospitals. There are three assisted living facilities, including a new one, in the town of Louisa.
- Affordable housing: Sepworth Manor is HUD housing (oriented toward those over 60 years old). Two rental complexes of the original three with some Section 8 housing (rents split between state and tenant based on income). Every 3 years there is a rental study to raise rates for Section 8 units. Would not expect to see rental units built, although rents would rise if new units were built at North Anna. The North Anna construction period would be too short. for building new rental units.
- There are no growth restrictions in the town or the county of Louisa.
- The manager does not know if local businesses benefit from the nuclear power plants. Most of the North Anna employees live around Mineral. Louisa County has not experienced the same cost of living as in Spotsylvania County. Taxes, for example, are lower.
- The increase in the tax base as a result of constructing the new units would benefit the town. The North Anna tax base carried a benefit for the town in terms of social services, recreation facilities, and schools. Tax rates are 21cents/\$100 of real estate; 71 cents/\$100 personal property (of which 70 percent gets reimbursed by the state).

Olivia Ryan, Valere Real Estate, Louisa. December 8, 2003

- Real estate in the county is doing well. There are 5 exits off of I-64 in the county. Lower Louisa is experiencing growth from Richmond, and a new elementary school is being built. Louisa is trying to capture jobs going to Richmond.
- Only 25 percent of students go on to higher education; 75 percent for Goochland.
- She hopes that new employees related to North Anna come from the local school system rather than imported.
- A group has been set up to obtain grants to fund technical skills. There is a question whether Virginia Power is involved. Would like to see them more involved. Just in startup stages in getting school technical courses oriented toward non-college-bound

students. Kids who go to college leave the county. She is not aware of any environmental justice issues. Things are pretty homogeneous.

- The county is a bedroom community - the thrust of economic development is to keep the kids home. Family businesses are alive and well.
- A lot of the real estate "action" is in housing along I-64. Development is along Lake Anna, the U.S. 250-Intestate 64 corridor, and (limited) development in the Green Springs district (historic district) at the west end of the county.
- At Lake Anna, a 3-bedroom non-waterfront with a garage may go for \$170K to \$230K. But there are townhouses for \$300K on the water, and one acre lots go for \$250K. Sixteen townhouses were built around the lake but could build 4 times more townhouses because of the demand.
- Rentals: there is a shortage of motels and rentals. Lots of houses in the area sold. County has proposed multi-house-zoning, but this has not yet passed the Board of Supervisors.
- 1000 acres are under contract discussion - not the county yet - could be rental housing in the center of the development but not sure. There is a seasonal market around Lake Anna, rest of county less so.
- Commercial real estate - not much action. Some commercial sites in the industrial parks. Slow activity is a result of the economy.
- County services - Sheriff's deputies have to direct traffic when school lets out.
- County finances - have to find a way to diversify away from North Anna.
- Transportation - roads assimilated the construction workforce in the 1970s, but thinks they need improvement. Many roads at the upper end of the lake are still the way they were in the 1970s. Many workers commuted to work on the construction of Units 1 and 2 at North Anna. Current choke points are in front of the North Anna power station entrance, Rt. 33, and Rt. 208 to Fredericksburg. Will start Rt. 208 bypass construction in Louisa in January 2004 if the budget holds.
- During the construction of Units 1 and 2, every house and spare bed was rented, workers rented rooms and ate out. Some workers were bused in. Stores extended hours as they do now during outages.
- Quality of the schools is good, with new facilities.
- New houses construction: Centex Homes - Wayne Homes build custom homes. About 350/yr being built. A modular home builder was also coming in for R1 and R2 zoning type. Manufactured houses can only go in areas zoned for agriculture.

- Construction labor: There are shortages of highly technical labor, dry wall and other specialties. There is a shortage of masonry workers. Residential construction competes with commercial for these workers.
- Bankruptcies: There were more 7 years ago than is currently the case.

Stanley Livengood and Deborah Kendall, Economic Development and Director of Planning, Orange County. December 9, 2003

- Orange County's economy is healthy – 4 percent unemployment;
- Major employers are American Woodmark, American Press, and Von Holtzbrinck Publishing Services, with about 300 employees.
- There are lots of proposals for residential development at the eastern end of the county – mixtures of single and multi-family. There is a new proposal before the county for 7700 new residential units, east of Highway 522. There are 750 lots for development, some already platted. There are no large developments on the west end of the county. One development is planned for the town of Orange with 440 units on 30 acres and single family. Market is tight for both owned and rental housing. The few apartments stay full. There are 200 Section 8 apartments in Orange, and 100 in Gordonsville.
- New construction: More development of the residential market is in western Orange. The workers stay in Charlottesville or in the motel in Zion Crossroads (I 64/15). An abandoned motel in Orange could be rehabilitated and put back in service.
- Issues of providing services: water (drought 3 - 4 years cumulative to 2002) - the Rapidan River is not a high-flow river, and problems resulted. The river responds quickly when it rains. Orange County provides water to Orange and to Gordonsville. Town of Orange raw water storage - 30 days supply. An increase of storage to 40 million gallons is proposed. The county is looking at building the storage, and project is currently under advisement.
- Growth rate is about 2 to 2.1 percent per year for county; on the east end it is 3 to 4 percent. On the east end they have built a 60,000 sq. ft office building and a 30-acre office park. The (only) industrial park on the west end of the county is slowly filling up.
- Near Gordonsville, Rt. 3 corridor development "maxed out" on water and sewage services. New growth will require upgrades. 750K to 800K gallons are contracted at Gordonsville. 350 to 400K gallons are being used, but "contract" of 800K gallons limits water transfer. Orange has 2.1 million gallons. Also, there is a location problem - eastern end of the county is maxed out on water and shipping water west to east is expensive.
- Fire services are all-volunteer. With new units at North Anna, Gordonsville volunteers might have to go to paid status.

- Medical: There are no hospitals in the county; just two outpatient clinics. Patients needing a hospital go to Charlottesville.
- Search and Rescue - volunteer and paid.
- Expansion could be both good and bad. They get residential growth and expansion of businesses, which is generally positive. At least it would force the county to deal with issues - like infrastructure.
- Existing Units 1 and 2 have little impact on the county except where the workers live. There are some workers living in the county and the machine parts shop in the county may get some business.
- Transportation: Adequate now, but development like Wal-Mart resulted in almost 100 trucks per day through Gordonsville, and they are not ready for it.
- Cheap housing hard to find. There is a Northern Virginia influence in the county. People are being priced out of the market. Characteristics: 3 bedroom is about \$120K to \$150K, on 1.5 to 2 acres. 85 percent of county is zoned for agricultural use with minimum two acre lots required to build.
- Construction workers are available out of Richmond and other MSAs - no problem finding workers. With respect to environmental justice, have been building two prisons.
- Right now, North Anna has no significant impact on the county, but new employment might possibly have an impact.
- Starting wage in manufacturing in the county is about \$8.00/hr - \$8.50/hr.

