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**Subcommittee on Clean Air and Nuclear Safety**  
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Mr. Chairman, Ranking Member and members of the subcommittee: Thank you for the opportunity to appear before you today. I am David A. Christian, President and Chief Nuclear Officer of Dominion Nuclear, a unit of Dominion Resources of Richmond, Va.

Dominion operates four nuclear generating stations in three states -- two in Virginia, and one each in Connecticut and Wisconsin. Dominion is one of the nation's largest producers of energy, with a portfolio of approximately 26,500 megawatts of generation. These generating assets include a diverse portfolio of stations fueled by uranium, coal, natural gas, oil, water and wind. Our philosophy is that a diverse mix of generating facilities is necessary in order to minimize volatility. We also believe that all forms of energy and conservation initiatives are needed to meet growing customer demands for electricity in the future.

We appreciate the support of Congress in addressing America's future energy needs by passing the Energy Policy Act of 2005. This Act encourages the development of energy facilities across the board, including incentives for new nuclear generation through federal loan guarantees for the first new units and continued funding for the Department of Energy's Nuclear Power 2010 Program. Dominion has been a participant in this program to offset our costs, working through the new NRC regulations

for licensing new nuclear units that will benefit the entire industry by providing regulatory stability for the licensing process.

I was invited here today to give you our experience with the new nuclear unit licensing process. Overall, my observations are that the Nuclear Regulatory Commission has been professional and open in developing and implementing the new nuclear unit licensing process. Although there is still some work to be done to fully implement the new licensing processes, we believe the goal is achievable. Continued attention will be needed to assure that the progress achieved through the Part 52 process improvements, the unprecedented industry commitment to standardization, and the adoption of Design Centered Working Groups and reference COL applications, is sustained.

**Dominion is a leader in the nuclear renaissance.**

Our involvement in the newest phase of nuclear development started at the beginning of this decade. Since 2001, Dominion has been responsive to U.S. Department of Energy solicitations involving the advancement of new nuclear generation technology. We were awarded DOE funding and completed studies to identify the issues and barriers associated with the development of new nuclear power units. We evaluated candidate sites for a new nuclear unit as well as activities, resources costs and schedule considerations associated with obtaining an Early Site Permit from the NRC. We studied the staffing, schedules, costs and eventual decommissioning of new nuclear units in the United States. We are also the recipient of

Cooperative Agreements from DOE for the Early Site Permit demonstration project and the Combined License demonstration project.

Our commitment to these programs has been significant. Dominion has received funding of up to 50 percent through the Cooperative Agreements of DOE's NP2010 program on new-nuclear related activities. Dominion has also committed toward a viable nuclear option by ordering large, long lead-time equipment such as the reactor vessel. We are now considering the construction of a third nuclear reactor at a site located at our North Anna Power Station in central Virginia, a project that would be subject to approvals including that of the Virginia State Corporation Commission.

**Dominion's Experience with NRC's new licensing process is positive.**

The NRC's new licensing process is found in Title 10, Part 52 of the Code of Federal Regulations, and is commonly referred to as "Part 52." Part 52 has three elements: early site permitting, design certification, and combined licenses.

An early site permit, or ESP, is intended to achieve early resolution of site safety issues, evaluate environmental impacts, and consider certain emergency preparedness issues in advance of a decision/license to construct and operate a new nuclear unit.

Design certification is intended to facilitate the NRC's safety review of advanced reactor technologies and to maintain standardization of the design once it is certified.

A combined license (COL) is intended to build on the ESP and design certification elements of Part 52. It ultimately results in an NRC approval that combines both a construction permit and an operating license. The combined license must be issued prior to beginning safety related construction.

Dominion has “hands-on” experience with two of the three elements in the Part 52 process – early site permitting and combined license – and is cooperating with General Electric-Hitachi Nuclear Energy (GEH) on the third element: design certification for the ESBWR. The ESBWR is an advanced Generation III+ design that incorporates the combination of reactor passive safety, unit security and economic, reliable operation.

In 2002, DOE expressed interest in demonstrating the NRC’s ESP rules, which were ready to be used, but no company had yet done so. Dominion was the recipient of a DOE Cooperative Agreement to work through this process, with DOE providing funding of up to 50 percent. Dominion submitted an ESP application on schedule in 2003 for our North Anna site. After extensive NRC staff review, public input and a mandatory hearing before the NRC’s Atomic Safety and Licensing Board, the NRC issued the early site permit to Dominion on November 27, 2007.

As a next step to further the development of new nuclear units, the DOE sought to demonstrate the NRC regulations allowing for issuance of a Combined Operating License, or COL. Dominion received a Cooperative Agreement in 2005 that provides

funding of up to 50 percent of the cost of the COL process and engineering activities necessary to prepare for construction. On the same day we received the Early Site Permit, Dominion, along with North Anna co-owner Old Dominion Electric Cooperative, filed the COL application.

This application, again submitted on schedule, is for a General Electric-Hitachi (GEH) ESBWR to be built at North Anna. The application incorporated both the ESP for the North Anna site as well as GEH's ongoing effort to certify the ESBWR design.

