April 14-18, 2011

UNITED STATES OF AMERICA
U.S. NUCLEAR REGULATORY COMMISSION
BEFORE THE COMMISSION

In the Matter of Amerenue (Callaway Plant Unit 2)	)))	Docket No. 52-037-COL
In the Matter of AP1000 Design Certification Amendment 10 CFR Part 52	)))	NRC-2010-0131 RIN 3150-A18
In the Matter of Calvert Cliffs 3 Nuclear Project, L.L.C. (Calvert Cliffs Nuclear Power Plant, Unit 3)	)))	Docket No. 52-016-COL
In the Matter of Detroit Edison Co. (Fermi Nuclear Power Plant, Unit 3)	)))	Docket No. 52-033-COL
In the Matter of Duke Energy Carolinas, L.L.C. (William States Lee III Nuclear Station, Units 1 and 2)	))))	Docket Nos. 52-018 and 52-019
In the Matter of Energy Northwest (Columbia Generating Station)	)))	Docket No. 50-397-LR
In the Matter of Entergy Nuclear Generation Co. And Entergy Nuclear Operations, Inc. (Pilgrim Nuclear Power Station)	))))	Docket No. 50-293-LR
In the Matter of Entergy Nuclear Operations, Inc. (Indian Point Nuclear Generating Station, Units 2 and 3)	))))	Docket Nos. 50-247-LR and 50-286-LR
In the Matter of ESBWR Design Certification Amendment 10 CFR Part 52	)))	NRC-2010-0135 RIN-3150-AI85

In the Matter of	)	
FirstEnergy Nuclear Operating Co.	)	Docket No. 50-346-LR
(Davis-Besse Nuclear Power Station,	)	
Unit 1)	)	
In the Matter of	)	
Florida Power & Light Co.	)	Docket Nos. 52-040-COL
(Turkey Point Units 6 and 7)	)	and 52-041-COL
In the Matter of	)	
Luminant Generation, Co., L.L.C.	)	Docket Nos. 52-034-COL
(Comanche Peak Nuclear Power Plant,	)	and 52-035-COL
Units 3 and 4)	)	
In the Matter of	)	
Nextera Energy Seabrook, L.L.C.	)	Docket No. 50-443-LR
(Seabrook Station, Unit 1)	)	
In the Matter of	)	
Pacific Gas and Electric Co.	)	Docket Nos. 50-275-LR
(Diablo Canyon Nuclear Power Plant,	)	and 50-323-LR
Units 1 and 2)	)	
In the Matter of	)	
PPL Bell Bend, L.L.C.	)	Docket No. 52-039-COL
(Bell Bend Nuclear Power Plant)	)	
In the Matter of	)	
Progress Energy Carolinas, Inc.	)	Docket Nos. 52-022-COL
(Shearon Harris Nuclear Power Plant,	)	and 52-023-COL
Units 2 and 3)	)	
In the Matter of	)	
Progress Energy Florida, Inc.	)	Docket Nos. 52-029-COL
(Levy County Nuclear Power Plant,	)	and 52-030-COL
Units 1 and 2)	)	
In the Matter of	)	
South Carolina Electric and Gas Co.	)	Docket Nos. 52-027-COL
And South Carolina Public Service Authority	)	and 52-028-COL
(Also Referred to as Santee Cooper)	)	
(Virgil C. Summer Nuclear Station, Units 1 and 2)	)	

In the Matter of	)	
Southern Nuclear Operating Co.	)	Docket Nos. 52-025-COL
(Vogtle Electric Generating Plant,	)	and 52-026-COL
Units 3 and 4)	)	
In the Matter of	)	
South Texas Project Nuclear Operating Co.	)	Docket Nos. 52-012-COL
(South Texas Project,	)	and 52-013-COL
Units 3 and 4)	)	
In the Matter of	)	
Tennessee Valley Authority	)	Docket Nos. 50-438-CP
(Bellefonte Nuclear Power Plant,	)	and 50-439-CP
Units 1 and 2)	)	
In the Matter of	)	
Tennessee Valley Authority	)	Docket Nos. 52-014-COL
(Bellefonte Nuclear Power Plant,	)	and 52-015-COL
Units 3 and 4)	)	
In the Matter of	)	
Tennessee Valley Authority	)	Docket No. 50-0391-OL
(Watts Bar Unit 2)	)	
In the Matter of	)	
Virginia Electric and Power Co.	)	
d/b/a/ Dominion Virginia Power and	)	Docket No. 52-017-COL
Old Dominion Electric Cooperative	)	
(North Anna Unit 3)	)	

EMERGENCY PETITION TO SUSPEND ALL PENDING REACTOR LICENSING DECISIONS AND RELATED RULEMAKING DECISIONS PENDING INVESTIGATION OF LESSONS LEARNED FROM FUKUSHIMA DAIICHI NUCLEAR POWER STATION ACCIDENT

I. INTRODUCTION

Pursuant to the Atomic Energy Act ("AEA") and the National Environmental Policy Act ("NEPA"), Petitioners hereby request the U.S. Nuclear Regulatory Commission ("NRC" or "Commission") to exercise its supervisory jurisdiction over all pending proceedings for the consideration of applications for construction permits, new reactor licenses, combined construction permit and operating licenses ("COLs"), early site permits ("ESPs"), license renewals ("LRs"), and standardized design certification rulemakings for nuclear reactors (hereinafter collectively "licensing and related rulemaking proceedings"), to ensure the consideration in those proceedings of new and significant information regarding the safety and environmental implications of the ongoing catastrophic radiological accident at the Fukushima Daiichi Nuclear Power Station, Units 1-6 ("Fukushima"), in Okumu, Japan.

This Petition is filed by Petitioners in each of the above-captioned licensing and rulemaking proceedings now pending before the Commission. The Petition will be filed in each of the above-captioned proceedings between April 14 and April 18, 2011.[1]

Petitioners request the Commission to take the following immediate actions:

- Suspend all decisions regarding the issuance of construction permits, new reactor licenses, COLs, ESPs, license renewals, or standardized design certification pending completion by the NRC's Task Force to Conduct a Near-Term Evaluation of the Need for

[1] This Petition is complementary to the Petition to Suspend AP1000 Design Certification Rulemaking Pending Evaluation of Fukushima Accident Implications on Design and Operational Procedures and Request for Expedited Consideration that was filed by the Bellefonte Efficiency and Sustainability Team and other organizations on April 6, 2011.

