**VIRGINIA NUCLEAR ENERGY CONSORTIUM AUTHORITY COMMENTS FOR THE VIRGINIA ENERGY PLAN**

July 31, 2014

The Virginia Nuclear Energy Consortium Authority (VNECA) was created in 2013 by the Virginia General Assembly with the purpose of making the Commonwealth a national and global leader in nuclear energy and serving as an interdisciplinary study, research, and information resource for the Commonwealth on nuclear energy issues.

Nuclear power supplies 35 - 40% of the electricity used in Virginia. Operating at more than 95% capacity, nuclear generation provides inexpensive, reliable, "24/7" electricity generation to Virginia consumers and helps keep energy costs low thus making Virginia a competitive location for business. Virginia is home to a few of the global leaders in the nuclear energy sector, such as AREVA, Babcock and Wilcox, Bechtel and Newport News Shipbuilding. In addition, dozens of other companies, located all across Virginia, provide services, supplies and support to nuclear facilities inside the Commonwealth and globally. The nuclear energy sector drives Virginia's economy in every region, creating high skilled jobs, supporting research and generating revenues at the state and local level.

**Energy Planning**

- VNECA emphasizes the importance of performing **long term energy planning**. The planning, design and implementation of the optimum infrastructure (electric grid, power plants, gas piping, etc) for an effective and efficient energy strategy takes time.
- VNECA highlights the importance of **base load capacity** ("24/7") for the reliability of the grid. Excessive reliance on intermittent energy sources (wind, solar) or on energy sources that depend on continuous delivery of fuel from offsite (natural gas) may result in instability and lack of availability of the electricity supply when it is most needed.
- VNECA stresses the importance of **long term price stability** in the selection of energy sources. Like all fossil fuels, natural gas prices have historically been volatile. Despite the present low prices resulting from the recent discovery of large reservoirs of shale gas in the US, it is unlikely that the price of natural gas will remain low in the long term, particularly in the face of increased pressure to export. The practical hedge to price volatility is to retain a diverse energy mix, including nuclear that has had historically low fuel costs.
- While the increased use of **energy efficiency (negawatts)** is certainly something that should be pursued and encouraged, VNECA recognizes the fact that the demand for energy in Virginia is only going to increase, particularly if we want the economy in Virginia to continue to grow and we want our state to continue being economically competitive in the US and in the world. For example, we have seen a large increase in the number of data centers in Virginia and each one of them is a large consumer of electricity. Also, the use of plug-in electric vehicles has been proposed as one of the approaches to reduce carbon emissions in the transportation sector. This will result in **a net increase**

**in the electricity demand**. Furthermore, the carbon reduction effect will only be fully realized if this electricity is produced with non-emitting electricity sources, such as **nuclear, wind and solar**.

**Nuclear Power in Virginia**

- VNECA encourages the 2014 Virginia Energy Plan to recognize the substantial and sustainable **contribution of nuclear power to Virginia's energy** mix, around 35 - 40% currently. This non-carbon emitting, economic and reliable base load power is key to Virginia's economy today. Virginia is one of the states with lowest electricity prices. As of July 2014, Virginia's typical residential bill is 11% below the national average, 13% below the D.C. Regional average and 19% below the East Coast average.
- VNECA encourages the 2014 Virginia Energy Plan to recognize the **substantial economic value of Virginia nuclear science and technology stakeholders**. Virginia is home to a few of the global leaders in the nuclear energy sector, such as AREVA, Babcock and Wilcox, Bechtel and Newport News Shipbuilding. In addition, dozens of other companies, located all across Virginia, provide services, supplies and support to nuclear facilities inside the Commonwealth and globally. The nuclear energy sector drives Virginia's economy in every region, creating high skilled jobs, supporting research and generating revenues at the state and local level.
- VNECA recommends the 2014 Virginia Energy Plan to recognize the value of nuclear power as an economic and effective way for Virginia to comply with the **new EPA GHG emissions regulations**.
- VNECA recommends the 2014 Virginia Energy Plan to support Dominion's plan to **build additional nuclear capacity** at the North Anna site.
- VNECA recommends the 2014 Virginia Energy Plan to recognize the importance of nuclear power in the reduction of carbon emissions by including nuclear power as one of the existing technologies readily available to comply with **renewable portfolio standards in Virginia.**
- VNECA recommends the support for the potential deployment of economically feasible small modular reactors, like the **Virginia-born B&W *mPower* design**, as a potential replacement for small old coal units that may not be economically feasible to retrofit with the appropriate emissions controls necessary to meet the new EPA GHG gas regulations.

**Education, Advanced Research and Technology, Workforce Development**

- VNECA requests resources for **cutting-edge research in the area of nuclear science and engineering**, so that Virginia can become a leader in the US and in the world. Virginia is home of two of the only 31 nuclear engineering programs in the United States (VCU and Virginia Tech).
- VNECA requests the support for **additional nuclear workforce development** in Virginia, to continue creating high-paying jobs for Virginians, and to sustain our very important nuclear industry in the long term.
- VNECA encourages the development of **education programs** in the areas of energy generation, energy use, energy efficiency, as well as the importance of the design and implementation of a balanced energy portfolio that makes appropriate use of all available energy sources.