ORAL ARGUMENT NOT SET

Nos. 14-1210, 14-1212, 14-1216,
14-1217
(consolidated)

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IN THE UNITED STATES COURT OF APPEALS
FOR THE DISTRICT OF COLUMBIA CIRCUIT

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STATE OF NEW YORK, et al.

Petitioners,

v.

NUCLEAR REGULATORY COMMISSION, and the
UNITED STATES OF AMERICA,

Respondents.

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# AMICUS CURIAE BRIEF OF THE CALIFORNIA STATE ENERGY RESOURCES CONSERVATION AND DEVELOPMENT COMMISSION IN SUPPORT OF PETITIONERS STATE OF NEW YORK, ET AL.

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## CERTIFICATE AS TO PARTIES, RULINGS, AND OTHER CASES

Pursuant to D.C. Circuit Rules 28(a)(1)(A), the California State Energy Resources Conservation and Development Commission hereby submits this certificate as to parties.

### A. Parties and Amici

*Petitioners*

The Petitioners are New York, Vermont, and Connecticut (Docket No. 14-1210); Prairie Island Indian Community (Docket No. 14-1212); Natural Resources Defense Council, Inc. (Docket No. 14-1217); and Beyond Nuclear, Inc.; Blue Ridge Environmental Defense League, Inc.; Missouri Coalition for the Environment, Inc.; New England Coalition, Inc.; Nuclear Information and Resource Service, Inc.; Riverkeeper, Inc.; San Luis Obispo Mothers for Peace, Inc.; Sustainable Energy and Economic Development Coalition, Inc.; and Southern Alliance for Clean Energy, Inc. (Docket No. 14-1216).

*Respondents*

The Respondents in this matter are the United States Nuclear Regulatory Commission and the United States of America.

*Intervenors*

The Court has permitted the Commonwealth of Massachusetts to intervene in support of Petitioners, and permitted intervention in support of NRC by Nuclear

Energy Institute, Inc., Northern States Power Company, and Entergy Nuclear Operations, Inc.

*Amici*

The Court has granted the Sierra Club's motion to participate as amicus curiae.

Dated: July 6, 2015

Respectfully Submitted,
Kourtney Vaccaro
Kevin W. Bell

By: /s/ Kevin W. Bell

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## GLOSSARY OF ABBREVIATIONS

Pursuant to Circuit Rule 28(a)(3), the following is a glossary of acronyms and abbreviations used in this brief:

| | |
|---|---|
| DE | Design Earthquake |
| DDE | Double Design Earthquake |
| EIS | Environmental Impact Statement |
| GEIS | Generic Environmental Impact Statement |
| IEPR | Integrated Energy Policy Report |
| LTSP | Long Term Seismic Program |
| NEPA | National Environmental Policy Act |
| NRC | Nuclear Regulatory Commission |
| SONGS | San Onofre Nuclear Generating Station |

# AMICUS CURIAE BRIEF

## INTEREST OF AMICUS CURIAE

The State Energy Resources Conservation and Development Commission, commonly known as the "Energy Commission," is California's primary energy policy and planning agency. Cal. Pub. Res. Code §§ 25200 (creating Commission); 25216 *et seq*. (specifying Commission duties to advance state energy policy). The Energy Commission's Chair is California's Liaison Officer to the United States Nuclear Regulatory Commission (NRC). The Chair actively engages in NRC licensing and regulatory activities involving California's nuclear plants.

The Energy Commission was tasked from its inception with preparing an integrated energy policy report (IEPR) every two years, that considers specified electricity and natural gas forecasting and assessment activities. *See, e.g.*, Cal. Pub. Res. Code §§ 25301, *et seq.* In 2007, the California legislature further tasked the Energy Commission to expand its IEPR forecasting and assessment activities to include assessments of existing scientific studies to determine the potential vulnerability of large baseload generation facilities of 1,700 megawatts or greater, to a major disruption due to aging or a major seismic event. Cal. Pub. Res. Code § 25303, subds. (a)(8).

Section 25303, subdivision (c), of the California Public Resources Code provides, in pertinent part:

> In the absence of a long-term nuclear waste storage facility, the commission shall assess the potential state and local costs and impacts associated with accumulating waste at California's nuclear powerplants. The commission shall further assess other key policy and planning issues that will affect the future role of nuclear powerplants in the state.

From 2008 to the present, the Energy Commission assesses the local costs, impacts, and policy issues associated with California nuclear plants, particularly, the plants along California's seismically vulnerable coast.

## SUMMARY OF ARGUMENT

The Energy Commission files this brief as amicus curiae in support of the consolidated challenges by the states of New York, Connecticut, Vermont, and Massachusetts to NRC adoption of a revised Waste Confidence Rule at Title 10, Code of Federal Regulations Part 51.23 (10 C.F.R. § 51.23) and the codification therein of the environmental analyses contained in the related Generic Environmental Impact Statement for Continued Storage of Spent Nuclear Fuel (GEIS).

The GEIS, which considers impacts of continued storage of spent fuel at nuclear power plants and facilities into the indefinite future, purports to comply with the National Environmental Policy Act (NEPA). However, as discussed below, the GEIS fails to satisfy NEPA's fundamental requirement that federal

agencies take a thorough and comprehensive "hard look" at reasonably foreseeable environmental impacts. In particular, the GEIS fails to discuss or rely upon documents that evaluate the probability and consequences of impacts of continued storage on a site-specific basis, even for plant sites and regions known to be particularly susceptible to seismic and related phenomenon, such as those in California.