Agency Actions Following the Events in Japan ("Task Force") of its investigation of the near-term and long-term lessons of the Fukushima accident and the issuance of any proposed regulatory decisions and/or environmental analyses of those issues;

- Suspend all proceedings with respect to hearings or opportunities for public comment, on any reactor-related or spent fuel pool-related issues that have been identified for investigation in the Task Force's Charter of April 1, 2011 (NRC Accession No. ML11089A045). These issues include external event issues (i.e., seismic, flooding, fires, severe weather); station blackout; severe accident measures (e.g., combustible gas control, emergency operating procedures, severe accident management guidelines); implementation of 10 C.F.R. § 50.54(hh)(2) regarding response to explosions or fire; and emergency preparedness. *Id.* The Commission should also suspend all licensing and related rulemaking proceedings with regard to any other issues that the Task Force subsequently may identify as significant in the course of its investigation. The proceedings should be suspended pending completion of the Task Force's investigation into those issues and the issuance of any proposed regulatory decisions and/or environmental analyses of those issues;
- Conduct an analysis, as required by NEPA, of whether the March 11, 2011 Tohoku-Chihou-Taiheiyo-Oki earthquake and ensuing radiological accident poses new and significant information that must be considered in environmental impact statements to support the licensing decisions for all new reactors and renewed licenses;
- Conduct a safety analysis of the regulatory implications of the March 11, 2011 Tohoku-Chihou-Taiheiyo-Oki earthquake and ensuing radiological accident and publish the results of that analysis for public comment;

- Establish procedures and a timetable for raising new issues relevant to the Fukushima accident in pending licensing proceedings. The Commission should allow all current intervenors in NRC licensing proceedings, all petitioners who seek to re-open closed licensing or re-licensing proceedings, and all parties who seek to comment on design certification proposed rules, a period of at least 60 days following the publication of proposed regulatory measures or environmental decisions, in which to raise new issues relating to the Fukushima accident.
- Suspend all decisions and proceedings regarding all licensing and related rulemaking proceedings, as discussed above, pending the outcome of any *independent* investigation of the Fukushima accident that may be ordered by Congress or the President or instigated by the Commission to complement or supersede the work of the Task Force.
- Request that the President establish an independent investigation of the Fukushima accident and its implications for the safety and environmental impacts of U.S. reactors and spent fuel pools similar to the President's Commission on the Accident at Three Mile Island, chaired by John G. Kemeny.

Petitioners respectfully submit that granting of the relief requested above is required by the AEA and NEPA, which forbid the NRC from issuing licenses for which it lacks reasonable assurance of safe operation or for which it has failed to consider all information significantly bearing on the environmental impacts of reactor operation. *See* discussion in Section V.B. below. By establishing the Task Force and ordering the investigation of the regulatory implications of the Fukushima accident for U.S. reactors, the Commission has identified the new information coming out of the Fukushima accident as new and potentially significant; and therefore it is legally obligated to consider the environmental implications of that new

information in all prospective licensing decisions. *Marsh v. Oregon Natural Resources Council*, 490 U.S. 360, 370-71 (1989). Suspension of licensing decisions pending investigations of lessons learned also would be consistent with the course followed by the Commission following the Three Mile Island accident, when the Commission delayed new licensing actions for a year and a half. *See Statement of Policy: Further Commission Guidance for Power Reactor Operating Licenses*, CLI-80-42, 12 NRC 654 (1980) ("TMI Policy Statement").[2]

Finally, emergency action by the Commission is necessary because a number of the pending licensing proceedings are approaching completion (e.g.., the Pilgrim license renewal proceeding, the AP1000 design certification proceeding, the Vogtle Units 3 and 4 COL proceeding, and the Economic Simplified Boiling Water ("ESBWR" design certification rulemaking proceeding). For these reasons, Petitioners therefore request a decision on this Petition within thirty (30) days.

II. DESCRIPTION OF PETITIONERS

Petitioners are organizations and individuals who seek, through this Petition, to ensure that they will have an opportunity to raise new safety and environmental issues emerging from

[2] Petitioners believe that by establishing the Task Force and charging it with the task of investigating the implications of the Fukushima Daiichi accident with respect to its regulatory program, the Commission has, as a matter of law, bound itself to evaluate the significance of the information yielded by its investigation under NEPA and to analyze any information that is new and significant in supplemental environmental impact statements for all pending licensing decisions. Therefore, Petitioners do not believe it is necessary to submit an expert declaration in support of this petition.

In any event, Petitioners expect to submit additional expert support for this Petition early next week, in the form of a declaration by Dr. Arjun Makhijani, President of the Institute for Energy and Environmental Research in Takoma Park, Maryland. Because of other conflicting obligations, Dr. Makhijani was unable to complete his declaration in time to submit it by April 14, 2011. Due to the fact that some of the licensing decisions affected by this petition are imminent, however, the majority of the Petitioners are submitting their legal brief and request for relief at their earliest opportunity, starting today.

the Fukushima nuclear accident in licensing and related rulemaking proceedings. Some of the Petitioners have already intervened in pending NRC licensing proceedings and seek an opportunity to participate with respect to the application of new information regarding "lessons learned" from Fukushima to those proceedings. Other petitioners seek a renewed opportunity to participate in licensing proceedings that have been closed to public participation but that are still pending before the agency. Petitioners also seek to ensure that the NRC will not give final approval to the AP1000 and ESBWR standardized designs proposed by the NRC Staff until the agency has considered whether design modifications are necessary in light of the Fukushima accident.

Petitioners are the following individuals and organizations:

AP1000 Group[3]

Beyond Nuclear, Inc.

Blue Ridge Environmental Defense League, Inc. ("BREDL")

BREDL Chapter Bellefonte Efficiency and Sustainability Team ("BREDL")

Center for a Sustainable Coast, Inc.

Citizens Allied for Safe Energy, Inc.

Citizens Environmental Alliance of Southwestern Ontario, Inc.

Don't Waste Michigan, Inc.

Friends of the Earth, Inc.

Friends of the Coast, Inc.

[3] The AP1000 Oversight Group consists of the Bellefonte Efficiency and Sustainability Team, BREDL, Citizens Allied for Safe Energy, Friends of the Earth, Georgia Women's Action for New Directions, Green Party of Florida, Mothers Against Tennessee River Radiation, North Carolina Waste Awareness and Reduction Network, Nuclear Information and Resource Service, Nuclear Watch South, South Carolina Chapter - Sierra Club, and SACE.

Georgia Women's Action for New Directions, Inc.

Green Party of Florida

Green Party of Ohio

Hudson River Sloop Clearwater, Inc.

Keith Gunter

Michael J. Keegan

Dan Kipnis

Leonard Mandeville

Frank Mantei

Marcee Meyers

Edward McArdle

National Parks Conservation Association, Inc.

Henry Newnan

Mark Oncavage

Missouri Coalition for the Environment, Inc.

Missourians for Safe Energy

Mothers Against Tennessee River Radiation

New England Coalition, Inc.

North Carolina Waste Reduction and Awareness Network, Inc.

Northwest Environmental Advocates, Inc. ("NWEA")

Nuclear Information and Resource Service, Inc.

Nuclear Watch South, Inc.

Public Citizen, Inc.

San Luis Obispo Mothers for Peace, Inc.

Savannah Riverkeeper, Inc.

Seacoast Anti-Pollution League, Inc.

Sierra Club, Inc. (Michigan Chapter)

Sierra Club (South Carolina Chapter)

George Steinman

Shirley Steinman

Southern Alliance for Clean Energy, Inc.

Gene Stilp

Harold L. Stokes

Southern Maryland CARES, Inc. (Citizens Alliance for Renewable Energy Solutions)

Sustainable Energy and Economic Development ("SEED") Coalition, Inc.

Marilyn R. Timmer

Village of Pinecrest, Florida

III. DESCRIPTION OF PENDING PROCEEDINGS IN WHICH PETITIONERS HAVE AN INTEREST IN APPLICATION OF LESSONS LEARNED FROM FUKUSHIMA NUCLEAR FACILITY ACCIDENT.

