

Statement before

Blue Ribbon Commission on America's Nuclear Future

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Chairmen Hamilton and Scowcroft and distinguished members of the Commission, thank you for the opportunity to speak with you today. My name is Henry B. Barron (I use the nick name Brew, if you prefer). I am the president and chief executive officer of Constellation Energy Nuclear Group, LLC. My company is a joint venture of Constellation Energy Group and the EdF Group. We own and operate five nuclear power reactors, located in Maryland and New York. We are headquartered in Baltimore, MD, have approximately 2700 employees and generate annual revenues of approximately \$1.5B.

The work of this commission is very important, and the complexity of the issues that must be deliberated is very high.

On May 25, 2010, Marvin Fertel from the Nuclear Energy Institute testified to you that "America's used nuclear fuel program should be transferred to an entity with a management and financing structure that is able to function in the presence of the inevitable political and policy changes that will occur over the coming decades."

Last week MIT released a report titled the *MIT Study on the Future of the Nuclear Fuel Cycle*. In that study an interdisciplinary group concluded "The failures and successes of U.S. and European programs suggest that a nuclear waste management organization should have the following characteristics: (1) authority for site selection in partnership with state and local governments, (2) management authority for nuclear waste disposal funds, (3) authority to negotiate with facility owners about SNF and waste removal, (4) engagement with policy makers and regulators on fuel cycle choices that affect the nature of radioactive waste streams, and (5) long-term continuity in management". The study further concluded that "These characteristics are not recognizable in the U.S. program to date." Consistent with Mr. Fertel's views, the report recommends that "a new quasi-government waste management organization be established to implement the nation's waste management program."

I previously served as the chairman of the nuclear industry's used nuclear fuel working group under the Nuclear Energy Institute. In that role I spent considerable time monitoring and evaluating the Department of Energy's progress in implementation of the civilian radioactive waste program, paying particular attention to changes that I and the group believed would significantly enhance the overall probability of success of the program. My conclusions and those of the working group are the same as those of Mr. Fertel and the MIT study on these points.

Legislatively, Senator George Voinovich introduced Senate Bill S.3322, and Representative Fred Upton introduced very similar legislation in House Bill H.R.5979. If enacted, these statutes would establish the United States Nuclear Fuel Management Corporation. I believe this proposed legislation generally provides an excellent blue print for accomplishing the objectives of establishing an organization that has

the essential characteristics identified in the MIT study, and advocated by NEI and the nuclear industry. Within the context of this proposed legislation I will focus on two key attributes of the proposed corporation: governance and financial management, first addressing governance.

The proposed law establishes a 9-member board of directors for this government-owned corporation. The role of this board and its fiduciary responsibilities will be to represent the interests of the equity investors in the corporation; these investors being those who have previously contributed or will continue to contribute waste fees to the nuclear waste fund. Consequently, at least half of this board should consist of qualified individuals who directly represent regulated electric customers of nuclear-owning utilities or nuclear power plant owners themselves. Nuclear waste fees with a net present value in excess of \$30 billion have been invested for the purpose of disposing of used nuclear fuel from commercial power reactors. Assuring that these funds are deployed for their intended purpose will be the primary responsibility of this board.

Additionally, the proposed corporation's board will have the responsibility to select and hire a chief executive who will have the responsibility and authority to direct the day-to-day operations of the corporation. The board will delegate to this individual the authority necessary to carry out those duties, including the power to execute contracts, pay the expenses of the corporation, and finance and implement capital projects it has approved. No authority beyond that held by the board of directors should be required to appoint, or remove, the chief executive. This structure will more effectively focus the on-going operations of the corporation, and insulate it from US political cycles.

Most importantly, this board of directors will be charged with resolving many of the issues on which this commission has been deliberating and tasked with making recommendations; the most significant being evaluating alternatives regarding the safe storage, intermediate processing and final disposition of used nuclear fuel. But rather than making recommendations, this corporate board will be accountable deciding and tasking the management of the corporation to execute plans that fulfill the obligations that the corporation has to its shareholders. As I am sure this commission has observed through its deliberations, these are not trivial matters. They will require on-going evaluation in the light of future changes in energy policy as well as technology development. This new corporate board must be equipped to execute that duty.

Solutions that are politically perfect or academically elegant are very interesting book ends to the discussion, but fail to address the practical realities of used nuclear fuel management in this country. In this country we value debate, as open debate leads to better solutions; but universal agreement on any given path forward is unlikely. Additionally, nuclear waste management is not a simple technology; and today's technology choices will be improved in the future. But, again, waiting for the elegant solution to appear is not necessarily the more responsible approach to meeting the obligations of the corporation to its shareholders. The board of this corporation must be prepared and empowered to set a path forward and follow it, making course corrections as energy policy and technologies evolve and change.

