BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

DOCKET NO. 140009-EI
FLORIDA POWER & LIGHT COMPANY

MARCH 3, 2014

IN RE: NUCLEAR POWER PLANT COST RECOVERY FOR THE YEAR ENDING DECEMBER 2013

TESTIMONY & EXHIBIT OF:

NILS J. DIAZ

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DIRECT TESTIMONY OF NILS J. DIAZ

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Q. Please state your name and business address.

A. My name is Nils J. Diaz. My business address is 2508 Sunset Way, St. Petersburg Beach, Florida, 33706.

Q. By whom are you employed and what is your position?

A. I am the Managing Director of The ND2 Group (ND2). ND2 is a consulting group with a strong focus on nuclear energy matters. ND2 presently provides advice for clients in the areas of nuclear power deployment and licensing, high level radioactive waste issues, and advanced security systems development.

Q. Please describe your other industry experience and affiliations.

A. I presently hold policy advising and lead consulting positions in government and industry, board memberships in private institutions. I recently chaired the American Society of Mechanical Engineers Presidential Task Force on Response to Japan Nuclear Power Plant Events. 1 previously served as the Chairman of the United States Nuclear Regulatory Commission (NRC) from 2003 to 2006, after serving as a Commissioner of the NRC from 1996 to 2003. Prior to my appointment to the NRC, I was the Director of the Innovative Nuclear Space Power and Propulsion Institute for the Ballistic Missile Defense Organization of

the U.S. Department of Defense, and Professor of Nuclear Engineering Sciences at the University of Florida. I have also consulted on nuclear energy and energy policy development for private industries in the United States and abroad, as well as the U.S. Government and other governments. I have testified as an expert witness to the U.S. Senate and House of Representatives on multiple occasions over the last 30 years. I also served as a Commissioner on Florida's Energy and Climate Commission from 2008 to 2010. Additional details on my background and experience are provided in my resume, which is attached as Exhibit NJD-1.

Q. Are you sponsoring any Exhibits in this case?

A. Yes. I am sponsoring Exhibit NJD-1 - Summary Resume of Nils J. Diaz, PhD.

Q. What is the purpose of your testimony?

A. The purpose of my testimony is to review the prudence of Florida Power & Light Company's (FPL's) continued pursuit of a Combined Operating License (COL) for the Turkey Point Nuclear Units 6 and 7 (Turkey Point 6 & 7) project in 2013 in light of certain nuclear industry and regulatory considerations.

Q. How have you prepared for your review of FPL's approach to the licensing of Turkey Point 6 & 7?

A. I have been well-informed of FPL's Combined Operating License Application (COLA) for the Turkey Point 6 & 7 project since participating in the Need Determination proceedings for Turkey Point 6 & 7 and subsequent Nuclear Power Plant Cost Recovery proceedings. I am knowledgeable regarding the Westinghouse AP 1000 new nuclear plant design referenced by FPL in its COLA, having worked on the certification of that design when I was on the NRC, and

afterwards. I have also reviewed FPL's project approach, as described in detail in the Direct Testimony of Steven Scroggs, FPL's Senior Director for Project Development for the Turkey Point 6 & 7 project, filed with the Commission prior to 2014 and on this date. I have also discussed FPL's approach and certain licensing-related issues with Mr. Scroggs and other key project personnel. Finally, I am familiar with past and ongoing NRC reviews of other COL applications.

Q. Was FPL's approach to the continued pursuit of a COL for the Turkey Point 6 & 7 project in 2013 prudent?

A. Yes. Based on my review, the decisions and management approaches used by FPL during 2013 were prudent and consistent with a reasonable strategy for pursuing the licensing of the proposed Turkey Point 6 & 7 project.

Q. Is it feasible for FPL to receive a COL to pursue construction and operation of Turkey Point 6 & 7?

A. Yes. In fact, I am confident that FPL will receive a COL license upon satisfaction of NRC requirements for public health and safety, the environment and the common defense and security.

Q. Please comment on the NRC regulatory reviews and requirements addressing the Fukushima events, as they relate to the feasibility of licensing Turkey Point 6 & 7 and the prudence of FPL's approach.

A. The NRC has continued to evaluate and act on the lessons learned from the March 2011 nuclear events in Japan. The implementation of the most important recommendations (Tier 1 and Tier 2) of the NRC's Near Term Task Force

(NTTF) on Fukushima has advanced satisfactorily, and key beyond-design-basis issues have been addressed. These include seismic, flooding, station blackout and fuel pool instrumentation.