Dominion's COL application was based on NRC guidance developed with significant interaction with the public and the industry. The NRC acknowledged that Dominion had submitted a high-quality application. The NRC completed its acceptance review in less than the prescribed time and published a detailed review schedule. The NRC is scheduled to complete its technical review in August 2010 with a mandatory administrative hearing to follow.

In parallel with Dominion's process, GEH had applied to NRC for certification of the ESBWR in August 2005. The NRC is currently conducting its technical review of the ESBWR design. Once completed, NRC action to certify the design through rulemaking would follow and will need to be completed prior to NRC issuance of the combined license for the new North Anna unit.

**Dominion's assessment is that NRC is prepared to handle a large (but not unlimited) number of early site permit, design certification, and combined license applications from utilities and vendors.**

The NRC strongly encouraged the “design-centered review approach” to maximize its review efficiency. Dominion supports this approach through its participation in the ESBWR design-centered working group and in its role as the lead combined license applicant that has incorporated the ESBWR design. Others in the ESBWR design-centered working group are Entergy, Exelon, and DTE Energy. The goal of the working group is to maximize standardization, not only with respect to licensing, but for all facets of new unit construction and operation.

The NRC has taken a number of actions to prepare for new unit applications. NRC has acquired a substantial number of additional resources to support the expected licensing activity and established a new organization, the Office of New Reactors. It has revised its Part 52 regulations to reflect experience from its earlier licensing efforts under the original 1989 version of the regulation and published guidance (called Regulatory Guide 1.206) on how applicants can meet the new regulation. NRC also updated its internal guidance for conducting reviews under the new rule. The NRC established an enterprise-wide project management system to help manage its new licensing activities. It has established a new inspection resource, headquartered in Atlanta, to support the substantial inspections that must be conducted in order for NRC to ensure that its regulatory requirements are being met.

**Dominion's experience with NRC has been positive and the benefits of the new licensing process are being realized.** All three elements of Part 52 are currently being implemented, although some final aspects remain to be tested.

**NRC requirements are adequate to ensure public health and safety.** NRC's safety mandate and regulations haven't changed. Part 52 is primarily a regulation that implements a process improvement.

**NRC guidance is useful and consistent with its regulations.** By and large, NRC guidance is consistent with and clarifies NRC regulations. When inconsistencies or ambiguities are identified, NRC has shown a willingness to work with applicants to resolve or clarify the concern.

**The NRC can issue reasonable schedules when provided with applications that meet its requirements and guidance.** Dominion has demonstrated that NRC regulations can be met and NRC guidance followed. That results in high quality applications the NRC can accept in a timely manner and review schedules unencumbered with caveats and conditions.

**The NRC is working to maintain its published schedule.** NRC has its new enterprise-wide project management tool to more effectively allocate resources and monitor review status. More importantly, it has established a strong project management organization within the Office of New Reactors to oversee its licensing

review activities. The concept of resolving site-related issues in an ESP and standard design issues in a DCD is different from the prior licensing process. In addition, the concept of reviewing common issues once for the reference application, and then expecting subsequent applications to reference these resolved issues, promises to make future application reviews more efficient.

**Part 52 is an improved process.** Dominion took advantage of the early site permit feature of NRC's regulations for its North Anna site. The process resulted in early identification and resolution of issues that otherwise would have only surfaced during the subsequent combined license review and would likely have had an adverse impact at the time on Dominion's plans for acquiring a combined license for a new nuclear unit.

**The aspect of the combined license process intended to confirm that "what was built" is the same as "what was licensed" is the final aspect of the Part 52 rule to be demonstrated.** To its credit, the NRC has been actively working with the nuclear industry to define the "end game" element of Part 52, commonly called ITAAC, or Inspections, Tests, Analyses and Acceptance Criteria. ITAAC are key features of the design or site by which the licensee demonstrates that what was built is the same as what was licensed. This final aspect of the new rules occurs prior to actually loading nuclear fuel and starting up the new unit. This remaining aspect of Part 52 is a challenge. Dominion will work with the industry and NRC to resolve it in a manner that ensures public health and safety is maintained.



In conclusion about the new licensing process, let me reiterate our observations that the NRC has been professional and open in developing and implementing the Part 52 process. The NRC is capable of implementing the process to license new units, and the industry is capable of preparing quality applications. Although there is still some work to be done to establish processes that fully implement Part 52, it appears the goal is achievable.

I also understand that the committee is interested in the topic of nuclear unit license renewal. Dominion is a proponent of nuclear unit license renewal and, to date, has successfully renewed the licenses for six of our seven operating units.

The federal license renewal process has been extremely important for ensuring that the nation continues to benefit from the safe and reliable operation of the existing fleet of nuclear power generating units. As required by federal law, Dominion successfully demonstrated that we have programs in place to ensure that passive components and structures – such as concrete, structural steel, pipe and cable – will continue to perform their intended functions beyond 40 years. As part of this thorough process, companies must also evaluate the environmental consequences of continued operation and summarize these findings as part of its application to the NRC.

The NRC uses this information, the technical information it receives from the company, and comments from the public to issue an environmental impact statement and a safety evaluation report to determine whether the existing operating license should be renewed.

We found this process to be sound.

Thank you for your leadership, and I'll be glad to answer any questions you may have.