Robert Lingo, Orange County Department of Social Services. December 9, 2003

- Robert's office handles shelter operations and provides social services to county residents, including: food stamps, Medicaid, FAMIS (uninsured children), child abuse and neglected children and adults, elderly assistance, and foster care. Case load is heavy. Sexual abuse – educating public about this. Has 1.5 workers for 32 children in foster care.
- North Anna provides jobs, and secondary impacts of these jobs help his clientele.
- Lake of the Woods is the largest community in Orange County. It is gated and private.
- Construction: HUD rental payments are insufficient in number – there is a waiting list for the two apartment houses, both of which are full (rent \$400 to \$500 for 1-2 bedroom). There is a shortage of rental properties – greatest concern is where to put these folks. Culpeper has similar circumstances. Charlottesville has some of the similar circumstances, but also has to deal with insufficient housing for the University

of Virginia students who look for housing in town, so construction workers have trouble getting housing. The county feels some of the impacts of Northern Virginia.

- Robert believes that the North Anna plant has done a nice job. He has no concerns except for plant security post-9/11. They are also involved in the community.
- Orange County has more affordable housing than some of the surrounding counties - \$8 to \$12/hr workers can afford housing. He expects rent and housing values would increase during new construction at North Anna ESP site. There are two dozen home builders in the area who could provide new stock, if needed. North Anna expansion could drive wages of some poorer people too high to qualify for subsidized housing. As the housing values are driven up, these people would move further out, which would cause them to have to spend excessive amounts on automotive maintenance, and raise some other expenses.
- There is little migratory labor in the area.
- Generally, Orange County is not prepared for the impacts of North Anna expansion. Most critical impacts would be on finding a place to live and on schools.
- More businesses would be expected to move in to provide services. He expects the construction workers to have little impact on the services provided by the county.
- Current North Anna workers are concentrated at the eastern end of Orange County in Lake of the Woods and on Lake Anna.
- Schools: Need to make progress in schools to focus more on vocational skills in the school system. They have not started on this yet. 75 percent of the high school graduates do not go to college.
- Typical wage in the area is \$8.00 per hour. The job may not have benefits and may not be full-time.

Mr. Ed Kube, County Administrator, Orange County. December 9, 2003

- Ed Kube feels that Orange County supervisors will support North Anna expansion. He grew up in Orange County while Units 1 and 2 were being constructed.
- If Units 3 and 4 were approved, he believes that there would be quite an impact to roads, schools, etc.
- He believes that overall benefits would be positive. Construction brings in travelers, etc. When Units 1 and 2 were constructed, jobs and spinoffs increased incomes.
- The plant would be an asset. Louisa County real estate property taxes are \$0.67 per \$100, vs. Orange at \$0.81 per \$100 of value. Towns levy their own taxes and collect them.
- In the 1970s, there was a trailer city at the entrance to the North Anna plant.

- Does not expect impact of this type on Orange County - most would be on Louisa and Spotsylvania counties.
- Housing in Orange is in short supply. They plan unit development in Orange. Lake of the Woods has 6000 people; builder is requesting 1200 lots for single family housing and subsidized housing (not at Lake of the Woods development). There is also a shortage of subsidized housing. He suspects that Louisa County would limit trailer parks, so Orange County might get requests to build them.
- Dominion Power has been a good corporate citizen.
- Orange County economy has been good but could be better. They are actively recruiting new industry.
- Orange has most of the watershed feeding North Anna. Reported fish problems could be caused by mining.
- Growth restrictions - comprehensive plan may have some things in it to limit growth. Major impact from construction probably would happen in Culpeper and Fredericksburg.
- There is no growth moratorium in Louisa and Orange Counties, and none is expected.
- Orange has had severe water shortages, particularly in the summer of 2003. All water comes from the Rapidan River. Restrictions were placed on water use – paper plates and portable toilets were used. Looking at a 30-day supply reservoir, as well as Bowler’s Mill Lake (Lake Gordonsville) in western Louisa County as additional supplies. None of the shortage in 2002 was around Lake Anna.
- Police: Both Louisa and Orange County’s sheriff’s departments are small and stretched on weekends. Would expect impacts from new construction more in Louisa, and less in Orange. New construction workforce could impact the amount of services provided by the sheriff’s department. Maybe Dominion could help out here.
- Fire and rescue: Orange County has a problem with EMTs to handle all needs now. Training to handle new equipment has radically changed, plus flexibility of businesses to let employees go to help, make it increasingly difficult to supply volunteer personnel. EMTs are now paid during the day. Volunteers are used more at night and on weekends and are not paid. The rescue squad is the most strained. They are drawing on more county resources. Moving to pay firemen as well in Orange County.
- Transportation: Both counties rural roads, particularly around Lake Anna, are an issue. In Spotsylvania County old roads were just paved, but they are still old roads. Around North Anna it is also a problem, even in Louisa County (particularly Rt. 652). In Spotsylvania, the situation is not as good.

- New developments: There are two or three new developments around Lake Anna, but do not see a problem to Orange County. They are trying to upgrade the evacuation centers, such as trying to obtain emergency generators.
- Financial: Do not expect a major financial impact.
- Other impacts: Some people live in Orange County and work at North Anna. Were they to lose their jobs, it would affect Orange County.

Sabrina Martyn, Manager, Town of Orange; Jeff Dodson, Director of Public Works; Christopher Nielsen, Assistant Town Manager. December 9, 2003.

- Obtain: Downtown Redevelopment Plan. Town of Orange. Market Analysis and Retail Revitalization Plan. The Cox Company and Operational Associates, 220 East High Street.
- Housing stock – all types are limited.
- Waste Treatment – consent and expansion needed with current growth and new expansion.
- There is a dramatic change coming. Most development pressure is coming from the north (Northern Virginia). Environmental Justice: large blocks and neighborhoods of minorities. Oakbrook Terrace Apts/Boller/Mill/Linsey.
- Finances: Property taxes and hookups are both going up. With the growth happening today, rental values stay high.
- They have a new development projected at 900 units. Expect 8-12 years to build out. Mixed development planned.
- Transportation question: What is the percentage of those hired over the years and living in Orange expected as North Anna ramps up? Don't know.
- No growth moratorium or restriction within town. Economic contribution is the positive contributing factor.

Dr. David Baker, Superintendent, Orange County Public Schools. December 9, 2003.

- Dr. Baker came 12 years ago and saw the development happen in Spotsylvania County. Started in Orange County in last three years. The increase in enrollment was 150 last year.
- They are in the middle of building new schools. In the last two years, they have built two new middle schools (one was a replacement), renovated the high school and added 26,000 sq ft. Middle schools each can hold 600 students currently. Could expand to 800. The high school holds 1250 currently; could hold 1500. Enrollment in middle schools 496 and 537. They pulled the 6th grade out of the elementary schools

so grades 6-8 comprise the middle schools. There is one middle school in the east end of the county, which is where most growth is happening.