Presently, the recommended NTTF actions with the highest priorities have been enacted into requirements by orders and rulemakings, and information gathered from licensees regarding site-specific issues. For example, in May 2013, the NRC staff issued the final Implementation of Regulatory Guide 1.221 on Design-Basis Hurricane, which is applicable to the COL for Turkey Point 6 & 7. Moreover, on December 6, 2013, the Staff issued its recommendations to the Commission for the disposition of Recommendation 1 of the NTTF in December 2013. This encompassing recommendation proposed establishing a "logical, systematic, and coherent regulatory framework for adequate protection that appropriately balances defense-in-depth and risk considerations." This previously open-ended regulatory issue, with potential significant impact on licensees, has now been presented for Commission resolution with a coherent set of improvement activities to categorize design-basis events and requirements in a forward-looking manner, to establish Commission expectations for defense-in-depth via a policy statement, and to clarify the role of voluntary initiatives in NRC regulatory process. The Turkey Point 6 & 7 team is mindful of these issues for future action, if necessary.

As I have testified in the past, I do not anticipate that the events at Fukushima will have a significant impact on the ability to obtain a license for, or to ultimately construct and operate, Turkey Point 6 & 7. With respect to new reactors, the NRC has recognized the significant safety enhancements already inherent in reactors with passive safety systems, such as the AP 1000 reactor selected for the Turkey Point 6 & 7 project. The NRC has stated that "all of the current COL and design certification applicants are addressing new seismic and flooding requirements adequately in the context of updated NRC guidance." The NRC staff also concluded that "[b]y nature of their passive design and inherent 72-hour coping capability for core, containment and spent fuel cooling with no operator action required, the . . . AP 1000 design [has] many of the design features and attributes necessary to address the Task Force recommendations." It is apparent that the certified AP 1000 reactor referenced in the Turkey Point 6 & 7 COLA is likely to satisfy the majority of the post-Fukushima changes under consideration by the NRC. Those regulatory changes affecting the FPL COL are mostly established and should be well-incorporated into the final safety review prior to issuance of the license.

With respect to Turkey Point 6 & 7 specifically, the NRC continued during 2013 to use its Request for Additional Information (RAI) process to gather requisite information about the proposed project, including seismic, geophysical and environmental issues. FPL proactively engaged NRC staff with frequent

communications and participation in public meetings to ensure Staff had the information they needed to continue making progress in its review.

In my opinion, it was prudent for FPL during 2013 to continue to pursue a COL referencing the AP 1000 Design Certification and to engage NRC staff in the manner described above.

Q. Please comment on the status of the NRC's waste confidence rule as it relates to the feasibility of licensing Turkey Point 6 & 7.

A. The NRC is scheduled to complete the Generic Environmental Report and Rulemaking for the remanded Waste Confidence Rule by about October 2014. Expert opinions indicate that the published preliminary report should be in compliance with the Court requirements. In a related important matter, connected also to the Fukushima issues in 2013, the Staff "concluded that the continued operation of nuclear power plants with high-density loadings in their SFPs [spent fuel pools] does not challenge the NRC's safety goals or related QHOs [quantitative health objectives]." This specific conclusion regarding spent fuel storage is also applicable to the Turkey Point COLA. The NRC will take final action on pending applications when the NRC issues its revised rulemaking. The progress on the Waste Confidence Rule in 2013 supports the feasibility of FPL's Turkey Point 6 & 7 COL issuance.

Q. Are there other NRC regulatory issues that FPL is monitoring?

A. Yes. The issue of the finality of standard design certifications, like the AP1000 Design Certification referenced in FPL's COLA, and its relationship to changes during construction is being monitored by FPL.

FPL applied for a COL that references the Design Certification of the AP1000, as established by Appendix D to 10 CFR Part 52. The advantage of this approach is that the issues resolved during the design certification rulemaking are precluded from reconsideration at the combined license stage.

Because standardization remains a key objective of the NRC regulatory framework, significant efforts have been made to minimize changes to design certifications, often referred to as the "design finality considerations" established by 10 CFR Part 52.63. The finality considerations protect the licensee from potential design changes that are not necessary to assure adequate protection of the public health and safety. At the same time, finality considerations impose certain restrictions on changes that an applicant for a COL and a licensee might want to make to the certified design.

Design changes that are generic in nature, such as those impacting the industry following the NRC's post-Fukushima orders and rulemaking, are handled by Westinghouse through the Design Center Working Group. Such changes result in revisions to the certified safety design. However, there are also differences between the certified safety design and the detailed design used for plant

construction at a particular site. As a result, 10 CFR Part 52 provides a process by which applicants may seek design changes as part of the licensing process on a site-specific basis. Applicants must therefore consider performing detailed design for the construction of a certified design, prior to and after the issuance of a COL, to help avoid delays during plant construction. All of the support engineering and analysis work that may be necessary to clarify the detailed design for construction and its conformance with the design certification, or the evaluation of the need for changes or license amendments, is not only necessary from a licensing perspective, but also contributes to the decision-making necessary for construction.