As discussed above in Section II, Petitioners are organizations and individuals with an interest in pending licensing decisions regarding new or existing nuclear reactors, including rulemakings for certification of standardized designs. A description of those pending proceedings and the Petitioners' interests in those proceedings follows. These descriptions of Petitioners' interests are not intended to be a complete representation of those interests nor are they intended to limit Petitioners in raising safety or environmental concerns related to the Fukushima accident in any on-going or future proceedings.

A. Construction Permit Proceedings

Bellefonte Nuclear Power Plant, Units 1 and 2. Tennessee Valley Authority's ("TVA's") Bellefonte site near Scottsboro in northeast Alabama has no operating nuclear reactors. Although TVA received construction permits for two units in 1974, it asked the NRC to revoke them in 2006. In 2008, TVA reversed course and requested the NRC to reinstate the construction permits for Bellefonte Units 1 and 2. BREDL and its chapter Bellefonte Efficiency and Sustainability Team ("BREDL") and SACE petitioned to intervene, raising concerns about the NRC's statutory authority to re-issue the construction permits and other concerns about site geology, quality assurance, safety requirement upgrades since 1974, and aging plant factors.

On April 2, 2010, the ASLB issued a Memorandum and Order recognizing standing but denying the petition to intervene. On September 29, 2010 the Commission dismissed an appeal but with a dissent in part by Chairman Jaczko. See CLI-10-26. The matter now lies before the US Court of Appeals for the District of Columbia where BREDL filed its latest brief on April 11th. *Blue Ridge Environmental Defense League v. Nuclear Regulatory Commission*, Consolidated Cases Nos. 09-1112 and 10-1058.

B. Part 50 Operating License Proceedings

Watts Bar Unit 2. TVA has attempted to resurrect the Watts Bar 2 reactor, which was all-but-abandoned in 1985. SACE was admitted as an intervenor to the operating license proceeding that commenced in 2009. While a contention regarding aquatic impacts was admitted, the ASLB rejected contentions regarding the inadequacy of TVA's SAMA analysis, including its analysis of the reliability of AC power backup for resolution of GSI-189, "Susceptibility of Ice Condenser and Mark III Containments to Early Failure From Hydrogen Combustion During a Severe Accident." SACE is very concerned about the implications of the Fukushima accident

with respect to the issues of backup power adequacy, hydrogen explosions, and the vulnerability of the proposed Watts Bar reactor's ice condenser containment.

C. Part 50 License Renewal Proceedings

Columbia Generating Station. The license renewal proceeding for the Columbia Generating Station is now pending before the NRC Staff. Under the schedule posted on the NRC's website, publication of a Draft Environmental Impact Statement ("EIS") is scheduled for June 2011. *See* http://www.nrc.gov/reactors/operating/licensing/renewal/applications/columbia.html#schedule.

Petitioner Northwest Environmental Advocates ("NWEA") is extremely concerned about the implications of the Fukushima accident with respect to the safety of operating the Columbia Generating Station. They are particularly concerned about the implications of the Fukushima accident in light of earthquake risks to the Columbia Generating Station based on new findings of a structural zone that kinematically connects faults in central Washington with faults in the Puget Sound, the entirety of which may be seismically active. These findings are scheduled for publication later this year. The Fukushima accident also highlights the hazards associated with facility mismanagement which has been a chronic problem at the Columbia Generating Station.

Davis-Besse Nuclear Power Station, Unit 1. Beyond Nuclear, Citizens Environment Alliance of Southwestern Ontario, Don't Waste Michigan, and the Green Party of Ohio have submitted four contentions challenging the proposed extension of the Davis-Besse license, including inadequate treatment of alternative of potential for commercial-scale wind power and commercial-scale photovoltaic power generation in the ER, and inadequate Severe Accident Mitigation Alternatives ("SAMA") analysis.

Davis-Besse, a Babcock & Wilcox reactor, has a remarkable history of operational problems, the most recent being the infamous 2002 discovery of a massive corrosion hole in the

reactor head the size of a loaf of bread, where a 3/16" stainless
steel liner was all that was holding back the pressurized radioactive water in the vessel.
pressure.

Diablo Canyon Nuclear Power Plant, Units 1 and 2. The Diablo Canyon license renewal proceeding is now pending before the ASLB. San Luis Obispo Mothers for Peace ("SLOMFP") has intervened and gained admission of safety and environmental contentions, including contentions which challenge Pacific Gas and Electric's failure to adequately address earthquake risks to the reactor and the spent fuel pools. The ASLB has also referred to the Commission SLOMFP's petition for a waiver of NRC regulations precluding consideration of the environmental impacts of pool storage of spent fuel, based on a footnote in the 2009 Draft Revised Generic Environmental Impact Statement for Nuclear Power Plant License Renewal which excludes Diablo Canyon and other western reactors from the NRC's finding that pool storage of spent fuel does not pose significant environmental risks with respect to earthquake vulnerability.

SLOMFP is extremely concerned about the implications of the Fukushima reactor accident for the Diablo Canyon reactors and spent fuel pools, including the reactors' vulnerability to severe earthquakes and tsunamis, the lack of reliable and adequate backup power capability for the site, and the infeasibility of emergency evacuation following an earthquake.

Indian Point Nuclear Generating Station, Units 2 and 3. The Indian Point proceeding concerns the relicensing of two pressurized water reactors approximately 35 miles north of New York City. This proceeding has become the most complicated relicensing proceeding ever heard due to the large number of parties and admitted contentions. Hudson Sloop Clearwater, Riverkeeper, and New York State all have multiple contentions admitted in the proceeding. A

number of other municipal entities are participating as interested parties. Clearwater's admitted contention concerns the need to assess the environmental justice implications of severe accidents. Clearwater and Riverkeeper have recently moved to add both environmental and safety contentions regarding waste storage, based upon the recent waste confidence update. In addition, Clearwater, Riverkeeper, and New York State have moved to add environmental contentions based upon the publication of the FSEIS. Initial testimony regarding admitted contentions is now due in approximately 65 days.

Pilgrim Nuclear Power Station. The on-going Pilgrim Nuclear Power license renewal proceeding began in 2006. Two Pilgrim Watch contentions were admitted; one challenged the adequacy of the aging management program for buried pipes/tanks within scope containing radioactive liquids; the other challenged the applicant's SAMA analysis. Although the buried pipe contention was dismissed on summary disposition, the SAMA contention is still before the ASLB. In late 2010, Pilgrim Watch filed two Requests for New Hearings regarding the inadequacy of Entergy's aging management of submerged non-environmentally qualified electric cables and the lack of measures for cleanup after a severe nuclear reactor accident. The contentions are before the ASLB. Given the relevance of these issues to the Fukushima accident, and given the fact that the Pilgrim reactor shares the same boiling water reactor ("BWR") design as the Fukushima reactors, Pilgrim Watch seeks to ensure that it will have an opportunity to raise accident-related issues during the Pilgrim re-licensing proceeding.