- Developments: New developments include services, and homes are age restricted. New homes include a 1250 unit new home development at the east end of the county at Germanna. 350 of these homes are age restricted on who can occupy them.
- They are trying to set up a proffer system, but it is not required. This is money offered by some developers to get their developments through the permitting/planning process sooner. Both ends of the county are developing, with the center still agricultural.
- Gordonsville has pockets of low income and minority persons.
- If two new developments in the eastern end of the county go through, they would need a new elementary school. They could temporarily accommodate growth by moving school boundaries west, so children could attend schools not at capacity.
- North Anna ESP development would require new investment in the school system. The concern during the construction period would be: should this investment be modular or permanent?
- The county has "no" low income/minority population.
- 50 percent - 65 percent of high school grads go onto 4 yr, 2 yr, or career education.
- CIT Program – coop class, common in schools. Graduates are placed in the community in jobs. Also community service program, where enrollees shadow business leaders.

Alex Waugh, Realtor, Century 21, Orange. December 9, 2003

- 30 years ago Mr. Waugh saw North Anna Units 1 and 2 being built. It impacted Spotsylvania, Orange, and Louisa Counties, and to some degree Culpeper, Fluvana, and Albemarle Counties. Property values soared; people moving in and up in scale did have a place to go. Most people tried to stay within a 30-45 minute commute time. A number of construction workers either bought or rented. Rentals were fine [readily available] to hard to find historically. Currently they are hard to find, including apartments, although there were some apartments in Culpeper, few in Louisa and Orange, and no apartments in Madison County.
- Top management for North Anna reside in Charlottesville. Both Culpeper and Louisa have country clubs; Orange and Madison do not.
- There were very few trailers; most rental houses were on farms. A number of large farms have tenant housing, which they rented to construction workers. They coped very well with construction. The slowdown came, but before then, it was a prosperous period of time for the realtors.

- Present day real estate market is steady, with a lack of inventory. Problem exists throughout the Piedmont, Charlottesville, and Fredericksburg.
- Lake of the Woods: there are some rental homes. There are 2500 lots, 1500-1800 residents. (Note: The LOW website says 4262 lots, and the Orange County Review website says that over 2700 hundred homes have been built in the community). Bottom line home is about \$100K (24x40ft, 1200 to 1500 sq ft 3-bedroom 1.5 baths), top about \$400K. Annual fee is \$500 for golf course.
- Cheapest lot in Orange County: 3.42 acres, asking \$27,900. There have been a number of lots from \$40K to \$80K in only the last two years. A 3-bedroom, 1.5-bath house on 2 acres goes for \$125K on up. Average about \$135K.
- 50 percent of listings and sales were in Blue Ridge Shores in Lake of the Woods.
- Orange is a relatively wealthy county. An upscale house goes from \$250K to \$350K. \$250K gets 2800 sq ft 3-bedroom, 2-bath on a crawl space and 3 acres.
- There is no shortage of builders.
- Property stays an average of 90 days on the market, and housing turnover is 5 - 8 years (more than 8 years for high-end housing).
- North Anna expansion would result in positive growth, probably tighten restrictions on mobile homes in Orange County. Louisa and Spotsylvania Counties would not be as restrictive right now. Quality construction is an accepted reality. Orange and Louisa rezoning at 2 acres. Orange requires 200 ft on a road, existing or planned. Buildings are sometimes limited 40,000 sq ft per lot – whether 10 acres or 2 acres.
- Refueling outages at North Anna have no impact whatsoever on Orange County.
- Transportation: Orange County needs more industrial base (school system is going into debt financing schools). What is needed is expansion of Rt. 20 and Rt. 15 North to Culpeper. Development in Orange County depends on where you are anything bounded by Rt.15, Rt. 20 to the north and west of Rt. 522 would be more difficult to develop than the eastern end of the county.
- Commercial activity: There have been few sales; in general, the commercial sector is doing well (things are tight). Commercial business is doing well.
- Getting construction workers for North Anna would be no problem. It would be an opportunity for many in the area to work closer to home rather than commute 3 hours.

Tom Filer, Branch Manager, Virginia Community Bank (Louisa). December 11, 2003

- Mr. Filer just finished best year ever for his bank. Loan volume grew by 48 percent. Housing and Lake Anna retirees were contributing factors.

- Rental market: A lot of homes are rented to weekenders who recreate on Lake Anna. A 1.25 acre lot was \$25K; now goes for \$178K. This is on the peninsula-unimproved.
- I-64 corridor-growing. Growth at Zion Crossroads. Prices are up on the edge of development.
- Construction workers - would live in Fredericksburg or Richmond. That's what happened in the 1970s. Local housing (Louisa) is not available.
- Does not expect to see new apartments built to house the construction workforce. Also, it's hard to get approvals through the county. Across from the NAPA in town there are some new townhouses.
- They are not ready for the permanent workforce either.
- A 1500 sq ft. 3-bedroom, 2-bath 25-38 year old home sells for \$125K in Richmond; the same home at Lake Anna is \$200K.
- There has not been much industrial growth. Commercial - none.
- Zion Crossroads area schools are not adequate.
- Four subdivisions are planned to help with permanent housing - \$250K houses. Building is based on demand.
- Construction trades - locals are mostly self-employed and hard to find. Expand the search to the larger, surrounding metro areas, and they are not hard to find.
- If the county plans for growth, things will be fine with North Anna construction. But Dominion needs to reach out and let the county know its plans for development. If the county is left to its own volition, things will not happen with respect to planning.
- Mr. Filer is looking forward to having the workers in the community. The factories are recruiting for qualified workers and not finding them. There is available labor but not qualified labor.
- The sources of development pressure right now are Richmond and Charlottesville. If new North Anna units are built, then there will also be pressure from the Lake Anna area.
- In their industrial park, the shell building is now full - it wasn't a couple of years ago.

Dr. David Melton, Louisa Superintendent of Schools. December 11, 2003

They have 5 schools, all overcrowded at both ends of the county. They have been asking for a new elementary school for the last five years.

