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May 30, 2012

Burl W. Haar
Executive Secretary
Minnesota Public Utilities Commission
121 7th Place East, Suite 350
St. Paul, Minnesota 55101-2147

RE: Comments of the City of Red Wing
In the Matter of the Application of Northern States Power Company, d/b/a Xcel
Energy for a Certificate of Need for the Prairie Island Nuclear Generating Power
Plant for an Extended Power Uprate
Docket No. E-002/CN-08-509

Dear Dr. Haar:

Attached are the Comments of the City of Red Wing with regard to Xcel Energy's
Petition and Notice of Changed Circumstances filed in the above-referenced matter.

Thank you for your consideration.

Very truly yours,

MADIGAN, DAHL & HARLAN, P.A.

/s/ Thomas P. Harlan

Thomas P. Harlan

TPH/brc
Attachments
cc: Service List (w/attachments)

CERTIFICATE OF SERVICE
DOCKET NO: E002/CN-08-509

I, Bianca R. Chance, hereby certify that I have this 30th day of May, 2012, served copies of the correspondence to Dr. Burl Haar dated May 30, 2012 with attached Comments of the City of Red Wing to person on the attached service list: by depositing a true and correct copy or summary thereof, properly enveloped with postage paid, in the United States Mail at Minneapolis, Minnesota; or via electronic filing.

Dated this 30th day of May, 2012

/s/ Bianca R. Chance

Bianca R. Chance

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State of Minnesota
Before the
Minnesota Public Utilities Commission

Phyllis Reha
David Boyd
J. Dennis O'Brien
Betsy Wergin

Vice Chair
Commissioner
Commissioner
Commissioner

IN THE MATTER OF THE APPLICATION
OF NORTHERN STATES POWER COMPANY,
d/b/a XCEL ENERGY FOR A CERTIFICATE
OF NEED FOR THE PRAIRIE ISLAND
NUCLEAR GENERATING POWER PLANT
FOR AN EXTENDED POWER UPRATE

DOCKET NO. E002/CN-08-509
**COMMENTS OF THE CITY OF
RED WING, MINNESOTA
TO NORTHERN STATES POWER
COMPANY'S PETITION AND
NOTICE OF CHANGED
CIRCUMSTANCES**

INTRODUCTION

On March 30, 2012, Northern States Power Company d/b/a Xcel Energy (the "Company") filed a Petition and Notice of Changed Circumstances (the "Petition") seeking, among other things, the reaffirmation of the Certificate of Need (the "CoN") by the Minnesota Public Utilities Commission (the "Commission") that was granted for an extended power uprate for the Prairie Island Nuclear Generating Power Plant (the "PINGP"). The City of Red Wing, Minnesota (the "City") intervened in the extended power uprate docket, which is identified above (the "Docket"), was granted full party status, and thereafter participated in the evidentiary hearing and subsequent briefing before the Commission. Accordingly, the City submits these comments in response to the Company's Notice of Changed Circumstances.

The City, when the Company initially filed for a CoN for the extended power uprate, supported the Company's request that the CoN be granted. This position has not changed. The City believes that the Commission should find that the delay, size, and timing of the

uprate program, as defined by the Company in its Petition, would not have changed the Commission's initial decision to grant the CoN and, as such, it should reaffirm that the uprate program remains in the public's interest. However, the City, as it also has in the past, believes that the reaffirmation should be conditioned upon the Company ensuring that there is a steady stream of revenue to the City in order to allow it to meet its obligations under the Emergency Response Plan (the "ERP"). While the extended power uprate of the PINGP benefits the ratepayers of the Company and the State of Minnesota, it comes with a disproportionate burden on the City as it bears the unique risks associated with the responsibilities, obligations, as well as additional costs, of hosting a nuclear generating power plant. These burdens, which have, in part, been recognized by the Commission, need to be revisited and appropriately weighed at this time not only in light of the changed circumstances cited by the Company but the changed circumstances that the City too now faces.¹

COMMENTS

I. Background to City's Comments.

The City has a long working relationship with the Company and the PINGP. Working collaboratively over the decades, the City and the Company have solved numerous common concerns, including initial challenges regarding the citing and licensing of the PINGP.

Overall, the City has accepted the unique risks, responsibilities, obligations, as well as the additional costs, of hosting the PINGP. In exchange for these unique responsibilities and obligations, the City has been the beneficiary of the tax and employment base provided by

¹ The City joins in and supports the comments of the Prairie Island Indian Community that are filed in response to the Company's Petition. The Prairie Island Indian Community, like the City, bears a disproportionate burden due to its proximity to the PINGP.

the PINGP. However, over time, these benefits – especially as it relates to the tax benefits from the PINGP – have diminished significantly. The lower tax revenue has required the City to increase the property taxes assessed against residents and businesses other than the Company to make up for the PINGP’s diminished revenues.

The City now finds itself at a tipping point: it can no longer fairly raise taxes on the residents and businesses other than the Company to support the necessary infrastructure of facilities, equipment, and personnel needed to meet the PINGP’s required ERP. Indeed, it is past this fairness tipping point. While the diminished revenue stream to the City *may*, in some way, be replenished through additional taxes that *could* be paid by the Company when the full extent of the power uprate of the PINGP is realized, there is nothing to prevent those revenues from again falling to the same point that they are today or from prohibiting the Company from using certain tax exceptions that will prohibit the recognition and inclusion of any improvements within the tax base.

Accordingly, for the Commission to reaffirm the CoN, the ongoing and continued issues regarding revenue to the City and the City’s preparedness to meet the requirements of the ERP must be addressed.²

II. The Company’s Petition.

In its Petition, the Company identifies two categories of changes. First, under a category identified as project changes, the Company cites to certain changes that impact the size and timing of the extended power uprate. In addition to acknowledging the reduction in

² The comments of the City should also be read in conjunction with the comments the City submitted in the 11-939 Docket regarding the Decommissioning Fund. The comments submitted in the 11-939 docket are incorporated into these comments. The comments here set out the first part of a continuum of responsibility imposed on the City as a first responder to maintain its readiness to respond to an incident at the PINGP. This responsibility is simply not going to go away or diminish over time. The responsibilities have and will continue to have a material impact on the City, its operations, and the services it provides for its citizens.

the size of the project to 135 MW, the Company identifies a number of factors that would delay the implementation of the extended power uprate. These include factors such as a delay in the Company's license amendment renewal application with the Nuclear Regulatory Commission ("NRC"), additional substantive requirements associated with that license amendment renewal application with the NRC illustrating additional design detail to ensure the safe operation of the PINGP at the extended power uprate operating levels, and a comprehensive review by the NRC on the impact of certain external events and the safe operation on nuclear power plants in light of the Fukushima Daiichi Nuclear Power Plant problems following the March 2011 earthquake and tsunami.

The NRC has, in fact, issued an order requiring nuclear plants across the United States, including the PINGP, to take certain measures to bolster the nuclear plants' ability to respond to certain external events. By an external event, the NRC does not refer to an issue arising from operations alone that cause an incident (e.g. – pump failure) but rather external events independent of the PINGP that cause an incident (e.g. – tornado or flood). This includes, without limitation, supplementing and strengthening the ERP for which the City is not only the first responder, but also coordinates and provides many of the facilities, equipment, and personnel needed to meet the same. A copy of the NRC Order is attached hereto as Exhibit A.³

As the NRC Order indicates, one of the primary goals of the new license conditions is to ensure effective containment in the event of an external incident, which is one of the City's primary obligations under the ERP.

³ The NRC also issued a second order that requires the Company and other nuclear power plant operators to establish protocol and procedures relative to incidents involving the spent fuel pool and a loss of water to the same.

Second, under a category identified as other changed conditions, the Company cites to the factors of a slower projected economic growth (and a subsequent drop in demand) as materially impacting the benefits of the proposed extended power uprate.⁴ Other factors include cheaper alternatives, namely natural gas, and the changes in price and forecast.

All of these factors lead the Company to believe that the benefits to ratepayers from an extended power uprate could be marginalized or, under a combination of certain circumstances, detrimental. In evaluating the Petition, the Commission, applying Minn.R. 7849.0400, subp.2(H), must determine whether the changed circumstances would allow it to still grant a certificate of need if what is known now was known at the time the CoN was originally issued. Minn.R. 7849.0400, subp.2(H) provides:

If an applicant determines that a change in size, type, timing, or ownership other than specified in this subpart is necessary for a large generation or transmission facility previously certified by the commission, the applicant must inform the commission of the desired change and detail the reasons for the change. A copy of the applicant's submission to the commission must be sent to each intervenor in the certificate of need hearing proceeding on the facility. Intervenors may comment on the proposed change within 15 days of being notified of the change. The commission shall evaluate the reasons for and against the proposed change and, within 45 days of receipt of the request, notify the applicant whether the change is acceptable without recertification. The commission shall order further hearings if and only if it determines that the change, if known at the time of the need decision on the facility, could reasonably have resulted in a different decision under the criteria specified in part 7849.0120.

The legal standard for the issuance of the CoN in the first instance requires an analysis of the benefits that would be provided to society and the ratepayers compared to the burdens associated with the proposed action. This requires the Company to demonstrate, by a preponderance of the evidence, that the uprate will provide benefits to society in a manner compatible with protecting the natural and socioeconomic environments (including human

⁴ Despite the characterization of changed circumstances, this information was available to the Company, and to the Commission, before the CoN was issued.

health) and that a more reasonable alternative to the proposed facility could not been demonstrated. The Commission, then, applies a retrospective review of what is known now to determine if this standard could have been met based on or in consideration of the changed circumstances.