Seabrook Station, Unit 1. In the license renewal proceeding for Seabrook Station Unit 1, the ASLB in this proceeding granted standing and admitted contentions submitted by Beyond Nuclear, Seacoast Anti-Pollution League, Sierra Club-New Hampshire Chapter, Friends of the Coast and New England Coalition. Admitted contentions that are relevant to the Fukushima

accident include Beyond Nuclear's contention challenging the licensee's apparent failure to adequately consider the availability of more environmentally benign and less risk-laden alternatives for the proposed period of extended operation. Early reports from Japan indicate that unanticipated costs to the environment and the regional economy resulting from the release of radiological fission products, activation products, and heavy radioactive elements to the environment from the Fukushima reactors and spent fuel pools will dwarf those risks considered in NRC's Generic Environmental Impact Statement , NRC site specific evaluations or in the license renewal application. Other contentions that appear relevant to the Fukushima accident relate to failure to provide for aging management of transformers, failure to provide for adequate aging management of non-qualified safety-related electrical cables susceptible to wetting or submergence, and inadequate and non-conservative Severe Accident Mitigation Alternatives ("SAMA") analysis.

The flooding phenomena at Fukushima also raise questions about the potential for tsunami impact at Seabrook, something dismissed in the LRA documents. Friends of the Coast and New England Coalition found that tsunamis have indeed occurred in adjacent waters of the North Atlantic; the most pertinent and striking example being a tsunami generated by a 7.2 earthquake epi-centered on Georges Bank at the northeast extreme of the Gulf of Maine. That tsunami, when funneled in to the bays and inlets of Newfoundland, crested at 90 feet. *See* http://www.maine.gov/doc/nrimc/mgs/explore/hazards/tsunami/jan05.htm

Clearly, the implications of such examples from recent history, coupled with the Japanese experience, should no longer be ignored when evaluating accident prospects in license renewal proceedings.

D. Part 52 Combined Licensing Proceedings

Bell Bend Nuclear Power Plant. In 2009, Gene Stilp requested a hearing on Pennsylvania Power and Light Co.'s application for a COL for the Bell Bend reactor, to be built adjacent to the two existing Susquehanna reactors. Although the ASLB found that Mr. Stilp had standing, it rejected his contentions as inadmissible. Among Mr. Stilp's rejected contentions was his concern about the safety and environmental risks of storing Bell Bend's spent fuel adjacent to the existing spent fuel storage pools at the Susquehanna site. Mr. Stilp would seek reconsideration of that issue in light of the events at the multi-unit Fukushima facility.

Bellefonte Nuclear Power Plant, Units 3 and 4. BREDL AND Southern Alliance for Clean Energy ("SACE") won the admission of four contentions in the COL proceeding regarding the Tennessee Valley Authority's ("TVA's") COL application for Bellefonte Units 3 and 4. There is considerable uncertainty regarding TVA's COL application which continues to delay the NRC's safety and environmental review schedule. In the wake of the Fukushima accident, the organizations are concerned about seismic risks to the proposed reactors: the Bellefonte site is near the Eastern Tennessee Seismic Zone, which is considered to be one of the most active seismic areas east of the Rocky Mountains. Recent studies have indicated that this seismic zone may have the potential to produce large magnitude earthquakes.

Callaway Plant Unit 2. The Missouri Coalition for the Environment and Missourians for Safe Energy intervened in the COL proceeding for Callaway Unit 2. The case was suspended after the applicant was unable to obtain construction work in progress funding from the state.

Calvert Cliffs Nuclear Power Plant, Unit 3. Calvert Cliffs Nuclear Power Plant, Unit 3. Nuclear Information and Resource Service, Public Citizen, Beyond Nuclear and Southern Maryland CARES are intervenors in this COL proceeding. Contentions on foreign ownership of

the Calvert Cliffs-3 project and on the failure of the NRC's Draft Environmental Impact Statement to adequately consider alternatives to Calvert Cliffs-3 are pending, with no hearing date yet established.

Comanche Peak Nuclear Power Plant, Units 3 and 4. Public Citizen, Inc. and the Sustainable Energy and Economic Development (SEED) Coalition, Inc. were admitted as Intervenors and raised several contentions in this COL proceeding for two new reactors on the site of the existing Comanche Peak Units 1 and 2. All of the contentions have been dismissed by the ASLB on motions for summary disposition. Intervenors have filed a petition for review of the ASLB's dismissal of contentions regarding mitigation strategies for loss of large area (LOLA) incidents caused by fires and explosions under 10 C.F.R. 50.54(hh)(2), an issue that is the subject of the Task Force's investigation.

Fermi Nuclear Power Plant, Unit 3. In July 2009, intervenors Don't Waste Michigan, Inc., Citizens for Alternatives to Chemical Contamination, Beyond Nuclear, Citizens Environmental Awareness of Southwestern Ontario, Keith Gunter, Michael J. Keegan, Edward McArdle, Leonard Mandeville, Frank Mantei, Marcee Meyers, Henry Newnan, Sierra Club (Michigan Chapter),George Steinman, Shirley Steinman, Harold L. Stokes, and Marilyn R. Timmer were granted standing and won the admission of five contentions in the COL proceeding for Fermi Unit 3. Three of those contentions are still pending.

Levy County Nuclear Power Plant, Units 1 and 2. Nuclear Information and Resource Service, The Green Party of Florida and The Ecology Party of Florida have been admitted as joint interveners in the COL proceeding for Progress Energy Florida's proposal to build two reactors on top of the recharge zone for some of the most pristine freshwater springs on the planet. The ASLB has two contentions before it and a hearing is currently set for January 2012.

North Anna Unit 3. BREDL and its chapter People's Alliance for Clean Energy have been admitted as intervenors in the COL proceeding for two proposed reactors on the site of the existing two-unit North Anna nuclear power plant. One of the original proposed plants was cancelled and the application for the other was replaced with one for a pressurized water reactor. On April 6, 2011, in LBP-11-10, the ASLB denied two additional contentions on water use and ability to withstand seismic incidents.

Shearon Harris Nuclear Power Plant, Units 2 and 3. NC WARN was admitted as an iIntervenor to this COL proceeding and submitted safety and environmental contentions on plant design, fire safety, aircraft attacks, spent fuel and emergency planning. One of the contentions on the underestimate of cost for the plants was settled when the applicant revised its cost estimates. The ASLB dismissed all of the other contentions and was affirmed by the Commission in CLI-10-05. The COL application is still pending before the NRC Staff.

South Texas Project, Units 3 and 4. Public Citizen and the SEED Coalition were admitted as intervenors and gained admission of a number of contentions, including contentions regarding mitigation strategies for loss of large area (LOLA) incidents caused by fires and explosions under 10 C.F.R. 50.54(hh)(2). Although those contentions were dismissed by the ASLB, Intervenors believe they should now be subject to reconsideration based on the Fukushima accident and the Task Force investigation.

Turkey Point Units 6 and 7. SACE, the National Parks Conservation Association, Dan Kipnis and Mark Oncavage have been admitted as joint intervenors in the COL proceeding for proposed new Units 6 and 7 at the Turkey Point Nuclear facility in Homestead, Florida. While the ASLB admitted contentions regarding groundwater impacts, it refused to admit the joint intervenors' eight other contentions, including one regarding sea level rise. That contention, which concerned

the potential environmental impact caused by construction and operation of new reactors in a region threatened by a predicted sea level rise of 1.5 to 5 feet by 2050, has particular relevance in light of the Fukushima disaster. Turkey Point is located less than 25 miles south of Miami on Biscayne Bay along Florida's southeastern coast. The lessons learned from the Task Force's investigation on external events should be applied to these coastal reactors.