Table 1: Louisa School Capacity Compared with Current Enrollment

School	Built to House	Now Have
High School	1350	1500
Middle School	1100	1200
Elementary School	600	740
Elementary School	500	600
Elementary School	500	640

- They have been experiencing growth at 2 percent per year. They had the highest enrollment they ever had this year (2003) – 4380 students.
- Taxes have not been raised in Louisa County for 6 years. County maintains the schools, but does not do new investments. Reason given is that taxes from North Anna are down, and the county leadership does not want to raise taxes.
- However, growth is occurring because taxes are low. The county has approved the building of a large number of houses.
- Construction workers would have some impact if North Anna Units 3 and 4 were built, but there is not enough housing for them. Any increase in pupils would use modulars. Elementary schools may be a concern with construction. Would need 5 to 10 additional staff members.
- Permanent employees: there would be enough housing to handle them. There is currently 0.5 pupils per household. Even if this were to go up to 1 pupil per household, if they were spread throughout the county, the district could handle the increase by changing the student/teacher ratio from 22/1 to 23/1.
- Louisa County compared to surrounding counties: lowest median income, highest percentage of children in poverty (20 percent).
- Over 50 percent of high school grads go to college or to 2 yrs of community college. Some high school grads come back as college grads. But there is a concern about economic development, and that population leaves the county. They are working with a junior college to provide vocational training.
- No important transportation issues for schools. But do have to pick up kids at the gates of gated communities because it is hard to get the buses in.
- Dr. Melton is greatly concerned about meeting infrastructure needs with the growth that is coming. He thinks that it is difficult for the county to provide infrastructure.

- County is going to re-assess property values every year instead of once every two years.

Jim Candeto, Town Manager, Mineral. December 11, 2005

- Construction workforce for North Anna would commute from Charlottesville and Richmond.
- Mr. Candeto feels that housing prices are high for the area, and notes that there are no shopping centers around. There is no current growth in Mineral: "not much happening."
- Mineral fire department worked with the county to get permanent daytime workers.
- Infrastructure: They are putting in a water system in the town of Mineral. Infrastructure is sufficient to handle any growth related to North Anna.
- Construction and permanent workforce would be significant for the county. There would be "trickle down" economic benefits to Mineral.
- Prices of housing would probably increase if North Anna Units 3 and 4 were built. Values have gone up. Rental housing is limited and there is minimal new construction in housing.
- Mineral has applied for historical designation so that people can fix up their houses and get a tax break.
- There have been some inquiries about 75 new homes to be built, but nothing has materialized.
- The county supervisors are on top of new infrastructure needs.
- There are plenty of local building lots. The town is one square mile and can annex if necessary.

Douglas Barnes, Interim County Manager, Spotsylvania County. December 11, 2003

- Economy in the county is very strong. Spotsylvania is the 9th fastest growing county in the state (out of 95).
- Infrastructure: They support North Anna with respect to safety/community service.
- Look at North Anna for public safety as fire/police services would be impacted.
- County Growth: Growth in the county is beyond their current models and North Anna is not factored in, so they would expect still more growth as a result of construction/operation of Units 3 and 4 and additional demand for services. Water and sewer master plan expects Thornburg and town of Spotsylvania to have high growth, but housing is planned in.

- Construction workers: Affordable housing in the \$125K to \$150K range at the low end, and is available. There are limited apartments and rental housing and limited trailer parks (2-3 of them). Rental housing is very tight. There are no apartments or trailer parks planned. In rural areas, can put in modular housing.
- The overall real estate market is tight, with most growth occurring in the northeastern end of the county. There is a growth moratorium of sorts; future re-zoning is occurring with 10-acre minimum lots in rural areas and ten lots maximum per parcel (thus 1000 acres would have 10/100 acre lots). The emphasis is to retain green space and preserve agriculture.
- Idea is to have growth pay for itself. Can re-zone but would encourage proffers. For each new house, would have to put up \$20K toward infrastructure.
- North Anna expansion benefits: Some construction jobs, and there would be more demand for services.
- Unemployment is 4.0 percent. Construction workers would be locally available - no problem in obtaining them. There are also plenty of builders.
- Schools: Growth is slowing down. Want 1 percent to 2 percent growth, and they are keeping ahead of the growth.
- There is a hospital in Fredericksburg. (Note: next to, but outside of the county).
- Commercial lots are available - Wal-Mart has located there.
- Transportation: Bus service is limited. There is a bypass slated (Rt. 208 and Courthouse Road) to bypass the Courthouse. Rt. 208 would go all the way out to Lake Anna. The state is doing a limited job on transportation. Everything is maintained by the state, not the county.
- There are 6 to 7 industrial parks - mostly full.
- Shopping is along Rt. 3 in Fredericksburg.
- Finances: County depends on personal property tax and the real estate property tax.
- Current North Anna plant has no effect on business recruitment.
- Emergency planning: Dominion provides money to educate citizens regarding risks, and also provides equipment.
- It would help if North Anna could keep the county informed of when they propose to ramp up/ramp down in construction activities.

Tom Williams, Director of Planning, Louisa County and Linda Buckler, Planning and Zoning.
December 11, 2003

- Infrastructure is currently oriented toward single family residences and subdivisions. A number of new subdivisions are being proposed, including future development at the Lake (Lake Anna).
- With construction of Units 3 and 4, supply of rental housing would not meet demand. Most of the concentration of population is in Spotsylvania.
- At the time of construction, the Board of Supervisors probably would allow conditional zoning for trailers. During construction of Units 1 and 2, there were temporary campgrounds with trailers.
- In five years, they expect to be better off, with development at the west end of the county. They also foresee a need for additional affordable housing.
- Infrastructure: Wells and septic systems in areas not served by water and sewer. They depend on Virginia Department of Transportation for roads.
- Schools, Police, Fire Rescue: They would have to look at this in the event of construction, because of the need to address safety/public welfare issues. Schools in the county are tight now, with modular units in use. An additional elementary school is a foregone conclusion (needed now); it would have to be built where the growth would be seen as taking place.
- There is no growth moratorium in the county. There are no other larger employers on the horizon, so if North Anna expands, the county would have to elevate current infrastructure plans and bring them forward in time.
- Transportation: Road 700 - would have to ask VDOT to include an upgrade in its plans or coordinate with Dominion to solve the traffic impacts.
- Economy: Growing, increasing relative to other counties.
- Infrastructure: Water and sewer services are a concern along the I-64 corridor, especially near Gum Spring. There is a separate water system in Louisa with a reservoir. They are teaming with other counties.
- Rentals and residential values: Builders come in with immediate demand. Could try to locate construction workers permanently. Use the population to recruit new business. Economic stimulation would occur as a result of their presence. Could turn rental housing into permanent housing, which would be bought by construction workers who would be in the area for awhile. They might do this if housing values continue to go up. The construction workforce would come from within 50 miles, so there would be no problem in recruiting them.
- Enough home builders exist in the area, and they keep busy. There is a trailer park along Rt. 605 with 75 units.