With its Petition, the Company is also requesting that the Commission apply a prospective view and take into consideration the timing and scope of the extended power uprate moving forward into the future. In doing so, the Company limits, or attempts to limit, the scope of the Commission's review by solely focusing on economic factors. However, economic factors alone are not exclusively considered when determining if a certificate of need should issue. Other factors, such as the impact on natural and socioeconomic environments, must also be considered and weighed. These too must be considered in evaluating whether to reaffirm the CoN.

In a limited way, these other factors were considered by the Commission when it initially approved the CoN. The CoN was conditioned upon the Company providing certification that the City was able to provide reasonable assurances that it could meet the ERP. The assurance from the City, in turn, was dependent upon a continued (and not further diminishing) revenue stream to provide the necessary facilities, equipment, and manpower to maintain the required readiness to meet the demands of the ERP. This revenue stream was not dependent upon reimbursement of incremental expenses that may be incurred by the City in training or role playing but rather a reliable steady revenue stream in order to obtain and maintain the infrastructure, equipment, and personnel to respond and fulfill the City's role.

A failure or inability to effectively respond to an incident would have a negative effect on the mitigation, containment, and cleanup following any incident. This also would, in turn, have a negative effect on both the natural and socioeconomic environment.

Since the initial time that the CoN was granted, the City's circumstances have changed in such a way that not only reinforce its position during the original proceeding, but strengthens the concept that it may not have sufficient revenue to provide the necessary infrastructure of facilities, equipment, and personnel needed to meet the required ERP.

III. Change in Conditions for the City.

The change in conditions for the City are intermingled with the change in conditions cited by the Company in the Petition. Specifically, the Company references the additional review and requirements of the NRC for potential external events and, as identified in Exhibit A, the heightened emphasis on containment and the necessary requirements to illustrate the same. With these requirements being added as a condition to the Company's license to operate the PINGP, they will be added to and be a new condition under the ERP. This will simply add to the burden that the City already bears as the first responder to any incident at the PINGP. Despite this additional burden, there is no additional funding or revenue to meet these requirements.

Indeed, the opposite is true: there continues to be diminished revenue to the City.

While the City has always worked with the Company to fulfill its obligations, it has expected, as is reasonable under the circumstances, that the Company pay its fair share. Over the last twelve to fifteen years, this social compact has changed. The Company's contributions to the City's tax base have eroded and, from the City's perspective, the responsibility for these tax revenues have shifted to the non-PINGP entities and the citizens

of the City. The property taxes paid by the Company on the PINGP have decreased from approximately \$23.4 million dollars in 1996 to \$9.5 million dollars today.

The City has no reason to believe that this will not continue. First, in 2006, effective calendar years 2008, 2009, and 2010, the Minnesota Department of Revenue established amended rules regarding how the PINGP's property and equipment would be assessed and valued for property tax purposes. The result of these amended set of rules provided the Company with a tax break for its power generating facilities, including the PINGP. This, in turn, resulted in a significant decrease in PINGP's contribution to the local tax base.

To address the deficiency created by the Minnesota Department of Revenue changes, the State passed a measure called Utility Valuation Transition Aid. The sole purpose of this statute was to make up for the deficiency between the amounts that would have been paid under the old Minnesota Department of Revenue rules and those that are now being paid utilizing the changes. These aid payments have not been able to replace the lost revenue due to these amended rules and the reduction in payment by the Company. These payments have, in fact, also diminished over time dropping from a high of \$1,316,684 in 2010 to an estimated \$380,951 in 2013. Attached hereto as Exhibit B is a graph that illustrates the diminishing Utility Valuation Transition Aid. Moreover, Utility Valuation Transition Aid was always intended to be temporary and may be eliminated at any time. If, or given the State's continued fiscal difficulties, when this Aid is eliminated, the City will feel the full effect of the Department of Revenue's changes.

Second, coupled with, or actually preceding the change in Minnesota Department of Revenue rules, was the Company's continued and expanded use of pollution control property tax exemptions. These exemptions have resulted in many of the improvements, replacements,

and upgrades to the PINGP being exempt from property taxes. Since the exemption is primarily carbon driven (i.e. if the improvement reduces or does not emit carbon as a by-product of operations it can be exempt from tax), this is of particular concern for the PINGP since the City will see little if any benefit. The PINGP does not emit carbon.⁵ Indeed, it is possible for the Company to declare all of the improvements associated with the upgrade as being pollution control equipment and therefore exempt from property taxation. Regardless of this designation, the City would still be obligated to participate and maintain the necessary public safety response capacity and readiness for the PINGP with the diminished (and diminishing) contribution from the Company for the cost of maintaining the same.

Despite the Company's assurances, both of the tools that it has to reduce taxes following the implementation of the extended power uprate, can be utilized, singularly or in combination, to reduce the Company's obligations to pay taxes on the PINGP. Indeed, the Company has already determined that the original scope of the project is no longer feasible and thus has reduced the value of improvements to the PINGP. While there are additional costs associated with the design and safety requirements that are imposed by the NRC, it is uncertain if these will result in any additional capital improvements in the PINGP. While the Company takes the position that there will be a tax benefit that will flow to the City, it is unable to articulate or identify the amount of that benefit. It simply does not know. Likewise, the Company has, in the past, stated its belief that *all* of the improvements done on the PINGP could possibly be classified as exempt. There is no assurance to the City that it will receive any benefit whatsoever from the extended power uprate.

Because of this continued diminished revenue, the City has projected a number of scenarios under which there would be a loss of personnel to the police, fire, and ambulance

⁵ Interestingly enough, spent fuel is not considered, at all, as a byproduct of energy production.

services. This would have a direct impact on the ERP and the ability of the City to maintain, much less meet, what appear to be new and heightened standards from the NRC. This plan, which has been already put in place, requires the City to take numerous steps to offset this loss of revenue including but not limited to not filling empty positions, limiting overtime, and suspending certain expenditures and acquisitions.

These plans to cut, limit, or otherwise suspend positions and the acquisition of equipment and other items related to public safety services are in opposition to the 2008 Public Services Report.⁶ The 2008 Public Services Report recommended the expansion of essential public safety services by the City in order to meet its obligations. The recommendations included the addition of two fire stations and all attendant equipment to operate the same as well as up to thirty-four fulltime firemen. The City, as part of its budget projections, could not completely incorporate those recommendations but did believe that it was necessary to include the fire stations and a portion of the personnel to operation the same. However, the City lacks the revenue to fully implement even that limited portion of the recommendations of the 2008 Public Services Report. Instead, the City has been limited to simply acquiring the land necessary for the fire stations and no more.

In light of these circumstances, it is important the Commission again weigh and consider the conditions that the City requested. The City requested, and renews its request, that the Company provide a stated steady stream of revenue so that the City may continue to meet the requirements of the ERP.⁷ The City also will be able to implement those portions of the 2008 Public Services Report that it identified and meet the increased requirements of the

⁶ The 2008 Public Services Report was a report commissioned by the City to evaluate its current and future delivery of public safety services within the boundaries of the City and for the extended area that it serves outside of its limits.

⁷ The City has calculated this at \$9,174,000 per year.

NRC regarding containment in the event of an out of design incident. It cannot be disputed that without an effective ERP the impact from an incident at the PINGP to the environment, human and natural, would be severe. Likewise, the socioeconomic impact to the City in the form the loss of the tax base from the PINGP is such that it far outweighs any economic benefit associated with the extended power uprate.

The Commission does have jurisdiction over the Company to make this as a condition of the affirmation of the CoN. The Commission has already placed a condition that the Company certifies that it has received reasonable assurances from the City that it can meet the ERP. The Commission is also obligated to identify and consider the impact on the City for long-term storage of spent fuel as part of its review of the decommissioning fund. The impact includes, as the Commission is aware from the City's comments in that proceeding, the flow of revenues from the Company during and after the decommissioning process and the obligations that the City will continue to have during this time, among other concerns. In short, the relationship, now, is out of balance and will not right itself at anytime during the next fifty years or beyond.

Finally, with the continued and additional requirements of the NRC to illustrate a robust containment response to any event at the PINGP, it is necessary that the City receive this revenue stream. The burden on the City is not going to be any lighter over the coming years as the extended power uprate stresses an already aging nuclear power plant that is, for the first time in four years, coming out of the Regulatory Response column. This categorization of Regulatory Response, as the Commission is aware, is a designation by the NRC for a nuclear power plant that has shown or received certain negative findings relative to safety and other issues regarding its operations. The Regulatory Response designation,

which is bestowed on less than 15% of a nuclear generating power plant in the United States, requires a higher level of review, scrutiny, and inspection.

CONCLUSION

The City is the first responder to any incident at the PINGP. While the Petition cites to changed circumstances, the City still supports the extended power uprate project and requests that the Commission reaffirm the same. *However*, as part of this reaffirmation, the Commission should recognize that the City needs to have the sufficient resources to meet the ERP. It needs to have the necessary infrastructure, equipment, and personnel to maintain readiness to meet the demands of the ERP. For this reason, the Commission should expand on its conditions and require the Company to provide a steady stream of revenue to the City.

The City thanks the Commission for its consideration of its Comments submitted as part of this Docket and is available to provide any additional information or comment as requested.

Respectfully submitted,

MADIGAN, DAHL & HARLAN, P.A.

/s/ Thomas P. Harlan

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Attorneys for the City of Red Wing, Minnesota



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

March 12, 2012

EA-12-049

All Power Reactor Licensees and
Holders of Construction Permits in
Active or Deferred Status

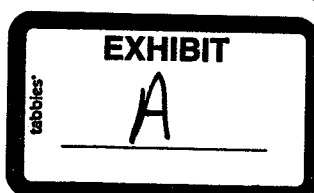
SUBJECT: ISSUANCE OF ORDER TO MODIFY LICENSES WITH REGARD TO
REQUIREMENTS FOR MITIGATION STRATEGIES FOR
BEYOND-DESIGN-BASIS EXTERNAL EVENTS

The U.S. Nuclear Regulatory Commission (NRC) has issued the enclosed Order that modifies the current license for your facility. The Order requires provisions for mitigation strategies for beyond-design-basis external events, and applies to all addressees listed in Attachment 1 to the enclosed Order.