V.C. Summer Units 2 and 3. Friends of the Earth and the Sierra Club were granted standing in the V.C. Summer COL case but no contentions were admitted. The COL application is still pending before the NRC Staff.

Vogtle Electric Generating Plant, Units 3 and 4. BREDL, Center for a Sustainable Coast, Georgia Women's Action for New Directions, Savannah Riverkeeper, and SACE (collectively, "Vogtle Intervenors") intervened in the COL proceeding for Plant Vogtle Units 3 and 4 and gained admission of a contention regarding the onsite storage of low level radioactive waste. In May 2010, the ASLB ruled that the issue was resolved and dismissed the case. New contentions regarding the flaws in AP1000 containment were subsequently raised, dismissed by the ASLB and are under appeal to the Commission.

In April 2011, the NRC Staff issued a Final Supplemental Environmental Impact Statement for the COL, and the Staff plans to release the Final Safety Evaluation Report in June. According to the current schedule, the Plant Vogtle COL may be issued at the end of this year, making Vogtle Units 3 and 4 the first AP1000 reactors to be licensed.

Before the license is issued, and in light of the Fukushima disaster, the following issues must be assessed at Plant Vogtle: the safety and environmental impacts of onsite spent fuel storage at multiple units; the impact of a power failure on the reactor cooling systems for the multiple units; and earthquake risks to the reactors, which lie in an area prone to seismic activity.

See NUREG-1923, Vogtle ESP Final Safety Evaluation Report, Chapter 2.5 (2009). Because Plant Vogtle will serve as the "reference" project for future AP1000 plants, the Vogtle Intervenors concern about the implications of the Fukushima disaster is heightened. If the lessons learned from Fukushima are not applied to Plant Vogtle, the repercussions will be multiplied by all plants referencing the Plant Vogtle COL in future applications.

William States Lee III Nuclear Station, Units 1 and 2. In 2008, BREDL petitioned for leave to intervene in the COL proceeding for Duke Energy Carolinas, LLC's application to construct and operate two AP1000 pressurized water reactors at the William States Lee III Nuclear Station site. On September 22, 2008, in LBP-08-17, the ASLB ruled that BREDL had standing to intervene but admitted no contentions. Among the contentions dismissed by the ASLB was a contention challenging the adequacy of the proposed reactor's seismic design, an issue now under investigation by the Task Force.

F. Standardized Design Certification Rulemakings

AP1000 Design Certification Amendment (NRC-2010-0131, RIN 3150-A18). On April 6, 2011 the AP1000 Oversight Group filed a petition to suspend the rulemaking on the certification of the AP1000 design and operational procedures which was noticed on February 24, 2011, at 76 Fed. Reg. 10,269. Currently, the comment period for the AP1000 design certification rulemaking is scheduled to close on May 10, 2011, long before the NRC concludes even its initial inquiry into the implications of the Fukushima accident.

The Petitioners requested suspension of the AP1000 design approval process while the NRC investigates the implications of the ongoing catastrophic accident in Fukushima, Japan, and decides what "lessons learned" must be incorporated into the AP1000 design and operational

procedures to ensure that they do not pose an undue risk to public health and safety or unacceptable environmental risks.

ESBWR Design Certification Amendment (NRC-2010-01325, RIN 3150-AI85). The NRC issued a proposed rule for the Economic Simplified Boiling Water Reactor ("ESBWR") standardized design certification on March 24, 2011, at 76 Fed. Reg. 16,549. The comment period closes on June 7, 2011. The ESBWR design has a particularly troublesome feature in common with the Mark I BWR design, which is the design of the Fukushima reactors: elevated spent fuel pools. Nevertheless, the Commission went ahead with the proposed rulemaking, even as the Fukushima accident unfolded.

IV. FACTUAL BACKGROUND

A. Fukushima Accident

Although many details about the Fukushima accident remain unclear, the general contours of the accident are described in NRC in Information Notice No. 2011-08 (March 31, 2011) (NRC Accession No. ML 110830824) as follows:

> On March 11, 2011, the Tohoku-Taiheiyou-Oki earthquake occurred near the east coast of Honshu, Japan. This magnitude 9.0 earthquake and the subsequent tsunami caused significant damage to at least four of the six units of the Fukushima Daiichi nuclear power station as the result of a sustained loss of both the offsite and onsite power systems. Efforts to restore power to emergency equipment were hampered and impeded by damage to the surrounding areas due to the tsunami and earthquake.
>
> Units 1, 2 and 3 were operating at the time of the earthquake. Following the loss of electric power to normal and emergency core cooling systems and the subsequent failure of backup decay heat removal systems, water injection into the cores of all three reactors was compromised, and reactor decay heat removal could not be maintained. The operator of the plant, Tokyo Electric Power Company, injected sea water and boric acid into the reactor vessels of these three units, in an effort to cool the fuel and ensure that the reactors remained shut down. However, the fuel in the reactor cores became partially uncovered. Hydrogen gas built up in Units 1 and 3 as a result of exposed, overheated fuel reacting with water. Following gas venting from the primary containment to relieve pressure, hydrogen explosions occurred in both units and damaged the secondary containments. *Id.*

> Units 3 and 4 were reported to have low spent fuel pool (SFP) water levels.
>
> Fukushima Daiichi Units 4, 5 and 6 were shut down for refueling outages at the time of the earthquake. *Id.* The fuel assemblies for Unit 4 had recently been offloaded from the reactor core to the SFP. The SFPs for Units 5 and 6 appear to be intact. Emergency power is available to provide cooling water flow through the SFPs for Units 5 and 6.
>
> The damage to Fukushima Daiichi nuclear power station appears to have been caused by initiating events beyond the design basis of the facilities.

Id. at 1-2.

In a March 21, 2011, briefing, NRC Chairman also stated that the NRC believes that an accumulation of hydrogen which exploded on March 15 in Units Two and Four originated from overheated fuel in the spent fuel pool. Briefing on NRC Response to Recent Nuclear Events in Japan, Transcript at 11 (NRC ADAMS Accession No. ML110321).

According to Chairman Jaczko's March 21 statement, the NRC believes that Units One, Two, and Three have had some degree of core damage. Cooling systems for the reactors have not been restored. At the outset of the emergency, large volumes of sea water were used to cool the reactors and the spent fuel pools. The salt water injections have now been replaced by fresh water injections.

B. NRC Response to Fukushima Accident

1. Formation of Task Force

In response to the Fukushima reactor accident, the NRC announced the formation of a "senior level task force to conduct a methodical and systematic review" of NRC processes and regulations. COMGBJ-11-0002, Memorandum from Chairman Jaczko to Commissioners, re: NRC Actions Following the Events in Japan (March 21, 2011). The purpose of the task force is

to "determine whether the agency should make additional improvements to our regulatory systems and make recommendations to the Commission for its policy direction." *Id.*

The Commission instructed the task force to undertake both a near-term review and a longer-term review. For the near-term review, the Commission required the task force to evaluate issues "affecting domestic operating reactors of all designs" in areas that include "protection against earthquake tsunami, flooding, hurricanes; station blackout and a degraded ability to restore power; severe accident mitigation; emergency preparedness; and combustible gas control." *Id.* at 1. The Commission instructed the task force to complete the report in 90 days. In the meantime, the task force was instructed to provide a 30-day "quick look report" and another "status" report in 60 days. *Id.*

The Commission directed the task force to begin a "longer term" review "as soon as NRC has sufficient technical information from the events in Japan with the goal of no later than the completion of the 90 day near term report." *Id.* at 2. The longer-term study should "evaluate all technical and policy issues related to the event to identify additional research, generic issues, changes to the reactor oversight process, rulemakings, and adjustments to the regulatory framework that should be conducted by the NRC." *Id.* For the longer-term effort, the Commission instructed the task force to "receive input from and interact with all key stakeholders." *Id.* The Commission specified that within 60 days after commencing the longer-term study, the task force should "provide a report with recommendations, as appropriate, to the Commission." *Id.* The Task Force was established in early April.