Paul Oswell, Louisa County Department Social Services Director, Brenda McLaughlin, CSA
Coordinator. December 11, 2003

- Louisa County is the residence of lower management and workers at North Anna. Upper management is in Richmond.
- During refueling outages, the workers stay at the Holiday Inn, rooms in individual homes, and rental housing.
- Job shoppers - some buy and rent. If short term (two years), major construction firms would buy and resell. Rental housing is available for affluent types, which construction workers are.
- There would be no problems recruiting construction workers from the local area for North Anna Units 3 and 4. A lot of people would move up to these construction jobs because they are underemployed or would prefer to work closer to home rather than commute to Northern Virginia. In addition, when the higher income employees spend, there will be more jobs in services such as fast food, which would be filled by local low-income people. Dominion could set up a job fair for lower income types. If they could pass driving tests and intellectual tests, they could get jobs. There may be increases in demand for food stores and people coming in looking for work. Establish residency before getting a job. In any event, the new plants' coming would do nothing but help.
- Would expect increases in child protective services with the increase in population around the plant. This includes foster care, burdens on the schools (30 percent special education), spousal abuse, etc. Would tax the sheriff's department. Maintaining classroom sizes (teacher/student ratio) would be another concern.
- Many people do not know about their services. They are putting people into the schools to raise awareness. For example, Hurricane Isabel - they had disaster food stamps, which many people availed themselves of. 900 people applied and 800-plus were approved. They have seen increased economic exposure, big increases in food stamps, temporary assistance to needy families, Medicaid. With the recent economic slowdown, there has been a steady increase in intakes. These people are the last hired and first fired.
- There is a definite need for low-income housing in the county. The construction workers would not displace the low-income people from rental housing. The construction workers would not rent it, considering it sub-standard.
- There are no concentrations of low-income people in the county.
- There are few migrant workers in the county - this is not currently an issue.
- Dominion is not visible in the social fabric of the community.

Lee Lintecum, County Administrator, Louisa County. December 11, 2003

- Transportation Issue: There is an issue of safety with the approach roads to North Anna. There are no four-lane roads; rather, they are narrow rural roads. He is concerned with Rt. 700, Rt. 618 going through Mineral.
- Infrastructure: They are beefing up the sheriff's department and fire rescue. Dominion helps some, but it's mostly the county.
- Schools: They need another elementary school. They probably will purchase the property in 2004, build it in 2005. All of the elementary schools are overcrowded. They also need to do a property purchase to accommodate a middle school.
- Growth areas are in the triangle of Lake Anna I-64-Zion Crossroad.
- There is no growth management. They are preserving agricultural lands.
- Conditional use permits for a trailer park would probably be granted if needed to support North Anna construction. No new permanent trailer park would be allowed. The reason is that this is where the sheriff would get the most "calls."
- He does not expect low-income workers to be displaced by construction workers in rental housing.
- He would expect commercial business to increase with North Anna expansion, probably along I-64 corridor.

Richard Goss, Director of Planning, Spotsylvania County, and John Taylor, Director of Long Range Planning, Spotsylvania County. December 12, 2005

- There has been a lot of growth in the Fredericksburg area. The Plan concentrates there, on Spotsylvania (the town), and along Rt. 1.
- To preserve agriculture, in rural areas, they have a 10 lot/10 acre cap. Thus 106 acres supports 8 houses (less than 10 because of required roads).
- Most roads in the county are two-lane, narrow.
- Lake Anna is developing. The county had the highest growth in the region last year and did better than the state.
- They are down-zoning for density. The standard is now 1 unit per two acres. It used to be 1 unit per acre. Proffers can be employed to get back to 1 unit per acre.
- Commercial growth is commercial or retail/service (e.g. Home Depot), not highly industrial.
- As a result of restricting growth, people cannot afford homes (unless coming from Northern Virginia) in the \$300K price range.

- Construction workers would live in Spotsylvania only if they could afford the cost of housing.
- Growth is moving out to Carolina and Louisa Counties. The average house price is \$217K, with a sellers market. Businesses are offering full price. There is more value in older homes, with bigger lots and mature trees. Most of the apartments are restricted units for the elderly.
- Manufactured housing is prohibited in developed areas.
- Annual population growth in the county is currently 4.5 percent to 6 percent. They are trying to get back to 2 percent per year.
- There are plenty of lots at Lake Anna. One - to two-acre lots are going for \$20K to \$30K price range, but not on the waterfront.
- They are building a middle school to serve the Lake Anna area. Lake Anna is becoming more family-oriented and resulting in less weekend traffic and more permanent homes. However, the county as a whole is becoming more transient.
- Vacancy rates: 1.7 percent homes (1-2 percent considered healthy); 6.1 percent rentals (6-8 percent considered healthy). Availability of property is good but tight.
- Transportation: Is a big issue in the area. Virginia Department of Transportation is short of money. Builders proffer for road improvements, but only around their subdivision. The citizens do not want growth, so general road-building does not happen. People associate road-building with more growth. Commercial building is building roads. Rt. 601 (goes around the end of Lake Anna on the east end) is a concern now with boat traffic. If bypass Rt. 208 is built in 2006, it will be easier to get to Lake Anna.
- Water and sewer services are not impacted by North Anna - the water and sewer systems are located around Spotsylvania (the town) and Fredericksburg.
- North Anna development improves the standard of living because it and its employees demand commercial and retail services. Materials needed by the plant - high tech is relevant in some of the materials demanded.
- There is no growth moratorium; they can only deal with plant-related growth through permits and zoning. In other words, they could not stop development even if it became a health issue. It's illegal in the state to have a moratorium.
- The major developments are around Lake Anna and Fredericksburg.
- Agriculture and forestry is still big in the county from a land use perspective. You get a tax break for keeping open space of five acres or more. If you develop the land, you are required to pay back taxes.
- The shopping area for the county is Fredericksburg.

- Permanent workforce for Units 3 and 4 would have no impact on housing. The construction workforce: engineering firms are closing because they can't get qualified people. Construction workforce could not come from Fredericksburg. A specialized workforce for construction related activities would be difficult to obtain.

Gary Partridge, Spotsylvania County Economic Development Director, Spotsylvania; Gene Bailey, President of Fredericksburg Regional Alliance; and Pat Gallagher, Realtor, Century 21; Jim Smith Owner/Broker Century 21, and Stephen Manster, Rappahannock Area Development Commission. December 12 -13, 2003

- Most impacts in the area are from Northern Virginia, not North Anna.
- Economic health: Growing population and revenue are good. Quality of life is good.
- Spotsylvania is the second-fastest growing county in Virginia and households, 13th in the country. Issued 2000 residential building permits in 2002. County is taking steps to hold growth to 2 percent per year through down-zoning. Much of the county workforce either commutes north to DC or south to Richmond. As a consequence, unemployment is low, but so is the number of quality jobs. There is not as much manufacturing as there should be, so there are a lot of Wal-Mart type jobs at \$8.00/hr.
- If they had the opportunity, a number of construction workers would stop working in Northern Virginia and stay in Spotsylvania County because of affordable housing.
- The county is served by major highways, so the current commute (to DC or Richmond) is not out of line.
- About 210,000 to 435,000 out of a population of 909,000 are in the local labor market, but some are faced with underemployment.
- County is downsizing through zoning. Housing values in Spotsylvania are up, but prices are not as high as near Lake Anna and parts of the county closer to I-95. Housing prices are being driven by Northern Virginia.
- Construction of Units 1 and 2: In 1972, many of the construction workers did not bring families, and stayed in trailer parks.
- The population of Spotsylvania County is concentrated within 10 miles of Fredericksburg. They have 3500 motel rooms, most of lower scale. Construction workers could cut deals for weekly stays. They have 75 -100 vacant rental houses, mostly in the Fredericksburg area, which includes Stafford.
- Transportation: Roads are not a concern. Lake Anna and rush hour are a concern, but not much. With enough lead time, could improve secondary roads. There is a 5 yr plan that emphasizes roads. Roads with numbers 600 or higher are maintained by the state.