Following the earthquake and tsunami at the Fukushima Dai-ichi nuclear power plant in March 2011, the NRC established a senior-level task force referred to as the Near-Term Task Force (NTTF). The NTTF conducted a systematic and methodical review of the NRC regulations and processes to determine if the agency should make safety improvements in light of the events in Japan. As a result of this review, the NTTF issued SECY-11-0093, "Near-Term Report and Recommendations for Agency Actions Following the Events in Japan," Agencywide Documents Access and Management System (ADAMS) Accession No. ML11186A950. SECY-11-0124, "Recommended Actions to be Taken Without Delay from the Near-Term Task Force Report," ADAMS Accession No. ML112911571 and SECY-11-0137, "Prioritization of Recommended Actions to be Taken in Response to Fukushima Lessons Learned," ADAMS Accession No. ML11272A111 were issued to establish the NRC staff's prioritization of the recommendations. Recommendation 4.2 concerning mitigation strategies was determined to be a high-priority action. This Order is based upon the NTTF recommendation.

The events at Fukushima Dai-ichi highlight the possibility that extreme natural phenomena could challenge the prevention, mitigation and emergency preparedness defense-in-depth layers. At Fukushima, limitations in time and unpredictable conditions associated with the accident significantly challenged attempts by the responders to preclude core damage and containment failure. During the events in Fukushima, the challenges faced by the operators were beyond any faced previously at a commercial nuclear reactor. It was determined that additional requirements must be imposed to mitigate beyond-design-basis external events. These additional requirements impose guidance and strategies to be available if the loss of power, motive force and normal access to the ultimate heat sink to prevent fuel damage in the reactor and spent fuel pool affected all units at a site simultaneously.

The NRC staff has determined that continued operation does not pose an imminent risk to public health and safety; however, the additional requirements outlined in this Order are necessary in light of insights gained from the events at Fukushima Dai-ichi. The requirements of this Order are immediately effective and are expected to remain in place until superseded by Order or rule.



All Power Reactor Licensees and
Holders of Construction Permits in
Active or Deferred Status

-2-

Pursuant to Section 223 of the Atomic Energy Act of 1954, as amended, any person who willfully violates, attempts to violate, or conspires to violate, any provision of this Order shall be subject to criminal prosecution as set forth in that section. Violation of this order may also subject the person to civil monetary penalty.

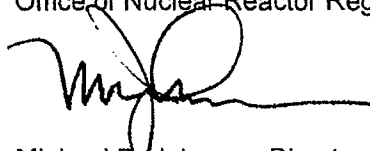
The enclosed Order requires responses and actions within specified timeframes. Please contact your Licensing Project Manager or Mr. Steven Bloom, Mitigation Strategies Order Project Manager (301-415-2431), regarding any issues related to compliance with the requirements in the enclosed Order, or if you have other questions.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be made available electronically for public inspection in the NRC Public Document Room or from the NRC's document system (ADAMS), accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html>. To the extent possible, your response should not include any personal privacy, proprietary, or safeguards information so that it can be made available to the public without redaction. The NRC also includes significant enforcement actions on its Web site at (<http://www.nrc.gov/reading-rm/doc-collections/enforcement/actions/>). The enclosed Order has been forwarded to the Office of the *Federal Register* for publication.

Sincerely,



Eric J. Leeds, Director
Office of Nuclear Reactor Regulation



Michael R. Johnson, Director
Office of New Reactors

Enclosure:
Order (EA-12-049)

cc: Listserv

ORDER TO MODIFYING LICENSES WITH REGARD TO REQUIREMENTS FOR MITIGATION
STRATEGIES FOR BEYOND-DESIGN-BASIS EXTERNAL EVENTS
EA-12-049

Enclosure

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

In the Matter of)	
)	
ALL POWER REACTOR)	Docket Nos. (as shown in Attachment 1)
LICENSEES AND HOLDERS)	License Nos. (as shown in Attachment 1) or
OF CONSTRUCTION PERMITS IN)	Construction Permit Nos. (as shown in
ACTIVE OR DEFERRED STATUS)	Attachment 1))
)	
)	EA-12-049

**ORDER MODIFYING LICENSES
WITH REGARD TO REQUIREMENTS FOR MITIGATION STRATEGIES
FOR BEYOND-DESIGN-BASIS EXTERNAL EVENTS
(EFFECTIVE IMMEDIATELY)**

I.

The Licensees and construction permits (CP) holders¹ identified in Attachment 1 to this Order hold licenses and CPs issued by the U.S. Nuclear Regulatory Commission (NRC or Commission) authorizing operation and/or construction of nuclear power plants in accordance with the Atomic Energy Act of 1954, as amended, and Title 10 of the *Code of Federal Regulations* (10 CFR) Part 50, "Domestic Licensing of Production and Utilization Facilities," and Part 52, "Licenses, Certifications, and Approvals for Nuclear Power Plants."

II.

On March 11, 2011, a magnitude 9.0 earthquake struck off the coast of the Japanese island of Honshu. The earthquake resulted in a large tsunami, estimated to have exceeded 14 meters (45 feet) in height, that inundated the Fukushima Dai-ichi nuclear power plant site.

¹ CP holders, as used in this Order, includes CPs, in active or deferred status, as identified in Attachment 1 to this Order (i.e., Watts Bar, Unit 2; and Bellefonte, Units 1 and 2)

The earthquake and tsunami produced widespread devastation across northeastern Japan and significantly affected the infrastructure and industry in the northeastern coastal areas of Japan.

When the earthquake occurred, Fukushima Dai-ichi Units 1, 2, and 3 were in operation and Units 4, 5, and 6 were shut down for routine refueling and maintenance activities. The Unit 4 reactor fuel was offloaded to the Unit 4 spent fuel pool (SFP). Following the earthquake, the three operating units automatically shut down and offsite power was lost to the entire facility. The emergency diesel generators (EDGs) started at all six units providing alternating current (ac) electrical power to critical systems at each unit. The facility response to the earthquake appears to have been normal.

Approximately 40 minutes following the earthquake and shutdown of the operating units, the first large tsunami wave inundated the site, followed by additional waves. The tsunami caused extensive damage to site facilities and resulted in a complete loss of all ac electrical power at Units 1 through 5, a condition known as station blackout. In addition, all direct current electrical power was lost early in the event on Units 1 and 2 and after some period of time at the other units. Unit 6 retained the function of one air-cooled EDG. Despite their actions, the operators lost the ability to cool the fuel in the Unit 1 reactor after several hours, in the Unit 2 reactor after about 70 hours, and in the Unit 3 reactor after about 36 hours, resulting in damage to the nuclear fuel shortly after the loss of cooling capabilities.

Following the events at the Fukushima Dai-ichi nuclear power plant, the NRC established a senior-level agency task force referred to as the Near-Term Task Force (NTTF). The NTTF was tasked with conducting a systematic and methodical review of the NRC regulations and processes and determining if the agency should make additional improvements to these programs in light of the events at Fukushima Dai-ichi. As a result of this review, the NTTF developed a comprehensive set of recommendations, documented in SECY-11-0093, "Near-Term Report and Recommendations for Agency Actions Following the Events in Japan,"

dated July 12, 2011. These recommendations were enhanced by the NRC staff following interactions with stakeholders. Documentation of the staff's efforts is contained in SECY-11-0124, "Recommended Actions to be Taken Without Delay From the Near-Term Task Force Report," dated September 9, 2011, and SECY-11-0137, "Prioritization of Recommended Actions to be Taken in Response to Fukushima Lessons Learned," dated October 3, 2011.

As directed by the Commission's staff requirements memorandum (SRM) for SECY-11-0093, the NRC staff reviewed the NTTF recommendations within the context of the NRC's existing regulatory framework and considered the various regulatory vehicles available to the NRC to implement the recommendations. SECY-11-0124 and SECY-11-0137 established the staff's prioritization of the recommendations based upon the potential safety enhancements.

Since receiving the Commission's direction in SRM-SECY-11-0124 and SRM-SECY-11-0137, the NRC staff conducted public meetings to discuss enhanced mitigation strategies intended to maintain or restore core cooling, containment, and SFP cooling capabilities following beyond-design-basis external events. At these meetings, the industry described its proposal for a Diverse and Flexible Mitigation Capability (FLEX), as documented in the Nuclear Energy Institute's (NEI's) letter dated December 16, 2011 (Agency Documents Access and Management System (ADAMS) Accession No. ML11353A008). FLEX is proposed as a strategy to fulfill the key safety functions of core cooling, containment integrity, and spent fuel cooling. Stakeholder input influenced the staff to pursue a more performance-based approach to improve the safety of operating power reactors than envisioned in NTTF Recommendation 4.2, SECY-11-0124, and SECY-11-0137.

Current regulatory requirements and existing plant capabilities allow the NRC to conclude that a sequence of events such as the Fukushima Dai-ichi accident is unlikely to occur in the U.S. Therefore, continued operation and continued licensing activities do not pose an imminent threat to public health and safety. However, NRC's assessment of new insights from the events at

Fukushima Dai-ichi leads the staff to conclude that additional requirements must be imposed on Licensees or CP holders to increase the capability of nuclear power plants to mitigate beyond-design-basis external events. These additional requirements are needed to provide adequate protection to public health and safety, as set forth in Section III of this Order.