2. Task Force Charter

The Task Force charter states that the group's "objective" is to:

- Evaluate currently available technical and operational information from the events that have occurred at the Fukushima Daiichi nuclear complex in Japan to identify

potential or preliminary near-term/immediate operational or regulatory actions affecting domestic reactors of all designs, including their spent fuel pools. The task force will evaluate, at a minimum, the following technical issues and determine priority for further examination and potential agency action:

- External event issues (e.g. seismic, flooding, fires, severe weather)

- Station blackout

- Severe accident measures (e.g., combustible gas control, emergency operating procedures, severe accident management guidelines)

- 10 CFR 50.54 (hh)(2) which states, "Each licensee shall develop and implement guidance and strategies intended to maintain or restore core cooling, containment, and spent fuel pool cooling capabilities under the circumstances associated with loss of large areas of the plant due to explosions or fire, to include strategies in the following areas: (i) Fire fighting; (ii) Operations to mitigate fuel damage; and (iii) Actions to minimize radiological release." Also known as B.5.b.

- Emergency preparedness (e.g., emergency communications, radiological protection, emergency planning zones, dose projections and modeling, protective actions)

- Develop recommendations, as appropriate, for potential changes to NRC's regulatory requirements, programs, and processes, and recommend whether generic communications, orders, or other regulatory actions are needed.
-

With respect to the longer-term review, the charter states that the Task Force will make: "[r]ecommendations for the content, structure, and estimated resource impact."

3. NRC Brief to Third Circuit U.S. Court of Appeals

By letter dated March 21, 2011, in the context of an appeal of the NRC's decision to re-license the Oyster Creek reactor, the U.S. Court of Appeals for the Third Circuit directed the NRC to "advise the Court what impact, if any, the damages from the earthquake and tsunami at the Fukushima Daiichi Nuclear Power Station have on the propriety of granting the license renewal application for the Oyster Creek Generating Station." New Jersey Environmental Federation et al. v. NRC (No. 09-2567). The NRC responded that it is:

carefully monitoring those events, and assisting the Japanese government in

> understanding, controlling and limiting plant damage. NRC is also evaluating the information from these events for planning both short-term and longer-term responses to ensure the safety of United States reactors. In support of these tasks, NRC is gathering and absorbing data from the Fukushima Daiichi site that will enable NRC, with appropriate public participation, to put in place any new safety measures necessary to protect public health and safety in the United States.

Federal Respondents' Memorandum on the Events at the Fukushima Daiichi Nuclear Power Station, No. 09-2567 (April 4, 2011) ("NRC Memorandum").

In its Memorandum to the Third Circuit, the NRC also described its past "lessons learned" approach to significant events. *Id.* at 8. Following the 1979 accident at the Three Mile Island Unit 2 reactor, for example, the Commission established a "Lessons Learned Task Force." A Task Force "steering group" took recommendations from within *and outside* the NRC and developed a "comprehensive and integrated plan for all actions necessary to correct or improve the regulation and operation of nuclear facilities." In the course of that process, the NRC conducted a number of rulemakings "to update licensing requirements on the basis of TMI 'lessons learned.'" *Id.* at 9. In response to the attacks of September 11, 2001, the NRC also responded by ordering security improvements at all nuclear power plants, and eventually enacted many of those orders as formal regulations. *Id.* at 10.

The Commission's Memorandum to the Third Circuit does not describe one very important feature of the agency's response to the TMI accident: it suspended all licensing decisions until conclusion of the lessons learned process. TMI Policy Statement, 12 NRC 654. The Memorandum merely states that in this case the NRC has "not suspended reactor operations or licensing activity," and points out that the NRC issued a renewed license for the Vermont Yankee Nuclear Power Plant – a boiling water reactor ("BWR") of the same design as the Fukushima reactors – on March 21, 2011, during the accident. According to the NRC, "this

decision reflects NRC's confidence in the robust and redundant safety design and construction of currently operating U.S. nuclear reactors . . ." Memorandum at 13. The Memorandum also omits any discussion of NEPA or its requirement that agencies must consider new and significant information before they take actions that could significantly affect the human environment.

V. THE COMMISSION SHOULD EXERCISE ITS SUPERVISORY JURISDICTION TO STAY ALL PENDING LICENSING DECISIONS AND ALL PROCEEDINGS RELATED TO FUKUSHIMA ACCIDENT ISSUES PENDING INVESTIGATION OF REGULATORY IMPLICATIONS OF THE ACCIDENT.

A. Exercise of the Commission's Supervisory Jurisdiction is Appropriate.

This petition invokes the Commission's supervisory authority under the AEA to "oversee all aspects of the regulatory and licensing process and its overriding responsibility for assuring public health and safety in the operation of nuclear power facilities." *Consolidated Edison Co. of N.Y., Inc.* (Indian Point, Units 1, 2 and 3), CLI-75-8, 2 NRC 173 (1975). *See also* 42 U.S.C. §§ 2233(d), 2236(a), 2237. In the extraordinary circumstances of the Fukushima accident, it is appropriate for the Commission to establish clear and uniform procedures for the application of "lessons learned" to pending licensing and rulemaking decisions. Only the Commission has the authority to establish a consistent and broadly applicable set of procedures that comply with NEPA and AEA requirements for consideration of significant new information and that also provides legally required opportunities for public participation.

To leave the establishment of that process entirely to the separate ASLB panels that are now presiding over at least twenty-five separate licensing cases would invite uncertainty and chaos, especially in the administration of the general rule of thumb that significant new issues and information must be raised within thirty days of discovering them. *See, e.g., Shaw Areva MOX Services, Inc.* (Mixed Oxide Fuel Fabrication Facility), LBP-08-11, 67 NRC 460, 493 (2008) and cases cited therein. As illustrated by a recent New York Times article, the NRC's

theories about what exactly has occurred during the Fukushima accident are continuing to change. Matthew L. Wald, "Japan's Reactors Still Not Stable" (New York Times, page A6, April 13, 2011) (Attachment 1). And, there is extremely little in the way of official documentation from any source upon which Petitioners can rely in order to make a case before an individual ASLB that the unfolding events at Fukushima are relevant to individual licensing or rulemaking proceedings. Therefore it will be very difficult for intervenors or the ASLB panels that must judge motions to re-open the record and new contentions to judge the timeliness of those submissions.