Whether a selected path is direct disposal on one hand or fuel recycling on the other, another 15 years is the very earliest that either could be reasonably expected to be operational. By that time there will be approximately 100,000 MT of used nuclear fuel in inventory. Roughly 2000 MT of used nuclear fuel is produced each year. The Yucca Mountain project, as an example of a geologic disposal solution, predicted an acceptance rate of 3000 MT per year. Simple math makes the rate of inventory reduction only 1000 MT per year; in other words there would be a 100-year back log. The largest recycling operation in the world, the La Hague recycling facility in France, has an annual capacity of 1600 MT per

year. It would take a facility 25% larger than La Hague simply to stop the inventory rise in this country, much less reduce that inventory. Decisions to deploy available technologies or to wait for better solutions each have impacts in the future. Beyond the tenure of this commission, there must be a designated body with the accountability to assess these issues on an on-going basis with the authority to take those decisions necessary to address them.

Part of that assessment will be gaining an understanding of the macro economics of the nuclear fuel cycle within the overall electric sector. So let's turn to some financial issues. For example, I consider it unlikely that the current 1 mil per kilowatt-hour fee will remain adequate indefinitely if any real actions are taken to advance disposition of used fuel. The 1 mil fee is roughly equivalent to \$1 per ton of carbon in a coal-based electric system or \$2 per ton of carbon in a natural gas-based system. In the overall debate regarding the need for pricing of carbon, floor and ceiling prices between \$10 and \$30 per ton are routinely discussed. Carbon pricing, if it materializes, will clearly enhance the economics of nuclear power. Within that enhanced economic context, changes in the nuclear waste fee schedule, if associated with real action towards the disposition of used nuclear fuel, are not unthinkable.

Sticking with financial issues, I note that one focus and intent of the proposed legislation is to establish a financial accounting system that generally reflects the accounting for assets and liabilities in a manner similar to that utilized in the non-government sector. On the asset side, the proposed statute establishes two financial accounts – an Operating Account and Capital Reserve Account, both to be held by the US Treasury. The operating account would receive the on-going cash revenues from waste fees or any other sources of revenue to the corporation. Its use would not be subject to congressional appropriations. Under the authorities delegated to the management of the corporation by its board of directors, these funds would be used to pay the expenses of the business. The Capital Reserve Account would be credited with the unexpended balance of the nuclear waste fund, often referred to as the corpus, as an unfunded asset to be placed on the balance sheet of the corporation. This asset, which will continue to accrue interest, would represent the value of the statutory obligation that the US Treasury will continue to hold for the ultimate disposal of nuclear wastes from commercial nuclear power reactors.

On the liability side, under generally accepted accounting principles, the corporation would be expected to perform life cycle cost estimates of the ultimate costs of disposal of its current and projected waste inventories. They then must demonstrate that the assets ultimately available to fund those liabilities will be adequate at such time in the future that they will be needed. This is similar in approach to assessing employee pension fund or nuclear facility decommissioning fund adequacy in a GAAP context. This accounting is not only needed to demonstrate that the funds paid into the nuclear waste fund will ultimately be available for their intended purpose, but also to demonstrate that the costs of disposal of used nuclear fuel beyond what is paid in nuclear waste fees will not become an obligation of the US taxpayer.

The proposed legislation also provides the corporation's board with the authority to adjust the nuclear waste fee schedule. This authority is essential to the corporation's and its board's ability to carry out its fiduciary obligations. Moreover, when combined with the substantial assets on its balance sheet, the authority to adjust revenues from fees should establish a favorable credit assessment for the corporation. This credit assessment should be adequate for it to be able to raise the capital needed to fund the investments in facilities that it may need without direct dependence on the corporation's Capital Reserve Account. The ability to carry on its operations independent of the actions of Congress is a critical component of the potential success of whatever organization is tasked with the responsibilities of the civilian radioactive waste program.

A perspective that is important to keep in mind is that the Nuclear Waste Policy Act of 1982 established the principle that both the disposition of used nuclear fuel and the payment of expenses are shared obligations of commercial nuclear power plant operators. Consequently, the costs associated with removal of used fuel from any given site are to be shared by all operators through the established fee structure. If a path were to be pursued where the disposition process included processing or recycling of used fuel, the incremental costs of that path should be borne by all operators, not just those operators who are purchasing the recycled fuel. The financial management structure as proposed in the Voinovich and Upton legislation supports a continuation of that nearly 30-year old principle.

In closing, I would like to repeat my observation regarding the importance of the work of this commission and the complexity of the issues that it must deliberate. As I am sure you realize, management of used nuclear fuel is a very long term endeavor. Success will depend upon establishing a governance structure that is sustainable and has the authority to go beyond making recommendations. That structure must provide for decision making as well as accountability for performance.

I very much appreciate the opportunity to be here today and provide these remarks. I look forward to answering any questions you may have during the panel session.