Guidance and strategies required by this Order would be available if the loss of power, motive force, and normal access to the ultimate heat sink to prevent fuel damage in the reactor and SFP, affected all units at a site simultaneously. This Order requires a three-phase approach for mitigating beyond-design-basis external events. The initial phase requires the use of installed equipment and resources to maintain or restore core cooling, containment, and SFP cooling. The transition phase requires providing sufficient, portable, onsite equipment and consumables to maintain or restore these functions until they can be accomplished with resources brought from off site. The final phase requires obtaining sufficient offsite resources to sustain those functions indefinitely.

Additional details on an acceptable approach for complying with this Order will be contained in final Interim Staff Guidance (ISG) scheduled to be issued by the NRC in August 2012. This guidance will also include a template to be used for the plan that will be submitted in accordance with Section IV, Condition C.1 below.

III.

Reasonable assurance of adequate protection of the public health and safety and assurance of the common defense and security are the fundamental NRC regulatory objectives. Compliance with NRC requirements plays a critical role in giving the NRC confidence that Licensees or CP holders are maintaining an adequate level of public health and safety and common defense and security. While compliance with NRC requirements presumptively assures adequate protection, new information may reveal that additional requirements are

warranted. In such situations, the Commission may act in accordance with its statutory authority under Section 161 of the Atomic Energy Act of 1954, as amended, to require Licensees or CP holders to take action in order to protect health and safety and common defense and security.

To protect public health and safety from the inadvertent release of radioactive materials, the NRC's defense-in-depth strategy includes multiple layers of protection: (1) prevention of accidents by virtue of the design, construction, and operation of the plant; (2) mitigation features to prevent radioactive releases should an accident occur; and (3) emergency preparedness programs that include measures such as sheltering and evacuation. The defense-in-depth strategy also provides for multiple physical barriers to contain the radioactive materials in the event of an accident. The barriers are the fuel cladding, the reactor coolant pressure boundary, and the containment. These defense-in-depth features are embodied in the existing regulatory requirements and thereby provide adequate protection of the public health and safety.

Following the events of September 11, 2001, the NRC issued Order EA-02-026, dated February 25, 2002, which required Licensees to develop mitigating strategies related to the key safety functions of core cooling, containment, and SFP cooling. NEI Document 06-12, "B.5.b Phase 2 & 3 Submittal Guideline" (ADAMS Accession No. ML070090060) provides guidelines that describe the necessary mitigating strategies. The NRC endorsed these guidelines in a letter dated December 22, 2006, designated as Official Use Only. Those mitigating strategies were developed in the context of a localized event that was envisioned to challenge portions of a single unit. The events at Fukushima, however, demonstrate that beyond-design-basis external events may adversely affect: (1) more than one unit at a site with two or more units, and (2) multiple safety functions at each of several units located on the same site.

The events at Fukushima further highlight the possibility that extreme natural phenomena could challenge the prevention, mitigation, and emergency preparedness defense-in-depth layers. To address the uncertainties associated with beyond-design-basis external events, the

NRC is requiring additional defense-in-depth measures at licensed nuclear power reactors so that the NRC can continue to have reasonable assurance of adequate protection of public health and safety in mitigating the consequences of a beyond-design-basis external event.

The strategies and guidance developed and implemented by Licensees or CP holders in response to the requirements imposed by this Order will provide the necessary capabilities to supplement those of the permanently installed plant structures, systems, and components that could become unavailable following beyond-design-basis external events. These strategies and guidance will enhance the safety and preparedness capabilities established following September 11, 2001, and codified as 10 CFR 50.54(hh)(2). In order to address the potential for more widespread effects of beyond design basis external events, this Order requires strategies with increased capacity to implement protective actions concurrently at multiple units at a site. The strategies shall be developed to add multiple ways to maintain or restore core cooling, containment and SFP cooling capabilities in order to improve the defense-in-depth of licensed nuclear power reactors.

The Commission has determined that ensuring adequate protection of public health and safety requires that power reactor Licensees and CP holders develop, implement and maintain guidance and strategies to restore or maintain core cooling, containment, and SFP cooling capabilities in the event of a beyond-design-basis external event. These new requirements provide a greater mitigation capability consistent with the overall defense-in-depth philosophy, and, therefore, greater assurance that the challenges posed by beyond-design-basis external events to power reactors do not pose an undue risk to public health and safety. In order to provide reasonable assurance of adequate protection of public health and safety, all operating reactor licenses and CPs under Part 50 identified in Attachment 1 to this Order shall be modified to include the requirements identified in Attachment 2 to this Order. All combined licenses

(COLs) under 10 CFR Part 52 identified in Attachment 1 to this Order shall be modified to include the requirements identified in Attachment 3 to this Order.

Accordingly, the NRC has concluded that these measures are necessary to ensure adequate protection of public health and safety under the provisions of the backfit rule, 10 CFR 50.109(a)(4)(ii), and is requiring Licensee or CP holder action. In addition, pursuant to 10 CFR 2.202, the NRC finds that the public health, safety and interest require that this Order be made immediately effective.

IV.

Accordingly, pursuant to Sections 161b, 161j, 161o, and 182 of the Atomic Energy Act of 1954, as amended, and the Commission's regulations in 10 CFR 2.202, and 10 CFR Parts 50 and 52, IT IS HEREBY ORDERED, EFFECTIVE IMMEDIATELY, THAT ALL LICENSES AND CONSTRUCTION PERMITS IDENTIFIED IN ATTACHMENT 1 TO THIS ORDER ARE MODIFIED AS FOLLOWS:

- A. 1. All holders of CPs issued under Part 50 shall, notwithstanding the provisions of any Commission regulation or CPs to the contrary, comply with the requirements described in Attachment 2 to this Order except to the extent that a more stringent requirement is set forth in the CP. These CP holders shall complete full implementation **prior to issuance of an operating license.**
2. All holders of operating licenses issued under Part 50 shall, notwithstanding the provisions of any Commission regulation or license to the contrary, comply with the requirements described in Attachment 2 to this Order except to the extent that a more stringent requirement is set forth in the license. These Licensees shall promptly start implementation of the requirements in Attachment 2 to the Order and shall complete full implementation **no later than two (2) refueling cycles**

after submittal of the overall integrated plan, as required in Condition C.1.a, or December 31, 2016, whichever comes first.

3. All holders of COLs issued under Part 52 shall, notwithstanding the provisions of any Commission regulation or license to the contrary, comply with the requirements described in Attachment 3 to this Order except to the extent that a more stringent requirement is set forth in the license. These Licensees shall promptly start implementation of the requirements in Attachment 3 to the Order and shall complete full implementation prior to initial fuel load.
- B.
1. All Licensees and CP holders shall, within **twenty (20) days** of the date of this Order, notify the Commission, (1) if they are unable to comply with any of the requirements described in Attachment 2 or Attachment 3, (2) if compliance with any of the requirements is unnecessary in their specific circumstances, or (3) if implementation of any of the requirements would cause the Licensee or CP holder to be in violation of the provisions of any Commission regulation or the facility license. The notification shall provide the Licensee's or CP holder's justification for seeking relief from or variation of any specific requirement.
 2. Any Licensee or CP holder that considers that implementation of any of the requirements described in Attachment 2 or Attachment 3 to this Order would adversely impact safe and secure operation of the facility must notify the Commission, within **twenty (20) days** of this Order, of the adverse safety impact, the basis for its determination that the requirement has an adverse safety impact, and either a proposal for achieving the same objectives specified in Attachment 2 or Attachment 3 requirement in question, or a schedule for modifying the facility to address the adverse safety condition. If neither approach is appropriate, the Licensee or CP holder must supplement its response to Condition B.1 of this Order

to identify the condition as a requirement with which it cannot comply, with attendant justifications as required in Condition B.1.

- C. 1. a. All holders of operating licenses issued under Part 50 shall by **February 28, 2013**, submit to the Commission for review an overall integrated plan including a description of how compliance with the requirements described in Attachment 2 will be achieved.
- b. All holders of CPs issued under Part 50 or COLs issued under Part 52 shall, within **one (1) year** after issuance of the final ISG, submit to the Commission for review an overall integrated plan including a description of how compliance with the requirements described in Attachment 2 or Attachment 3 will be achieved.
2. All Licensees and holders of CPs shall provide an initial status report **sixty (60) days** following issuance of the final ISG and at **six (6)-month** intervals following submittal of the overall integrated plan, as required in Condition C.1, which delineates progress made in implementing the requirements of this Order.
3. All Licensees and CP holders shall report to the Commission when full compliance with the requirements described in Attachment 2 or Attachment 3 is achieved.

Licensee or CP holders responses to Conditions B.1, B.2, C.1, C.2, and C.3, above shall be submitted in accordance with 10 CFR 50.4 and 10 CFR 52.3, as applicable.

As applicable, the Director, Office of Nuclear Reactor Regulation or the Director, Office of New Reactors may, in writing, relax or rescind any of the above conditions upon demonstration by the Licensee or CP holder of good cause.

In accordance with 10 CFR 2.202, the Licensee or CP holder must, and any other person adversely affected by this Order may, submit an answer to this Order, and may request a hearing on this Order, **within 20 days** of the date of this Order. Where good cause is shown, consideration will be given to extending the time to answer or to request a hearing. A request for extension of time in which to submit an answer or request a hearing must be made in writing to the Director, Office of Nuclear Reactor Regulation or to the Director, Office of New Reactors, U.S. Nuclear Regulatory Commission, Washington, DC 20555, and include a statement of good cause for the extension. The answer may consent to this Order.