The Commission should also exercise its supervisory jurisdiction to establish an ordered process for the application of "lessons learned" in licensing proceedings and related rulemaking proceedings, because it is the Commission that bears the ultimate legal responsibility for evaluating new and significant information, and it is the Commission that has the resources to carry out that responsibility. If the Commission fails to establish such a process, intervenor groups will be placed in the position of rushing to file contentions, rulemaking comments, and motions to re-open closed hearing records, based on whatever evaluations they are able to make of slowly-emerging and ever-evolving information from the accident. Such a process would not only be cumbersome, but its effectiveness would be limited by whatever limitations the intervenors or petitioners had on their resources for making a technical evaluation of the information yielded by the accident. It would place an unfair burden on intevenors and petitioners by forcing them to perform analyses that should be performed by the government in the first instance. And It would leave open the possibility of inconsistent ASLB decisions, which the Commission eventually would have to resolve.

Finally, the Commission should exercise its supervisory jurisdiction here because this petition seeks action in the non-adjudicatory context as well as the context of pending adjudications. The rulemaking proceedings for certification of the AP1000 and ESBWR designs are being conducted by the NRC Staff, over which only the Commission has authority. In addition, the Staff will be responsible for preparing the environmental and safety analyses requested by this petition.

B. The NRC Must Comply With NEPA and the AEA in Considering The Lessons Learned From the Fukushima Accident.

Both the AEA and NEPA place a burden on the NRC to address safety and environmental issues before issuing licensing decisions for nuclear reactors. These statutes preclude the NRC from issuing licenses or approving standardized reactor designs until it has completed its investigation of the Fukushima accident and considered the safety and environmental implications of the accident with respect to its regulatory program. In order to comply with those statutes, the Commission should suspend all licensing decisions, including certification of standardized design applications, pending conclusion of its investigation and issuance of proposed safety measures and environmental decision-making documents. In addition, it should suspend all pending hearings and rulemakings with respect to issues that are related to the Fukushima accident.

1. AEA

Under the AEA, the NRC may not issue a license for a reactor if it would pose an "undue risk" to public health and safety or the common security. 42 U.S.C. § 2311. "[P]ublic safety is the first, last, and a permanent consideration in any decision on the issuance of a construction permit or a license to operate a nuclear facility." *Power Reactor Development Corp. v. International Union of Electrical, Radio and Machine Workers*, 367 U.S. 396, 402 (1961). The

list of issues identified for investigation in the Task Force Charter demonstrates that the Fukushima accident raises significant questions about the adequacy of the NRC's regulatory program on a wide range of important safety issues, including the safety of spent fuel storage, seismic and flooding risks, station blackout, emergency planning, and severe accident management guidelines. In addition the Fukushima accident once more raises longstanding questions about the effectiveness of the GE Mark 1 containment. Even taking into account the degree of discretion granted by federal courts to the NRC, to proceed with reactor licensing without concluding the Task Force's investigation would constitute a abuse of the NRC's discretion in its interpretation of the "adequate assurance" standard, because in the current climate of uncertainty, it would be almost impossible for the NRC to reach the "definitive finding" on safety required by *Power Reactor Development Corp.* It is also grossly inconsistent with the Commission's previous approach to the Three Mile Island accident, where the Commission prudently suspended all licensing actions while it considered the lessons to be learned from the accident.

2. NEPA

While the NRC may have some discretion in determining whether to increase its safety regulation of reactors under the Atomic Energy Act, NEPA deprives the NRC of any discretion to consider the environmental impacts of its proposed actions. *Silva v. Romney,* 473 F.2d 287, 292 (1st Cir. 1973) (holding that an agency's NEPA duties are "not discretionary, but are specifically mandated by Congress, and are to be reflected in the procedural process by which agencies render their decisions.") *See also Public Service Co. of New Hampshire v. NRC,* 582 F.2d 77, 81 (1st Cir. 1978) ("NEPA's mandate has been given strict enforcement in the courts,

with frequent admonitions that it is insufficient to give mere lip service to the statute and then proceed in blissful disregard of its requirements.")

Even where the NRC has concluded that a proposed reactor operation meets its basic safety regulations, NEPA still requires the NRC to consider cost-effective alternatives for avoiding or mitigating environmental impacts that are reasonably foreseeable and yet not covered by safety regulations. *Limerick Ecology Action v. NRC,* 869 F.2d 730-31 (3rd Cir. 1989) (holding that the NRC could not rely on the sufficiency of a reactor license application under its safety regulations to avoid considering the cost-effectiveness of severe accident mitigation alternatives under NEPA). *See also* 40 C.F.R. § 1502.22(b)(1) (requiring consideration of "reasonably foreseeable" impacts which have "catastrophic consequences, even if their probability is low.")

NEPA's requirement to consider the environmental impacts of proposed actions continues even after a final EIS has been prepared, if new and significant information arises which could affect the outcome of the environmental analysis. 10 C.F.R. § 51.92(a). *See also Marsh,* 490 U.S. at 370-71. Here, by its own admission, the NRC has new information that concededly could have a significant effect on its regulatory program and the outcome of its licensing decisions for individual reactors. For the NRC to go ahead with licensing decisions and certification of standardized designs, ignoring the potential significance of this new information, would constitute a gross violation of NEPA. Even if the NRC ultimately concludes that the information does not have a significant effect on its licensing decisions, it must nevertheless follow NEPA's procedures for considering the information, including preparation of an environmental assessment. *Marsh,* 490 U.S. at 385 ("NEPA's mandate applies "regardless of [the agency's] eventual assessment of the significance of [the] information.")

Therefore, the position taken by the Commission in its Memorandum to the Third Circuit, that it may continue with the issuance of licenses and apply the lessons of the Fukushima accident retrospectively, is fundamentally inconsistent with both NEPA and the AEA. Instead, the Commission must take all necessary measures to protect the integrity of the NEPA decision-making process, by immediately suspending all pending licensing and related design-certification rulemaking decisions until it has addressed the significance of the new information revealed by the Fukushima accident in environmental assessments and/or EISs.[4]

C. Licensing Decisions and Hearings on Issues Related to the Fukushima Accident Must be Suspended and Should be Suspended Pending Completion of the Task Force Investigation and Publication of Proposed Decisions.

As discussed above, in order to ensure that it complies with the AEA and NEPA in responding to the regulatory implications of the Fukushima accident, the Commission must take action to delay issuance of licensing decisions while it studies and proposes to implement the lessons learned from the Fukushima accident. And even assuming for purposes of argument that such relief is not legally mandated, it is prudent and appropriate for the Commission to delay making licensing decisions until it has studied and proposed measures to implement the lessons of the Fukushima accident. The Commission should suspend its licensing actions, just as it did after the Three Mile Island accident – an event that was much less serious than the Fukushima accident.