Q. Does this conclude your direct testimony?

A. Yes.

Dr. Nils J. Diaz is the Managing Director of The ND2 Group, an expert and policy advisor group with a strong focus on the national and international nuclear power development and deployment arena, including new and existing plant licensing, regulatory, financial, policy and communications issues, and the Chief Strategic Officer of Blue Castle Holdings, Inc. The ND2 Group is presently or was recently engaged by governments developing new nuclear options and infrastructure, a major nuclear reactor vendor, US nuclear utilities, international engineering/ consulting firms, and the U.S. Department of Energy. He also provides developmental policy advice to OECD's Nuclear Energy Agency, and serves on two Boards of Directors. He recently served as a Commissioner, Florida Energy and Climate Commission, October 2008-October 2010.

Nils Diaz is a past Chairman of the U.S. Nuclear Regulatory Commission (NRC). Dr. Diaz was designated Chairman of the NRC by President Bush on April 1, 2003 and he served as such until his retirement from government service on June 30, 2006. As Chairman of the NRC, Dr. Diaz served as the principal executive officer of and the official spokesman for the NRC, and had ultimate authority for all NRC functions pertaining to an emergency involving an NRC license; he was directly responsible for all high level interactions with the US Executive Branch and the Congress, as well as the international relationships and the policy development under NRC's charter, including the nuclear security policies and implementation of nuclear plants safety enhancements after 9/11. Dr. Diaz was first nominated by President Clinton and confirmed by the Senate as a Commissioner with the NRC in August 1996, nominated by President Bush and confirmed by the US Senate again in 2001, and exercised the responsibilities of the position until he assumed the Chairmanship of the Commission. As Chairman, he was responsible for the exercise and direction of the Commission's policy-making, licensing and regulatory functions, and employed practical managerial, technical, and entrepreneurial skills to effect changes that enhanced new reactor licensing, license renewal, reactor oversight, enforcement and licensing processes, security and adjudication. Dr. Diaz created and implemented a multi-national initiative to improve the process for safety certification of reactors; the Multinational Design Evaluation Program continues under the umbrella of the Nuclear Energy Agency, OECD.

Prior to his appointment to the NRC, Dr. Diaz was the Director (1985-1996) of a national consortium for advanced nuclear power and propulsion (INSPI) for the Ballistic Missile Defense Organization (BMDO), Department of Defense, Professor of Nuclear Engineering Sciences at the University of Florida (1969-1996, and Dean for Research at CSULB (1984-1986). As a Director for BMDO, he exercised prime contractor management and Lead Scientist responsibilities for a diverse group of industries (including Aeroject, Boeing, Pratt& Whitney, Hughes Electronics, Rocketdyne and SRI), several national laboratories (including Los Alamos NL, Sandia NL, and Lawrence Livermore NL) and seven major universities, under contracts with the Department of Defense, the Defense Nuclear Agency, the Department of Energy and NASA. From 1969

to 1996, Dr. Diaz held senior positions at universities, Boards and industry, and consulted for the U.S. Government and other governments on civilian nuclear energy development. He also owned six small corporations serving the nuclear industry and government during that period, and spent six years at nuclear utilities and reactor vendors, often troubleshooting technical and management performance issues. He lived in Europe in 1981-1982, while serving as Principal Advisor to Spain's Consejo de Seguridad Nuclear, and consulting for nuclear industries and vendors in other European countries.

Dr. Diaz is internationally recognized for his broad expertise and contributions to nuclear sciences, reactor systems and fuels, to the regulation of nuclear facilities and radioactive materials, to the development of nuclear policy and deployment infrastructure. He has worked extensively in the international arena, including interacting and contributing to major policy, fora and decision-making efforts focusing on energy infrastructure development.

Dr. Diaz has published over 70 refereed technical articles and has participated in more than 200 international forums on nuclear energy, sciences and technology. He has been recognized worldwide for his statesmanship on nuclear affairs, including chairing the G8Nuclear Summit in Russia and leading the US Delegation to the International Atomic Energy Agency General Conference in 2005. He has received many national and international awards, including the Henry DeWolf Smyth 2008 Nuclear Statesman Award, awarded by the Nuclear Energy Institute, representing the nuclear industry, and by the American Nuclear Society. Dr. Diaz has been elected a Member of the Hispanic Hall of Fame and recognized as one of the top 50 Hispanics in Sciences and Engineering, and was named the National Hispanic Scientist of the Year for 2009.

Dr. Diaz holds a Ph.D. and M.S. in Nuclear Engineering Sciences from the University of Florida, and a B.S. Degree in Mechanical Engineering from the University of Villanova, Havana. He was licensed as a Senior Reactor Operator by the NRC and has formal training and practice in health physics, radiological sciences and nuclear medicine. He is a Fellow of the American Nuclear Society, the American Society of Mechanical Engineers, and the American Association for the Advancement of Sciences. He recently chaired the ASME Presidential Task Force in response to the Fukushima accidents.

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