If a hearing is requested by a Licensee, CP holder or a person whose interest is adversely affected, the Commission will issue an Order designating the time and place of any hearings. If a hearing is held, the issue to be considered at such hearing shall be whether this Order should be sustained. Pursuant to 10 CFR 2.202(c)(2)(i), the licensee, CP holder or any other person adversely affected by this Order, may, in addition to demanding a hearing, at the time the answer is filed or sooner, move the presiding officer to set aside the immediate effectiveness of the Order on the ground that the Order, including the need for immediate effectiveness, is not based on adequate evidence but on mere suspicion, unfounded allegations, or error.

All documents filed in NRC adjudicatory proceedings, including a request for hearing, a petition for leave to intervene, any motion or other document filed in the proceeding prior to the submission of a request for hearing or petition to intervene, and documents filed by interested governmental entities participating under 10 CFR 2.315(c), must be filed in accordance with the NRC E-Filing rule (72 FR 49139, August 28, 2007). The E-Filing process requires participants to submit and serve all adjudicatory documents over the internet, or in some cases to mail copies on electronic storage media. Participants may not submit paper copies of their filings unless they seek an exemption in accordance with the procedures described below.

To comply with the procedural requirements of E-Filing, at least 10 days prior to the filing deadline, the participant should contact the Office of the Secretary by e-mail at hearing.docket@nrc.gov, or by telephone at (301) 415-1677, to request (1) a digital ID certificate, which allows the participant (or its counsel or representative) to digitally sign documents and access the E-Submittal server for any proceeding in which it is participating; and (2) advise the Secretary that the participant will be submitting a request or petition for hearing (even in instances in which the participant, or its counsel or representative, already holds an NRC-issued digital ID certificate). Based upon this information, the Secretary will establish an electronic docket for the hearing in this proceeding if the Secretary has not already established an electronic docket.

Information about applying for a digital ID certificate is available on NRC's public Web site at <http://www.nrc.gov/site-help/e-submittals/apply-certificates.html>. System requirements for accessing the E-Submittal server are detailed in NRC's "Guidance for Electronic Submission," which is available on the agency's public Web site at <http://www.nrc.gov/site-help/esubmittals.html>. Participants may attempt to use other software not listed on the web site, but should note that the NRC's E-Filing system does not support unlisted software, and the NRC Meta System Help Desk will not be able to offer assistance in using unlisted software.

If a participant is electronically submitting a document to the NRC in accordance with the E-Filing rule, the participant must file the document using the NRC's online, web-based submission form. In order to serve documents through the Electronic Information Exchange, users will be required to install a web browser plug-in from the NRC web site. Further information on the web-based submission form, including the installation of the Web browser plug-in, is available on the NRC's public Web site at <http://www.nrc.gov/site-help/esubmittals.html>.

Once a participant has obtained a digital ID certificate and a docket has been created, the participant can then submit a request for hearing or petition for leave to intervene. Submissions

should be in Portable Document Format (PDF) in accordance with NRC guidance available on the NRC public Web site at <http://www.nrc.gov/site-help/e-submittals.html>. A filing is considered complete at the time the documents are submitted through the NRC's E-Filing system. To be timely, an electronic filing must be submitted to the E-Filing system no later than 11:59 p.m. Eastern Time on the due date. Upon receipt of a transmission, the E-Filing system time-stamps the document and sends the submitter an e-mail notice confirming receipt of the document. The E-Filing system also distributes an e-mail notice that provides access to the document to the NRC Office of the General Counsel and any others who have advised the Office of the Secretary that they wish to participate in the proceeding, so that the filer need not serve the documents on those participants separately. Therefore, applicants and other participants (or their counsel or representative) must apply for and receive a digital ID certificate before a hearing request/petition to intervene is filed so that they can obtain access to the document via the E-Filing system.

A person filing electronically using the agency's adjudicatory E-Filing system may seek assistance by contacting the NRC Meta System Help Desk through the "Contact Us" link located on the NRC Web site at <http://www.nrc.gov/site-help/e-submittals.html>, by e-mail at MSHD.Resource@nrc.gov, or by a toll-free call at (866) 672-7640. The NRC Meta System Help Desk is available between 8 a.m. and 8 p.m., Eastern Time, Monday through Friday, excluding government holidays.

Participants who believe that they have a good cause for not submitting documents electronically must file an exemption request, in accordance with 10 CFR 2.302(g), with their initial paper filing requesting authorization to continue to submit documents in paper format. Such filings must be submitted by: (1) first class mail addressed to the Office of the Secretary of the Commission, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, Attention: Rulemaking and Adjudications Staff; or (2) courier, express mail, or expedited delivery service to the Office of the Secretary, Sixteenth Floor, One White Flint North, 11555 Rockville Pike,

Rockville, Maryland, 20852, Attention: Rulemaking and Adjudications Staff. Participants filing a document in this manner are responsible for serving the document on all other participants.

Filing is considered complete by first-class mail as of the time of deposit in the mail, or by courier, express mail, or expedited delivery service upon depositing the document with the provider of the service. A presiding officer, having granted an exemption request from using E-Filing, may require a participant or party to use E-Filing if the presiding officer subsequently determines that the reason for granting the exemption from use of E-Filing no longer exists.

Documents submitted in adjudicatory proceedings will appear in NRC's electronic hearing docket, which is available to the public at http://ehd.nrc.gov/EHD_Proceeding/home.asp, unless excluded pursuant to an order of the Commission, or the presiding officer. Participants are requested not to include personal privacy information, such as social security numbers, home addresses, or home phone numbers in their filings, unless an NRC regulation or other law requires submission of such information. With respect to copyrighted works, except for limited excerpts that serve the purpose of the adjudicatory filings and would constitute a Fair Use application, participants are requested not to include copyrighted materials in their submission.

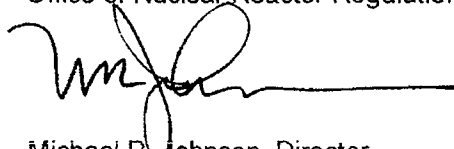
If a person other than the Licensee or CP holder requests a hearing, that person shall set forth with particularity the manner in which his interest is adversely affected by this Order and shall address the criteria set forth in 10 CFR 2.309(d).

In the absence of any request for hearing, or written approval of an extension of time in which to request a hearing, the provisions specified in Section IV above shall be final twenty (20) days from the date of this Order without further order or proceedings. If an extension of time for requesting a hearing has been approved, the provisions specified in Section IV shall be final when the extension expires if a hearing request has not been received. AN ANSWER OR A REQUEST FOR HEARING SHALL NOT STAY THE IMMEDIATE EFFECTIVENESS OF THIS ORDER.

FOR THE NUCLEAR REGULATORY COMMISSION



Eric J. Leeds, Director
Office of Nuclear Reactor Regulation



Michael R. Johnson, Director
Office of New Reactors

Dated this 12th day of March 2012

POWER REACTOR LICENSEES AND HOLDERS OF
CONSTRUCTION PERMITS IN ACTIVE OR DEFERRED STATUS

Arkansas Nuclear One

Entergy Operations, Inc.
Docket Nos. 50-313 and 50-368
License Nos. DPR-51 and NPF-6

Mr. Christopher J. Schwarz
Vice President, Operations
Entergy Operations, Inc.
Arkansas Nuclear One
1448 S.R. 333
Russellville, AR 72802

Beaver Valley Power Station

First Energy Nuclear Operating Co.
Docket Nos. 50-334 and 50-412
License Nos. DPR-66 and NPF-73

Mr. Paul A. Harden
Site Vice President
FirstEnergy Nuclear Operating Company
Mail Stop A-BV-SEB1
P.O. Box 4, Route 168
Shippingport, PA 15077

Bellefonte Nuclear Power Station

Tennessee Valley Authority
Docket Nos. 50-438 and 50-439
Construction Permit Nos. CPPR No. 122 and CPPR No. 123

Mr. Michael D. Skaggs
Senior Vice President, Nuclear Generation Development and Construction
Tennessee Valley Authority
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Chattanooga, TN 37402-2801

Braidwood Station

Exelon Generation Co., LLC
Docket Nos. STN 50-456 and STN 50-457
License Nos. NPF-72 and NPF-77

Mr. Michael J. Pacilio
President and Chief Nuclear Officer
Exelon Nuclear
4300 Winfield Road
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Browns Ferry Nuclear Plant

Tennessee Valley Authority

Docket Nos. 50-259, 50-260 and 50-296

License Nos. DPR-33, DPR-52 and DPR-68

Mr. Preston D. Swafford
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Chattanooga, TN 37402-2801

Brunswick Steam Electric Plant

Carolina Power & Light Co.

Docket Nos. 50-325 and 50-324

License Nos. DPR-71 and DPR-62

Mr. Michael J. Annacone
Vice President
Carolina Power & Light Company
Brunswick Steam Electric Plant
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Southport, NC 28461

Byron Station

Exelon Generation Co., LLC

Docket Nos. STN 50-454 and STN 50-455

License Nos. NPF-37 and NPF-66

Mr. Michael J. Pacilio
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Exelon Nuclear
4300 Winfield Road
Warrenville, IL 60555

Callaway Plant

Union Electric Co.