- Economic development: Focus is on industrial recruiting. But within that, Virginia has lost manufacturing jobs, and hence, clout. But Spotsylvania is number one for small business engaged in services to households.
- There was no recession impact for Spotsylvania. What carried it through was building.
- However, there are manufacturing jobs in the county. GM has a plant making torque converters for transmissions. Barreta makes parts in Spotsylvania and assembles them in Maryland.
- North Anna expansion: Employees would shop in Fredericksburg. They would expect a tremendous increase in disposable income. There would be induced effects. 1 percent of the 4.5 percent sales tax goes back to the county. Would expect North Anna expansion to have a marginal impact on infrastructure. Spotsylvania takes a proactive approach on infrastructure. For water they are good to 2020. Waste-water handling and treatment is adequate for now.
- Police and Fire: North Anna expansion would have only marginal impacts.
- Low income and minorities percentage is dropping. The "old line minority" population is out by Lake Anna. Blacks owned most of the farms out by Lake Anna.

Follow-up Calls by John Jaksch, February 26, 2004 through September 29, 2004.

Note: Not all calls resulted in information. The following are the contacts that yielded facts bearing on the study.

Ernie McLeod, Finance Director, Louisa County. March 16, 2004 and July 13, 2004

After several exchanges via email, McLeod provided the following data on Louisa County finances (See Table 2, Next Page)

Table 2: Louisa County -- Breakdown of VEPCO Taxes to General Property Taxes
Report Gives Percentage of NAPS to County in Taxes

Year	Dominion VP Real Estate	Dominion VP Personal Property	Dominion VP Total	Louisa County General Property	% Dominion to General Property	Operational Expenditure s	% Dominon to Operational	Capital Expenditure s	Total Expenditure s	% Dominion to Total Expenditure s
1991	7,393,903		7,393,903	13,441,519	55%	22,248,116	33%	879,294	23,127,410	32%
1992	8,828,913		8,828,913	13,882,496	64%	22,625,654	39%	1,146,908	23,772,562	37%
1993	9,379,236		9,379,236	16,723,970	56%	24,291,286	39%	2,026,189	26,317,475	36%
1994	9,685,638		9,685,638	17,995,684	54%	26,288,892	37%	2,321,967	28,610,859	34%
1995	10,683,585		10,683,585	19,244,309	56%	28,165,669	38%	7,954,447	36,120,116	30%
1996	11,131,726		11,131,726	21,452,251	52%	30,515,463	36%	13,956,451	44,471,914	25%
1997	11,361,154		11,361,154	22,783,690	50%	32,673,007	35%	4,927,188	37,600,195	30%
1998	11,006,924		11,006,924	24,141,313	46%	34,323,815	32%	3,327,584	37,651,399	29%
1999	11,145,065		11,145,065	24,094,105	46%	36,569,681	30%	6,992,771	43,562,452	26%
2000	10,583,390		10,583,390	24,770,698	43%	40,115,950	26%	6,438,437	46,554,387	23%
2001	10,982,473	5,137	10,987,610	24,343,887	45%	43,345,845	25%	8,598,355	51,944,200	21%
2002	9,926,370	5,496	9,931,868	25,861,613	38%	47,312,355	21%	9,391,816	56,704,171	18%
2003	10,156,628	14,712	10,171,340	26,098,535	39%	49,518,489	21%	4,996,480	54,514,969	19%

Brent Elam, Public Utility Engineer, Public Utilities Department, Spotsylvania County.
August 6, 2004.

- A treatment plant for water was built and came into use in Spotsylvania County in 2004.

Halsey Green III, Director of Finance, Louisa County Public Schools. August 6, 2004.

- Property has been purchased in Louisa County for the construction of a new middle school.

Pam Shifslett, Secretary to the Superintendent, Orange County Public Schools.
August 6, 2004

- Total enrollment in Orange County public schools is approximately 4200 students.

Bar Delk, General Manager, Louisa County Water Authority. August 6, 2004

- Since 2001, five new groundwater wells were completed and a new storage tank constructed and brought on-line in the Zion Crossroads area.

Ralph Slater, Chief of Design, Public Utilities, Henrico County. August 9, 2004

- A water supply treatment plant with a capacity of 55 million gallons per day (MGD) was completed and placed in operation in May 2004. The plant is expected to be expanded to accommodate 80 MGD, for which Henrico County already has the permit to withdraw the water.

Tony Banks, Dominion, and Jack Cushing, NRC. August 10, 2004

- Returned Tony Banks' call regarding recreation data for Lake Anna. Data were obtained on Visitors to Lake Anna State Park for 1998-2003. The source of the data was the Virginia Department of Conservation and Recreation. The information obtained is as follows for visitors to the park:

Table 3: Number of Visitors to Lake Anna State Park for 1998 to 2003

Year	Number of Visitors to Lake Anna State Park
1998	145,500
1999	111,000
2000	158,100
2001	178,300
2002	181,800
2003*	159,700 *Through November only

- Jaksch asked Tony Banks if he could obtain boat launchings for the Park. He said he would try to do so.

Tony Banks, Dominion. August 11, 2004

- Tony called regarding the boat launching data for Lake Anna State Park. The number of boat launches by year is as follows

Table 4: Number of Boat Launches at Lake Anna State Park from 1998 to 2003

Year	Number of Boat Launches at North Anna State Park
1998	2797
1999	2449
2000	2107
2001	2447
2002	2125
2003*	2073 *Boat launches are for the whole year

Shawna Burton, Deputy Auditor, Pike County, Waverly, Ohio. August 25, 2004

- For FY 2003, the amount of real property taxes collected in Pike County was \$9,878,296.

Lois Cornwell, Deputy Treasurer, Aiken County, South Carolina. August 25, 2004

- For FY 2003, the amount of property taxes paid was \$68,046,078.05.

Wendall Gibson, Jr., County Treasurer, Barnwell County, South Carolina. August 25, 2004

- For FY 2003, the amount of property taxes collected was \$9,773,664.73.

Phyllis Yancey, Treasurer, Orange County, Virginia. September 13, 2004

- Evidently, the amount of property taxes North Anna pays Orange County is determined by Virginia. They (Orange County) do not know the source of the taxes. It probably comes from assets that Dominion has in Orange County, and is not related to North Anna (which is entirely within Louisa County). For further information, Jaksch was referred to Robert Tucker at the State Corporation Commission.