Therefore Petitioners respectfully request the Commission to take the following actions:

- The Commission should suspend all decisions regarding the issuance of construction permits, new reactor licenses, COLs, ESPs, license renewals, or standardized design

[4] Petitioners recognize that the NRC has the discretion to choose between site-specific and generic analyses in evaluating the environmental significance of the new information. *See, e.g., Baltimore Gas and Electric Co. v. Natural Resources Defense Council,* 462 U.S. 87, 101 (1983). The Commission completely lacks discretion, however, to ignore the requirements of NEPA.

certification pending completion by the NRC's Task Force of its investigation of the near-term and long-term lessons of the Fukushima accident and the issuance of any proposed regulatory decisions and/or environmental analyses of those issues;

- The Commission should suspend all proceedings with respect to hearings or opportunities for public comment, on any reactor-related or spent fuel pool-related issues that have been identified for investigation in the Task Force's Charter of April 1, 2011 , including external event issues (i.e., seismic, flooding, fires, severe weather); station blackout; severe accident measures (e.g., combustible gas control, emergency operating procedures, severe accident management guidelines); implementation of 10 C.F.R. § 50.54(hh)(2) regarding response to explosions or fire; and emergency preparedness. The Commission should also instruct ASLB panels that are considering contentions to permit the parties an opportunity to make arguments regarding the relevance of their concerns to the Fukushima accident.
- The Commission should suspend all licensing and related rulemaking proceedings with regard to any other issues that are identified by the Task Force as the subject of its investigation. The proceedings should be suspended pending completion of the Task Force's investigation into those issues and the issuance of any proposed regulatory decisions and/or environmental analyses of those issues.
- The Commission should conduct an analysis, as required by NEPA, of whether the March 11, 2011 Tohoku-Chihou-Taiheiyo-Oki earthquake and ensuing radiological accident poses new and significant information that must be considered in environmental impact statements to support the licensing decisions for all new reactors and renewed

licenses. All environmental assessments should be published in draft form for public comment.

- The Commission should conduct a safety analysis of the regulatory implications of the March 11, 2011 Tohoku-Chihou-Taiheiyo-Oki earthquake and ensuing radiological accident. While emergency safety measures that arise from that analysis may be issued as enforcement orders, any long-term requirements should be issued as proposed rules, with appropriate opportunities for comment.
- The Commission should establish procedures and a timetable for raising new issues relevant to the Fukushima accident in pending licensing proceedings. The Commission should allow all current intervenors in NRC licensing proceedings, all petitioners who seek to re-open closed licensing proceedings, and all parties who seek to comment on design certification proposed rules, a period of 60 days following the publication of proposed regulatory measures or environmental decisions, in which to raise new issues relating to the Fukushima reactor accidents. The Commission should suspend requirements to justify the late-filing of new issues if their relevance to the Fukushima accident can be demonstrated.

D. Emergency Action is Needed in Order to Ensure Compliance with AEA and NEPA.

Petitioners request the Commission to grant the requested relief on an emergency basis, because several licensing proceedings are scheduled to conclude in the near future, including the COL proceeding for Vogtle Units 3 and 4, the license renewal proceeding for Pilgrim, and the rulemaking proceedings for the AP1000 standardized design and the ESBWR standardized design. In addition, the Commission has signaled its intent to continue with reactor licensing in spite of the emergence of new information from the Fukushima accident, by approving the

renewal of the Vermont Yankee license on March 21, 2011. Petitioners urgently request the Commission to reconsider that policy because of its fundamental inconsistency with NEPA and the AEA.

VII. CONCLUSION

For the foregoing reasons, Petitioners request the Commission to grant the above-requested relief on an emergency basis.

Respectfully submitted,

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FROM THE DIRECTOR OF THE JOY LUCK CLUB

April 12, 2011

Japan's Reactors Still 'Not Stable,' U.S. Regulator Says

By MATTHEW L. WALD

WASHINGTON — The condition of the damaged Fukushima Daiichi reactors in Japan is "static," but with improvised cooling efforts they are "not stable," the chairman of the Nuclear Regulatory Commission told a Senate committee on Tuesday.

"We don't see significant changes from day to day," the chairman, Gregory B. Jaczko, said, while adding that the risk of big additional releases gets smaller as each day passes.

Long-term regular cooling of the reactors has not been re-established, nor has a regular way of delivering water to the spent-fuel pools, he told the Senate Environment and Public Works Committee. And when an aftershock hit the site and cut some offshore power supplies, he said, some pumps failed and cooling stopped for 50 minutes.

The situation is "not stable" and will remain so until "that kind of situation would be handled in a predictable manner," he said.

Mr. Jaczko also offered a new theory about the cause of the explosions that destroyed the secondary containment structures of several of the reactors. The prevailing theory has been that hydrogen gas was created when the reactor cores overheated and filled with steam instead of water; the steam reacts with the metal, which turns into a powder and then gives off hydrogen.

The Tokyo Electric Power Company, which operates the nuclear plant, intended to vent the excess steam as well as the hydrogen outside of the plant, but experts have suggested that when operators tried this, the vents ruptured, allowing the hydrogen to enter the secondary containments.

But Mr. Jaczko said Tuesday that the explosions in the secondary containments might have been caused by hydrogen created in the spent-fuel pools within those containments.

If true, that would mean that the introduction of hardened vents at reactors at nuclear plants in the United States — cited as an improvement that would prevent such an explosion from happening — would not in fact make any difference.

That theory also raises the possibility that it may be safer to move some of the spent fuel out of the pools in the containment structures and into dry storage, an idea that is attracting some support in Congress. Spent nuclear fuel must remain in water for the first five years or so to cool but can then can be stored in small steel-and-concrete silos with no moving parts.

The industry uses these "dry casks" only when its pools are full. And so far the regulatory commission has said that pool and cask storage are equally safe. Still, some industry executives would like to tap the Nuclear Waste Fund, federal money set aside for a permanent waste repository, to pay for cask storage, an idea that is also favored by some environmentalists.

Mr. Jaczko's statement on the possible source of the hydrogen is the third big reversal in commission statements on the nuclear crisis at Fukushima.

Commission officials have also seemed less certain after stating that the spent-fuel pool in the No. 4 reactor was empty or close to empty, a situation that was evidently the basis for recommending a 50-mile evacuation for Americans in the plant's vicinity. Commission experts also said that radiation readings suggested that core material had slipped out of the vessel of the No. 2 reactor and entered a drywell in the primary containment, only to retreat again on whether that was in fact the case.

Mr. Jaczko also signaled that the regulatory commission itself was shifting from an extreme alert mode to a more sustainable long-term effort to monitor Japan's crisis. Staffing in the commission's round-the-clock emergency center at its headquarters in Rockville, Md., has been reduced, he said, with many staff members returning to their regular duties but available for consultation when events warrant.

He drew praise from the committee's chairwoman, Senator Barbara Boxer, a California Democrat, but criticism as well. She is seeking an especially high level of scrutiny for two twin-reactor plants in her state, the only ones that the commission says are in zones of high seismic activity. Mr. Jaczko said that all reactors were being evaluated.

She countered by saying that those two plants, Diablo Canyon and San Onofre, were at the highest risk. Mr. Jaczko said they were not, explaining that they were designed with the earthquake risk in mind and that risks to American plants generally were small.

Ms. Boxer replied that the Japanese had said the same thing, at least until the March 11 accident. "It's eerie to me," she said. "I don't sense enough humility from all of us here."

Another witness, Charles G. Pardee, the chief operating officer of Exelon Generation, the largest nuclear operator in the United States, also testified that the nation's nuclear plants were designed for the worst natural disaster observed in their areas, plus a substantial margin.

Thomas B. Cochran, a physicist at the Natural Resources Defense Council, gave some credit to American operators. Worldwide, he said, reactors are "not sufficiently safe," but "the next nuclear power plant disaster is more likely to occur abroad than in the U.S."

But the industry will have to rethink its practices nonetheless, he said. "If the nuclear power industry is to have a long-term future, attention must be paid to existing operating reactors," Mr. Cochran said. He ticked off a long list of factors, including American reactors that share Fukushima's basic design, that would be grounds for phasing them out.