Docket No. 50-483

License No. NPF-30

Mr. Adam C. Heflin
Senior Vice President and Chief Nuclear Officer
Union Electric Company
P. O. Box 620
Fulton, MO 65251

Calvert Cliffs Nuclear Power Plant

Calvert Cliffs Nuclear Power Plant, LLC
Docket Nos. 50-317 and 50-318
License Nos. DPR-53 and DPR-69

Mr. George H. Gellrich
Vice President
Calvert Cliffs Nuclear Power Plant, LLC
Calvert Cliffs Nuclear Power Plant
1650 Calvert Cliffs Parkway
Lusby, MD 20657-4702

Catawba Nuclear Station

Duke Energy Carolinas, LLC
Docket Nos. 50-413 and 50-414
License Nos. NPF-35 and NPF-52

Mr. James R. Morris
Site Vice President
Duke Energy Carolinas, LLC
Catawba Nuclear Station
4800 Concord Road
York, SC 29745

Clinton Power Station

Exelon Generation Co., LLC
Docket No. 50-461
License No. NPF-62

Mr. Michael J. Pacilio
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Columbia Generating Station

Energy Northwest
Docket No. 50-397
License No. NPF-21

Mr. Mark E. Reddemann
Chief Executive Officer
Energy Northwest
MD 1023
P.O. Box 968
Richland, WA 99352

Comanche Peak Nuclear Power Plant

Luminant Generation Co., LLC
Docket Nos. 50-445 and 50-446
License Nos. NPF-87 and NPF-89

Mr. Rafael Flores
Senior Vice President and Chief Nuclear Officer
Luminant Generation Company, LLC
Attn: Regulatory Affairs
P. O. Box 1002
Glen Rose, TX 76043

Cooper Nuclear Station

Nebraska Public Power District
Docket No. 50-298
License No. DPR-46

Mr. Brian J. O'Grady
Vice President - Nuclear and Chief Nuclear Officer
Nebraska Public Power District
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P.O. Box 98
Brownville, NE 68321

Crystal River Nuclear Generating Plant

Florida Power Corp.
Docket No. 50-302
License No. DPR-72

Mr. Jon A. Franke
Vice President
Attn: Supervisor, Licensing & Regulatory Affairs
Progress Energy, Inc.
Crystal River Nuclear Plant (NA2C)
15760 West Power Line Street
Crystal River, FL 34428-6708

Davis-Besse Nuclear Power Station

First Energy Nuclear Operating Co.
Docket No. 50-346
License No. NPF-3

Mr. Barry S. Allen
Site Vice President
FirstEnergy Nuclear Operating Company
c/o Davis-Besse NPS
5501 N. State Route 2
Oak Harbor, OH 43449-9760

Diablo Canyon Power Plant

Pacific Gas & Electric Co.
Docket Nos. 50-275 and 50-323
License Nos. DPR-80 and DPR-82

Mr. John T. Conway
Senior Vice President - Energy Supply and Chief Nuclear Officer
Pacific Gas and Electric Company
Diablo Canyon Power Plant
77 Beale Street, Mail Code B32
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Donald C. Cook Nuclear Plant

Indiana Michigan Power Co.
Docket Nos. 50-315 and 50-316
License Nos. DPR-58 and DPR-74

Mr. Lawrence J. Weber
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Nuclear Generation Group
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Bridgman, MI 49106

Dresden Nuclear Power Station

Exelon Generation Co., LLC
Docket Nos. 50-237 and 50-249
License Nos. DPR-19 and DPR-25

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Duane Arnold Energy Center

NextEra Energy Duane Arnold, LLC
Docket No. 50-331
License No. DPR-49

Mr. Peter Wells
Site Vice President
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Duane Arnold Energy Center
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Edwin I. Hatch Nuclear Plant

Southern Nuclear Operating Co.
Docket Nos. 50-321 and 50-366
License Nos. DPR-57 and NPF-5

Mr. Dennis R. Madison
Vice President
Southern Nuclear Operating Company, Inc.
Edwin I. Hatch Nuclear Plant
11028 Hatch Parkway North
Baxley, GA 31513

Fermi

Detroit Edison Co.
Docket No. 50-341
License No. NPF-43

Mr. Jack M. Davis
Senior Vice President and Chief Nuclear Officer
Detroit Edison Company
Fermi 2 – 210 NOC
6400 North Dixie Highway
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Fort Calhoun Station

Omaha Public Power District
Docket No. 50-285
License No. DPR-40

Mr. David J. Bannister
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Omaha Public Power District
444 South 16th St. Mall
Omaha, NE 68102-2247

Grand Gulf Nuclear Station

Entergy Operations, Inc.
Docket No. 50-416
License No. NPF-29

Mr. Michael Perito
Vice President, Operations
Entergy Operations, Inc.
Grand Gulf Nuclear Station, Unit 1
7003 Bald Hill Road
Port Gibson, MS 39150

H. B. Robinson Steam Electric Plant

Carolina Power & Light Co.
Docket No. 50-261
License No. DPR-23

Mr. Robert J. Duncan II
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Hope Creek Generating Station

PSEG Nuclear, LLC
Docket No. 50-354
License No. NPF-57

Mr. Thomas Joyce
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PSEG Nuclear LLC - N09
P. O. Box 236
Hancocks Bridge, NJ 08038

Indian Point Energy Center

Entergy Nuclear Operations, Inc.
Docket Nos. 50-247 and 50-286
License Nos. DPR-26 and DPR-64

Mr. John Ventosa
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Entergy Nuclear Operations, Inc.
Indian Point Energy Center
450 Broadway, GSB
P.O. Box 249
Buchanan, NY 10511-0249

James A. FitzPatrick Nuclear Power Plant

Entergy Nuclear Operations, Inc.
Docket No. 50-333
License No. DPR-59

Mike Colomb
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Entergy Nuclear Operations, Inc.
James A. FitzPatrick Nuclear Power Plant
P.O. Box 110
Lycoming, NY 13093

Joseph M. Farley Nuclear Plant
Southern Nuclear Operating Co.
Docket Nos. 50-348 and 50-364
License Nos. NPF-2 and NPF-8

Mr. Tom Lynch
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Southern Nuclear Operating Company, Inc.
Joseph M. Farley Nuclear Plant
7388 North State Highway 95
Columbia, AL 36319

Kewaunee Power Station
Dominion Energy Kewaunee, Inc.
Docket No. 50-305
License No. DPR-43

Mr. David A. Heacock
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Dominion Energy Kewaunee, Inc.
Innsbrook Technical Center
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Glen Allen, VA 23060-6711

LaSalle County Station
Exelon Generation Co., LLC
Docket Nos. 50-373 and 50-374
License Nos. NPF-11 and NPF-18

Mr. Michael J. Pacilio
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Limerick Generating Station
Exelon Generation Co., LLC
Docket Nos. 50-352 and 50-353
License Nos. NPF-39 and NPF-85

Mr. Michael J. Pacilio
President and Chief Nuclear Officer
Exelon Nuclear
4300 Winfield Road
Warrenville, IL 60555

Millstone Nuclear Power Station

Dominion Nuclear Connecticut, Inc.
Docket Nos. 50-336 and 50-423
License Nos. DPR-65 and NPF-49

Mr. David A. Heacock
President and Chief Nuclear Officer
Dominion Nuclear Connecticut, Inc.
Innsbrook Technical Center
5000 Dominion Boulevard
Glen Allen, VA 23060-6711

Monticello Nuclear Generating Plant

Northern States Power Company
Docket No. 50-263
License No. DPR-22

Mr. Timothy J. O'Connor
Site Vice President
Northern States Power Company - Minnesota
Monticello Nuclear Generating Plant
2807 West County Road 75
Monticello, MN 55362-9637

Nine Mile Point Nuclear Station

Nine Mile Point Nuclear Station, LLC
Docket Nos. 50-220 and 50-410
License Nos. DPR-63 and NPF-69

Mr. Ken Langdon
Vice President Nine Mile Point
Nine Mile Point Nuclear Station, LLC
P. O. Box 63
Lycoming, NY 13093

North Anna Power Station

Virginia Electric & Power Co.
Docket Nos. 50-338 and 50-339
License Nos. NPF-4 and NPF-7

Mr. David A. Heacock
President and Chief Nuclear Officer
Dominion Nuclear
Innsbrook Technical Center
5000 Dominion Boulevard
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Oconee Nuclear Station

Duke Energy Carolinas, LLC
Docket Nos. 50-269, 50-270 and 50-287
License Nos. DPR-38, DPR-47 and DPR-55

Mr. Preston Gillespie
Site Vice President, Oconee Nuclear Station
Duke Energy Carolinas, LLC
7800 Rochester Highway
Seneca, SC 29672

Oyster Creek Nuclear Generating Station

Exelon Generation Co., LLC
Docket No. 50-219
License No. DPR-16

Mr. Michael J. Pacilio
President and Chief Nuclear Officer
Exelon Nuclear
4300 Winfield Road
Warrenville, IL 60555

Palisades Nuclear Plant

Entergy Nuclear Operations, Inc.
Docket No. 50-255
License No. DPR-20

Mr. Anthony J. Vitale
Site Vice President - Palisades
Entergy Nuclear Operations, Inc.
Palisades Nuclear Plant
27780 Blue Star Memorial Highway
Covert, MI 49043

Palo Verde Nuclear Generating Station

Arizona Public Service Company
Docket Nos. STN 50-528, STN 50-529 and STN 50-530
License Nos. NPF-41, NPF-51 and NPF-74

Mr. Randall K. Edington
Executive Vice President Nuclear and Chief Nuclear Officer
Arizona Public Service Co.
P. O. Box 52034, MS 7602
Phoenix, AZ 85072-2034

Peach Bottom Atomic Power Station

Exelon Generation Co., LLC
Docket Nos. 50-277 and 50-278
License Nos. DPR-44 and DPR-56

Mr. Michael J. Pacilio
President and Chief Nuclear Officer
Exelon Nuclear
4300 Winfield Road
Warrenville, IL 60555

Perry Nuclear Power Plant

First Energy Nuclear Operating Co.
Docket No. 50-440
License No. NPF-58

Mr. Vito A. Kaminskas
Site Vice President - Nuclear - Perry
FirstEnergy Nuclear Operating Company
Perry Nuclear Power Plant
10 Center Road, A290
Perry, OH 44081