Mary Sorrell, Budget Office, Spotsylvania County. September 14, 2004

- Jaksch talked with Mary Sorrell regarding the property taxes paid by Dominion - North Anna to Spotsylvania County. The assessed value comes from the Commissioner of Revenue as a Public Service Tax. She was unsure whether the tax applied to only North Anna or to North Anna plus other property owned by Dominion in the county. The tax, if only North Anna, would be based on the land plus improvements. The North Anna plant itself is entirely located within Louisa County. But some of the North Anna land may extend into Spotsylvania County. As to how the tax is derived and where it comes from (public service tax), she suggested that Jaksch call the county treasurer, Larry Prichard.

Larry Prichard, Treasurer, Spotsylvania County. September 14, 2004

- The public service tax is for land and personal property. North Anna most likely has real estate in Spotsylvania County. He could not give a breakout of the North Anna portion from the total amount paid to Spotsylvania County by Dominion. He suggested that Jaksch contact Debbie Williams at the Commissioner of Revenue office.

Debbie Williams, Virginia Commissioner of Revenue Office. September 14, 2004

- She is familiar with the tax. She said she would make some calls and do some research to see if they could break out the North Anna part.
- How the public service tax works: The State Corporation Commission gives the local jurisdiction the total property value of Dominion in that jurisdiction. The jurisdiction then takes that value and applies their millage rate to derive the taxes payable.

Debbie Williams, Commissioner of Revenue Office. September 15, 2004

- Dominion paid Spotsylvania County \$250,000 last year. The question is [still] whether this represents taxes on their land on Lake Anna.

Debbie Williams, Commissioner of Revenue Office. September 29, 2004

- The \$250K in FY 2003 paid by Dominion was for all Dominion real property owned by Dominion in Spotsylvania County, including the North Anna site. Breaking out North Anna would be difficult.

Additional Follow-up Calls by Michael Scott, July 11, 2005 through July 15, 2005

The purpose of these calls was to obtain additional clarification on the potential impact of construction and operation of Units 3 and 4 at North Anna on local access roads and on businesses such as marinas and fishing guides that depend on Lake Anna recreation. In answering the second question, Scott asked about any business operational issues that arose from the low Lake Anna lake levels during the severe 2001-2002 drought.

Duke's Creek Marina. July 11, 2005

- They did not have anyone stuck as a result of low water levels. Their floating docks were usable, although they had to help people down into their boats. No other operational problems were mentioned.

Wayne's World of Fishing (Wayne Olsen). July 11, 2005

- He typically operates from his own boathouse. He had 5 ft. of water under the boathouse and needed 10 ft.

- He pulled out one boat and operated from Sturgeon Creek Marina, so was able to operate.
- He thought that about 80 percent of the private docks and boathouses would be high and dry and unusable if lake levels fall more than 5 ft.
- He noted that fishing was "off" during the drought. It has since bounced back.

Anna Point Guide Service (Jim Hemby). July 11, 2005

- Anna Point Marina's ramps, which he uses, worked. He never had a problem personally with launching, though numerous ramps on the Lake did not work.
- Navigating the lake with low water levels was no problem for him, but many recreational boaters had problems with shallow areas. He knows of 18 people hitting bottom in one day.
- He thinks about 20 percent of the boathouses were not usable.
- Fishing slowed down during the two years of the drought. Ordinarily between Thanksgiving and Christmas, his clients would catch about 10 fish per day over 10 lbs. He was down to about 1 per day during the drought.
- Stripers: Dissolved oxygen ordinarily gets low in August and September and the Stripers have to move (uplake).
- The Virginia Department of Fish and Game found that the striper population was hurting for a couple of years, but has rebounded since.

McCotter's Guide Service (Chris McCotter). July 12, 2005

- He works with Concerned Bass Anglers of Virginia and has helped restock several streams and lakes following the 2001 - 2002 drought, but not Lake Anna.
- He noted that several of the marinas "poured concrete," i.e. extended their ramps.
- He had to fish further away from base (Anna Point) but still found fish.
- He thinks that many of the stripers died because of high ambient temperatures.

Gene Hord's Guide Service (Gene Hord). July 12, 2005

- Marinas did a lot of repair work during the 2001-2002 drought for recreational boaters who hit bottom.
- Fishing was good for him during the drought. He worked the channels. The drought helped keep individual recreational fishers off the lake.

- He ran out of Sturgeon Creek Marina, which had excellent ramps and was relatively unaffected by low water.
- He is skeptical about temperature tests in the lake, since he has taken a few temperature readings of his own. He believes that the Lake doesn't stratify, and that every gallon of water in the lake "turns over" in two weeks. So the lake never really cools. There is backflow up the lake from the reactors. He expects the temperature to be 70° to 80° on the cold side in the winter.

High Point Marina (Carlos Wood). July 13, 2005

- Figures that he spent \$20K to \$21K to stay in business during the 2001-2002 drought.
- When the water dropped 2 ft., they had to put in 3 ft. side "kicker docks."
- When the water dropped 3.5 ft., they had to start dredging water slips and the boat valet (boatel).
- He had long concrete launch ramps, but they were out of the water eventually.
- He could put in two loads of stone and keep operating.
- When the water dropped 5 ft. in October, they were close to having serious problems: "Two more inches and we couldn't use boatel storage, and would have lost about 1/3 of our water slips." He estimated that had the low water levels occurred in March/April rather than October, he would have lost \$200K.
- They built a trailer to move boats to another part of the property, but didn't have to use it (the rains started). Launching would have gone from a 3-minute to a 15-minute process.
- He noted that customers lost six props in a week (this is usually a very rare event).
- He revenues were down because people stopped coming in the late summer.
- Had the drought run another year, it would have cut his profits in half, he figures.
- As long as lake levels don't fall more than 5 ft., he's operational.

Darren Coffey, Louisa County Director of Planning and Community Development (New).
July 13, 2005

- Scott discussed with him the plans, if any, for upgrading secondary roads in Louisa County, Rts. 700, 652, 208, 522, and 618, in view of current funding limitations and the VTRANS 2025 study. Of special interest in Rt. 700 between Rt. 652 and 618.

- Coffey checked with the Virginia Department of Transportation regional office and replied by e-mail on July 18, 2005 as follows:

“VDOT has confirmed for me that there are no improvements funded or otherwise on the Six-year Plan for Louisa County in the area of the North Anna Nuclear Power Plant. Rt. 208 was on the list but was cut with VDOT’s funding reductions. The other Rts you spoke of - 522, 700, 652, and 618 - are included in this. Routine maintenance will continue along all of these routes as funding allows. The guard rails along 652 have been upgraded to current standards and Rt. 700 was repaved last year. A re-zoning 700 MAY be coming in that would include the realignment of 652 with 208. This is a proffer that is expected. IF the re-zoning application is submitted and IF it is approved, then this change would be anticipated to occur within the next two or five years. Please let me know if you have further questions.”