Pilgrim Nuclear Power Station Unit No. 1

Entergy Nuclear Operations, Inc.
Docket No. 50-293
License No. DPR-35

Mr. Robert Smith
Vice President and Site Vice President
Entergy Nuclear Operations, Inc.
Pilgrim Nuclear Power Station
600 Rocky Hill Road
Plymouth, MA 02360-5508

Point Beach Nuclear Plant

NextEra Energy Point Beach, LLC
Docket Nos. 50-266 and 50-301
License Nos. DPR-24 and DPR-27

Mr. Larry Meyer
Site Vice President
NextEra Energy Point Beach, LLC
Point Beach Nuclear Plant, Units 1 & 2
6610 Nuclear Road
Two Rivers, WI 54241-9516

Prairie Island Nuclear Generating Plant
Northern States Power Co. Minnesota
Docket Nos. 50-282 and 50-306
License Nos. DPR-42 and DPR-60

Mr. Mark A. Schimmel
Site Vice President
Northern States Power Company - Minnesota
Prairie Island Nuclear Generating Plant
1717 Wakonade Drive East
Welch, MN 55089-9642

Quad Cities Nuclear Power Station
Exelon Generation Co., LLC
Docket Nos. 50-254 and 50-265
License Nos. DPR-29 and DPR-30

Mr. Michael J. Pacilio
President and Chief Nuclear Officer
Exelon Nuclear
4300 Winfield Road
Warrenville, IL 60555

R. E. Ginna Nuclear Power Plant
R.E. Ginna Nuclear Power Plant, LLC
Docket No. 50-244
License No. DPR-18

Mr. Joseph E. Pacher
Vice President
R.E. Ginna Nuclear Power Plant, LLC
R.E. Ginna Nuclear Power Plant
1503 Lake Road
Ontario, NY 14519

River Bend Station
Entergy Operations, Inc.
Docket No. 50-458
License No. NPF-47

Mr. Eric W. Olson
Vice President, Operations
Entergy Operations, Inc.
River Bend Station
5485 U.S. Highway 61N
St. Francisville, LA 70775

Salem Nuclear Generating Station

PSEG Nuclear, LLC
Docket Nos. 50-272 and 50-311
License Nos. DPR-70 and DPR-75

Mr. Thomas Joyce
President and Chief Nuclear Officer
PSEG Nuclear LLC - N09
P. O. Box 236
Hancocks Bridge, NJ 08038

San Onofre Nuclear Generating Station

Southern California Edison Co.
Docket Nos. 50-361 and 50-362
License Nos. NPF-10 and NPF-15

Mr. Peter T. Dietrich
Senior Vice President and Chief Nuclear Officer
Southern California Edison Company
San Onofre Nuclear Generating Station
P. O. Box 128
San Clemente, CA 92674-0128

Seabrook

NextEra Energy Seabrook, LLC
Docket No. 50-443
License No. NPF-86

Mr. Paul Freeman
Site Vice President
NextEra Energy Seabrook, LLC
c/o Mr. Michael O'Keefe
NextEra Energy Seabrook, LLC
P.O. Box 300
Seabrook, NH 03874

Sequoyah Nuclear Plant

Tennessee Valley Authority
Docket Nos. 50-327 and 50-328
License Nos. DPR-77 and DPR-79

Mr. Preston D. Swafford
Chief Nuclear Officer and Executive Vice President
Tennessee Valley Authority
3R Lookout Place
1101 Market Street
Chattanooga, TN 37402-2801

Shearon Harris Nuclear Power Plant

Carolina Power & Light Co.
Docket No. 50-400
License No. NPF-63

Mr. Christopher L. Burton
Vice President
Progress Energy Carolinas, Inc.
Shearon Harris Nuclear Power Plant
P. O. Box 165, Mail Zone 1
New Hill, NC 27562-0165

South Texas Project

STP Nuclear Operating Co.
Docket Nos. 50-498 and 50-499
License Nos. NPF-76 and NPF-80

Mr. Edward D. Halpin
President, Chief Executive Officer and Chief Nuclear Officer
STP Nuclear Operating Company
South Texas Project
P. O. Box 289
Wadsworth, TX 77483

St. Lucie Plant

Florida Power & Light Co.
Docket Nos. 50-335 and 50-389
License Nos. DPR-67 and NPF-16

Mr. Mano Nazar
Executive Vice President and Chief Nuclear Officer
NextEra Energy
700 Universe Boulevard
P. O. Box 14000
Juno Beach, FL 33408-0420

Surry Power Station

Virginia Electric & Power Co.
Docket Nos. 50-280 and 50-281
License Nos. DPR-32 and DPR-37

Mr. David A. Heacock
President and Chief Nuclear Officer
Dominion Nuclear
Innsbrook Technical Center
5000 Dominion Boulevard
Glen Allen, VA 23060-6711

Susquehanna Steam Electric Station

PPL Susquehanna, LLC
Docket Nos. 50-387 and 50-388
License Nos. NPF-14 and NPF-22

Mr. Timothy S. Rausch
Senior Vice President and Chief Nuclear Officer
PPL Susquehanna, LLC
769 Salem Boulevard
NUCSB3
Berwick, PA 18603-0467

Turkey Point

Florida Power & Light Co.
Docket Nos. 50-250 and 50-251
License Nos. DPR-31 and DPR-41

Mr. Mano Nazar
Executive Vice President and Chief Nuclear Officer
NextEra Energy
700 Universe Boulevard
P. O. Box 14000
Juno Beach, FL 33408-0420

Vermont Yankee Nuclear Power Station

Entergy Nuclear Operations, Inc.
Docket No. 50-271
License No. DPR-28

Mr. Christopher J. Wamser
Site Vice President
Entergy Nuclear Operations, Inc.
Vermont Yankee Nuclear Power Station
320 Governor Hunt Road
Vernon, VT 05354

Virgil C. Summer Nuclear Station

South Carolina Electric & Gas Co.
Docket No. 50-395
License No. NPF-12

Mr. Thomas D. Gatlin
Vice President Nuclear Operations
South Carolina Electric & Gas Company
Virgil C. Summer Nuclear Station
Post Office Box 88, Mail Code 300
Jenkinsville, SC 29065

Vogtle Electric Generating Plant
Southern Nuclear Operating Co.
Docket Nos. 50-424 and 50-425
License Nos. NPF-68 and NPF-81

Mr. Tom E. Tynan
Vice President
Southern Nuclear Operating Company, Inc.
Vogtle Electric Generating Plant
7821 River Road
Waynesboro, GA 30830

Vogtle Electric Generating Plant, Units 3 & 4
Southern Nuclear Operating Co.
Docket Nos. 52-025 and 52-026
License Nos. NPF-91 and NPF-92

Mr. B. L. Ivey
Vice President, Regulatory Affairs
Southern Nuclear Operating Company, Inc.
40 Inverness Center Parkway
Bin B022
Birmingham, AL 35242

Waterford Steam Electric Station
Entergy Operations, Inc.
Docket No. 50-382
License No. NPF-38

Ms. Donna Jacobs
Vice President, Operations
Entergy Operations, Inc.
Waterford Steam Electric Station, Unit 3
17265 River Road
Killona, LA 70057-0751

Watts Bar Nuclear Plant, Unit 1
Tennessee Valley Authority
Docket No. 50-390
License No. NPF-90

Mr. Preston D. Swafford
Chief Nuclear Officer and Executive Vice President
Tennessee Valley Authority
3R Lookout Place
1101 Market Street
Chattanooga, TN 37402-2801

Watts Bar Nuclear Plant, Unit 2

Tennessee Valley Authority
Docket No. 50-391
Construction Permit No. CPPR No. 092

Mr. Michael D. Skaggs
Senior Vice President, Nuclear Generation Development and Construction
Tennessee Valley Authority
6A Lookout Place
1101 Market Street
Chattanooga, TN 37402-2801

William B. McGuire Nuclear Station

Duke Energy Carolinas, LLC
Docket Nos. 50-369 and 50-370
License Nos. NPF-9 and NPF-17

Mr. Regis T. Repko
Vice President
Duke Energy Carolinas, LLC
McGuire Nuclear Site
12700 Hagers Ferry Road
Huntersville, NC 28078

Wolf Creek Generating Station

Wolf Creek Nuclear Operating Corp.
Docket No. 50-482
License No. NPF-42

Mr. Matthew W. Sunseri
President and Chief Executive Officer
Wolf Creek Nuclear Operating Corporation
P. O. Box 411
Burlington, KS 66839

REQUIREMENTS FOR MITIGATION STRATEGIES FOR BEYOND-DESIGN-BASIS
EXTERNAL EVENTS AT OPERATING REACTOR SITES
AND CONSTRUCTION PERMIT HOLDERS

This Order requires a three-phase approach for mitigating beyond-design-basis external events. The initial phase requires the use of installed equipment and resources to maintain or restore core cooling, containment and spent fuel pool (SFP) cooling capabilities. The transition phase requires providing sufficient, portable, onsite equipment and consumables to maintain or restore these functions until they can be accomplished with resources brought from off site. The final phase requires obtaining sufficient offsite resources to sustain those functions indefinitely.

- (1) Licensees or construction permit (CP) holders shall develop, implement, and maintain guidance and strategies to maintain or restore core cooling, containment and SFP cooling capabilities following a beyond-design-basis external event.
- (2) These strategies must be capable of mitigating a simultaneous loss of all alternating current (ac) power and loss of normal access to the ultimate heat sink and have adequate capacity to address challenges to core cooling, containment, and SFP cooling capabilities at all units on a site subject to this Order.
- (3) Licensees or CP holders must provide reasonable protection for the associated equipment from external events. Such protection must demonstrate that there is adequate capacity to address challenges to core cooling, containment, and SFP cooling capabilities at all units on a site subject to this Order.
- (4) Licensees or CP holders must be capable of implementing the strategies in all modes.
- (5) Full compliance shall include procedures, guidance, training, and acquisition, staging, or installing of equipment needed for the strategies.

REQUIREMENTS FOR MITIGATION STRATEGIES
FOR BEYOND-DESIGN-BASIS EXTERNAL EVENTS
AT COL HOLDER REACTOR SITES
(VOGTLE UNITS 3 AND 4)

Attachment 2 to this order for Part 50 licensees requires a phased approach for mitigating beyond-design-basis external events. The initial phase requires the use of installed equipment and resources to maintain or restore core cooling, containment and spent fuel pool (SFP) cooling capabilities. The transition phase requires providing sufficient, portable, onsite equipment and consumables to maintain or restore these functions until they can be accomplished with resources brought from off site. The final phase requires obtaining sufficient offsite resources to sustain those functions indefinitely.

The design bases of Vogtle Units 3 and 4 includes passive design features that provide core, containment and SFP cooling capability for 72 hours, without reliance on alternating current (ac) power. These features do not rely on access to any external water sources since the containment vessel and the passive containment cooling system serve as the safety-related ultimate heat sink. The NRC staff reviewed these design features prior to issuance of the combined licenses for these facilities and certification of the AP1000 design referenced therein. The AP1000 design also includes equipment to maintain required safety functions in the long term (beyond 72 hours to 7 days) including capability to replenish water supplies. Connections are provided for generators and pumping equipment that can be brought to the site to back up the installed equipment. The staff concluded in its final safety evaluation report for the AP1000 design that the installed equipment (and alternatively, the use of transportable equipment) is capable of supporting extended operation of the passive safety systems to maintain required safety functions in the long term. As such, this Order requires Vogtle Units 3 and 4 to address the following requirements relative to the final phase.

- (1) Licensees shall develop, implement, and maintain guidance and strategies to maintain or restore core cooling, containment and SFP cooling capabilities following a beyond-design-basis external event.
- (2) These strategies must be capable of mitigating a simultaneous loss of all ac power and loss of normal access to the normal heat sink and have adequate capacity to address challenges to core cooling, containment, and SFP cooling capabilities at all units on a site subject to this Order.
- (3) Licensees must provide reasonable protection for the associated equipment from external events. Such protection must demonstrate that there is adequate capacity to address challenges to core cooling, containment, and SFP cooling capabilities at all units on a site subject to this Order.
- (4) Licensees must be capable of implementing the strategies in all modes.
- (5) Full compliance shall include procedures, guidance, training, and acquisition, staging, or installing of equipment needed for the strategies.

All Power Reactor Licensees and
 Holders of Construction Permits in
 Active or Deferred Status

-2-

Pursuant to Section 223 of the Atomic Energy Act of 1954, as amended, any person who willfully violates, attempts to violate, or conspires to violate, any provision of this Order shall be subject to criminal prosecution as set forth in that section. Violation of this order may also subject the person to civil monetary penalty.

The enclosed Order requires responses and actions within specified timeframes. Please contact your Licensing Project Manager or Mr. Steven Bloom, Mitigation Strategies Order Project Manager (301-415-2431), regarding any issues related to compliance with the requirements in the enclosed Order, or if you have other questions.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be made available electronically for public inspection in the NRC Public Document Room or from the NRC's document system (ADAMS), accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html>. To the extent possible, your response should not include any personal privacy, proprietary, or safeguards information so that it can be made available to the public without redaction. The NRC also includes significant enforcement actions on its Web site at (<http://www.nrc.gov/reading-rm/doc-collections/enforcement/actions/>). The enclosed Order has been forwarded to the Office of the *Federal Register* for publication.

Sincerely,

Eric J. Leeds, Director
 Office of Nuclear Reactor Regulation

Michael R. Johnson, Director
 Office of New Reactors

Enclosure:
 Order (EA-12-049)

cc: Listserv

Distribution: See next page

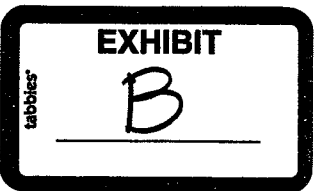
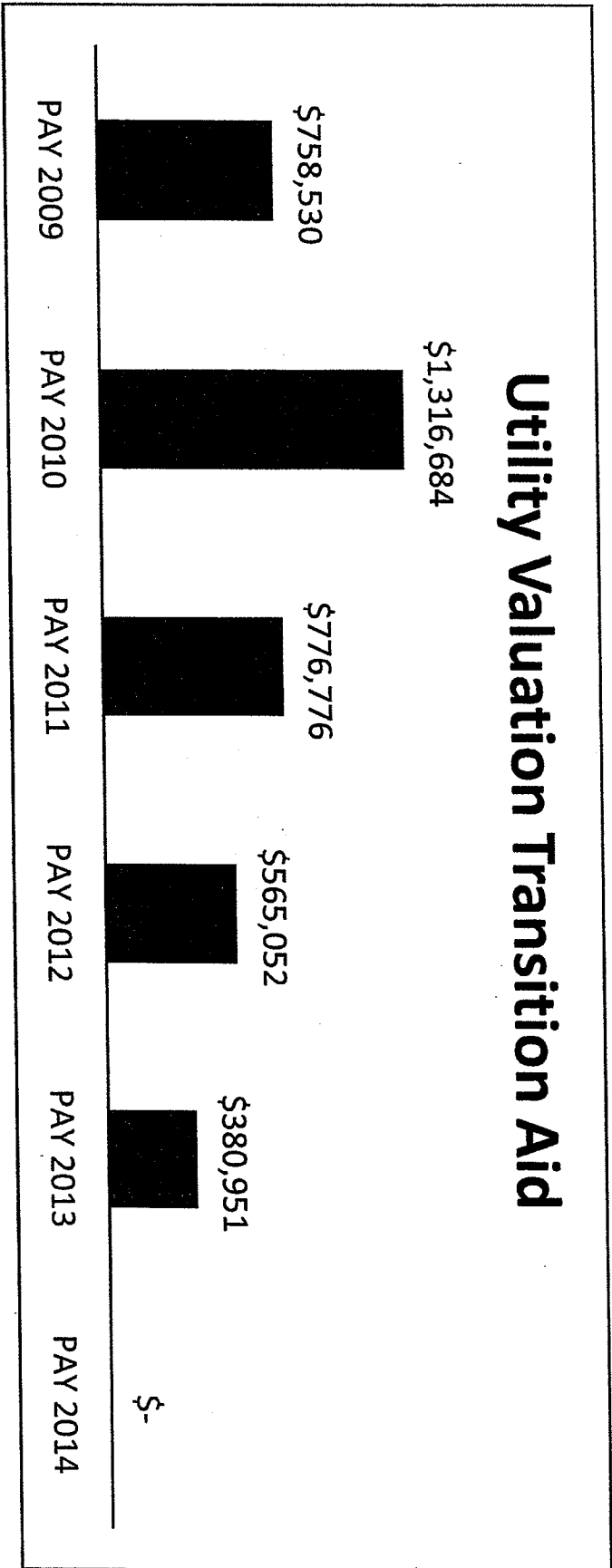
ADAMS Accession No.: ML12054A736

*e-mail concurrence

OFFICE	PM: NRR/JLD	LA: NRR/JLD	QTE*	BC: NRR/JLD	OGC*
NAME	SBloom	SRohrer	JDoughterty	RPascarelli	CSafford
DATE	03/12/2012	03/12/2012	02/05/2012	03/11/2012	03/10/2012
OFFICE	D: JLD*	OD: OE*	OD: NRO	OD: NRR	
NAME	DSkeen	RZimmerman (NHilton for)	MJohnson	ELeeds	
DATE	03/11/2012	03/09/2012	03/ 12 /2012	03/ 12 /2012	

OFFICIAL RECORD COPY

Utility Valuation Transition Aid



UTVA CERTIFICATION ESTIMATE
 OFFICIAL CERTIFICATION WILL BE RECEIVED FROM DOR LATE JULY

	CERTIFIED PAY 2009	CERTIFIED PAY 2010	CERTIFIED PAY 2011	CERTIFIED PAY 2012	ESTIMATE PAY 2013	ESTIMATE PAY 2014
1 OLD RULE UTILITY NET TAX CAPACITY	\$ 9,530,176	\$ 9,530,176	\$ 9,530,176	\$ 9,530,176	\$ 9,530,176	\$ 9,530,176
2 ESTIMATED PAY 2010 TOTAL UTILITY NET TAX CAPACITY *	\$ 6,754,845	\$ 7,121,416	\$ 8,109,130	\$ 8,496,462	\$ 8,833,258	\$ 9,195,322
3 CURRENT YEAR UTILITY NET TAX CAPACITY DIFFERENTIAL (1 -2)	\$ 2,775,331	\$ 2,408,760	\$ 1,421,046	\$ 1,033,714	\$ 696,918	\$ 334,854
PHASE IN AMOUNT (50% X 3)	\$ 1,387,666					
4 PAY 2008 AVERAGE TAX RATE	0.546623	0.546623	0.546623	0.546623	0.546623	0.546623
5 FINAL UVTA AMOUNTN FOR 2011 (3 X 4)	\$ 758,530	\$ 1,316,684	\$ 776,776	\$ 565,052	\$ 380,951	\$ -

2013 Estimate from County Provided "Abstract of Assessment of Real and Personal Property for 2013" Report run on 02.21.2012. Pay 2014 based on average utility TC growth 2011- 2013.