Darren K, Coffey, AICP, Director of Community Development
1 Woolfolk Avenue, P. O. Box 160, Louisa, VA 23093
540-967-3430, dcoffey@louisa.org

Lou Hatter, VDOT, District Office, Louisa County. July 13, 2005

- Scott called concerning plans, if any, for upgrading secondary roads in Louisa County, Rts. 700, 652, 208, 522, and 618 in view of current funding limitations and the VTRANS 2025 study. Of special interest is Rt. 700 between Rts. 652 and 618.
- Hatter knew of no plans concerning specific routes, but did know there was paving happening on Rt. 208 south of Mineral.
- Highway maintenance is consuming VDOT’s available funds, and there probably will not be any funds for new construction in a few years.
- Hatter said he would do some research and get back on VDOT plans.

Eric Vogel, Transportation Engineer, DOT Fredericksburg District Office. July 13, 2005

- Scott called him to talk about VDOT plans in Spotsylvania County, particularly Rts. 208 and 606.
- The current plan for Rt. 208 is to complete 4 lanes from Fredericksburg to the Spotsylvania Courthouse. The extension as far as Post Oak is to be advertised later. The right of way is purchased, but no widening is taking place now.
- Rt. 606 is currently 2 lanes from Rt. 1 to Thornburg, which is thought to be the next growth area in the county. In the future they would upgrade this section to 4 lanes, but is not programmed at this point. They might further extend 606 upgrade as far as the “first 208 intersection” (Spotsylvania Courthouse).

- Spotsylvania Parkway: They suspended the study. The county had a developer build a little bit of it. They might build something out to Rt. 208. The county might want to consider upgrades from the Jackson Gateway to Thornburg.

Vogel sent an e-mail with additional clarifying information on Lake Anna area highway improvements on July 15, 2005:

"Projected Conditions on Selected Highways in the Lake Anna Region of Spotsylvania County, Virginia."

Prepared by Eric Vogel, VDOT District Transportation Planning Program Manager,
July 15, 2005

Current Traffic Volumes: The Lake Anna area of Spotsylvania County is served by Rt. 208, an arterial road in Virginia's Primary Highway system. Presently, Rt. 208, Courthouse Road, is a two lane road between Lake Anna and Spotsylvania Courthouse carrying approximately 5,000 vehicles per day. Linkage is provided from Interstate 95 to Rt. 208 by Rt. 606, Morris Road, a two lane secondary system connector. Currently, Rt. 606 has a traffic volume ranging from 6,500 to 11,000 vehicles per day. I-95 in southern Spotsylvania County is carrying 80,000 vehicles per day on six lanes.

Projected Traffic Volumes: The Fredericksburg area's long range transportation plan has a horizon year of 2030. The projected traffic volume for Rt. 208 immediately north of Lake Anna is 20,000 vehicles per day. The volume is projected to increase to 30,000 at Spotsylvania Courthouse and 50,000 north of the Courthouse. Traffic volumes on Rt. 606 are projected to increase to 40,000. I-95 volumes are projected to increase to 100,000.

Programmed Highway Improvements: A bypass for Rt. 208 around Spotsylvania Courthouse is currently programmed in VDOT's Six Year Improvement Program. The bypass will ultimately be constructed to a four lane divided section. No other major public improvements are programmed for the area. A new road link between Rt. 208 and Rt. 1 is being constructed as a part of a new land development projects. This four lane divided roadway, Spotsylvania Parkway, is projected to be completed by 2015.

Richard Goss, Planning Director, Spotsylvania County. July 13, 2005

- Scott called Goss and discussed with him the plans, if any, for upgrading secondary roads in Spotsylvania County, in view of current funding limitations and the VTRANS 2025 study. Of special interest are Rts. 208, 606, and the proposed Spotsylvania Parkway.
- Goss said that the VTRANS 2025 study reminds us that VDOT legal priorities are that existing roads must be maintained before monies are available for new construction. Funding forecasts show all available funds going to maintenance by the year 2012.

- Rt. 208: Phase I in the 6-year VDOT plan was improved of this road to upgrade from the north to the Spotsylvania Courthouse. Phase II was to continue around the Courthouse down to battlefield and Post Oak. Phase II is not funded. They have now exhausted the limited access right-of-way budget. They expect slippage in the project, although they might be able to secure some additional right-of-way by granting access.
- The Rt. 606 intersection with I-95 needs improvement to accommodate higher volumes. The existing intersection is a diamond-type intersection. The Rt. from I-95 west to Thornburg also needs upgrading, but there are no funds in VDOT's budget available to do this.
- Spotsylvania County has its own transportation division and a car decal tax that yields about \$2 million per year. They are thinking about a bond issue. The top 6-priority road projects would cost an estimated \$140 million. Some of these are rural projects.
- There has been discussion of the "outer connector" (Spotsylvania Parkway) extension from Rt. 1 to Frazier's Gate and Smith's Station. (Can't find the latter two on the map. The overall path is Rt. 17 Bypass near Massaponax to Rt. 3 in Spotsylvania County). He believes that the Southwest quadrant to Rt. 1 would be helpful.
- They are also looking at HOT lanes (Variable pricing) from Washington, DC as far as Massaponax on Rt. 1. Los Angeles and Minneapolis have these.
- Rural district subdivisions have 10 acre lot requirements. They are reallocating land use and pushing development along Rt. 1 to eliminate traffic on Rt. 3. Shifting commercial activity to the Massaponax area should make service better.

Glen Briggs Guide Service (Glen Briggs). July 15, 2005

- Launching the boat in 2001/2002 was a problem in some places because ramps were not long enough. The ramps at Sturgeon Creek Marina were fine (extra long), and this was the one he used, but "it was close" at High Point, where they put out steel plates at the end of the ramp.
- Water temperatures were up, but that can happen anyway, and the lake still had oxygen. The fish were not as active, and were prone to "school." He was able to locate the pockets. Because there was little grass cover (it's around the edge of the lake), the small fish were hurt.
- The stripers went to the 70E water and some died off. They are tolerant of low oxygen. Didn't see a lot of dead fish. There was probably more damage from live bait fishing.
- He's heard the complaints about shallow water navigation hazards. He thinks studying the map of the lake would help. They now have hazard buoys where the water is shallow.

- Property owners around the lake did complain about the low water, but whose fault was it [that they bought land there]?

Teddy Carr (Guide Service). July 15, 2005

- The 2001-2002 drought did adversely affect his business, mostly because people thought the lake had no water and decided not to come. In 2001-2002, he did 20 trips; last year it was 30 - 40. In 2003-2004, the fish had a poor spawning class. But the fish bounced back in 2005.
- He had no problem putting his boat in the water.
- There was little habitat in the lake. He would like to see Dominion add non-invasive water vegetation to the lake. Once the water came back up, it would speed recovery. Willow around the lake would help as well (shade?).