## PERTINENT FACTS

### *The GEIS*

The NRC undertook "federal action," within the meaning of the National Environmental Policy Act of 1969 (NEPA 42 U.S.C. § 4321-4370h), as amended, to revise its Waste Confidence Rule, at 10 C.F.R. § 51.23, and to codify the analysis of the GEIS of the environmental impacts of continued storage of spent fuel. CI-1052, p. iii. The 2010 Waste Confidence Rule was developed by the NRC to determine the technical feasibility and environmental impacts of storing spent fuel beyond the licensed life of a nuclear power plant.

The GEIS describes its purposes as two-fold: (1) to determine the environmental impacts of continued storage,[1] including those impacts identified in

[1] "Continued storage" is storage of spent fuel after the end of the licensed life for operations of a nuclear reactor and before final disposal in a permanent repository. CI-1052, p. xxiii. Spent nuclear fuels are stored in wet storage pools and dry casks.

the remand by the Court of Appeals in the *State of New York v. NRC* decision,[2] and (2) to determine whether those impacts can be generically analyzed. CI-1052, p. 1-5.

The GEIS made these determinations in all applicable resource areas required by NEPA, over three possible timeframes: a short-term timeframe, which includes 60 years of continued storage after a reactor's licensed life for operation; an additional 100-year timeframe (60 years plus 100 years) to address the potential for delay in repository availability; and a third, indefinite timeframe to address the possibility that a repository never becomes available. CI-1052, p. iii. Further, according to the GEIS, "[a]s codified, the impact determinations . . . will inform the decisionmakers in the licensing proceedings of the reasonably foreseeable environmental impacts of continued storage. These determinations will be weighed along with other impacts determined by the NRC on a site-specific basis for a facility or an activity." CI-1052, p. 1-6.

The GEIS concludes that environmental risk of spent fuel pool releases caused by design basis events or severe events from earthquakes or flooding is "small." CI-1052, pp. 4-78, 4-81, 4-90. Section 4.18 of the GEIS, "Environmental Impacts of Postulated Accidents," purports to address environmental impacts of

[2] In 2012, the Court of Appeals for the District of Columbia Circuit ruled that NRC did not comply with NEPA in promulgating the 2010 Waste Confidence Rule. *See State of New York, et al. v. Nuclear Regulatory Commission*, et al., 681 F.3d 471 (D.C. Cir. 2012).

natural phenomenon hazards (earthquakes, floods, high winds, and climate change) on spent fuel pools and dry cask storage for design basis events, design basis accidents, and severe accidents, as those terms are defined by the GEIS. CI-1052, 4-72 – 4-90.

Further, the GEIS summarizes several comments urging the NRC to either perform site specific review, or rewrite the GEIS to include site-specific evaluations. CI-1052, p. D-94. According to the GEIS, many of these comments note site-specific concerns, such as earthquakes and proximity to coastal locations or waterways, unique, or important ecosystems, and protected areas. *Ibid.* NRC rejected the comments' urgings, in part, because, as the NRC put it:

> the impacts of continued storage are not expected to vary significantly across sites, despite variation in site specific-characteristics, a generic analysis is capable of determining and expressing the reasonably foreseeable environmental impacts that may result from continued storage.

CI-1052, p. D-96.

***The Energy Commission's "Assessment of California's Nuclear Power Plants: AB 1632 Report" Evaluated the Significant Seismic Risks at California Spent Fuel Storage Sites.***

The Energy Commission adopted its initial assessment of California's nuclear power plants in 2008 in a report entitled "Assessment of California's Nuclear Power Plants: AB 1632 Report" (hereafter "Assessment"). The Assessment is not part of the administrative record; however, it provides pertinent

background relevant to the Court's review of the subject GEIS.[3] In 2008, California had two operating commercial nuclear power plants: Pacific Gas & Electric's Diablo Canyon Power Plant (Diablo Canyon) and Southern California Edison's San Onofre Nuclear Generating Station (SONGS). Currently, California has one operating plant and three decommissioned plants – all of which store spent nuclear fuel on site.

A cornerstone of the Assessment was the recognition that California is predisposed to seismic activity and vulnerability:

> According to the California Seismic Safety Commission staff, there is risk of a major earthquake in California on the order of 2 to 3 percent per year. According to the 2007 Working Group on Earthquake Probabilities, California faces a 99.7 percent chance of a magnitude 6.7 or larger earthquake during the next 30 years. The likelihood of an even more powerful quake of magnitude 7.5 or greater in the next 30 years is 46 percent.

[3] The Energy Commission respectfully requests the Court to consider the Commission's extra-record studies, which are presented as background information, under the "all relevant factors" exception to the general rule that extra-record evidence is not admissible to show that an action by a federal agency was "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law" within the meaning of section 706, subdivision (2)(A) of the federal Administrative Procedure Act. 5 U.S.C. § 706 (2)(A); See *Citizens to Preserve Overton Park v. Volpe* (1971) 401 U.S. 402, 419-421 [28 L.Ed.2d 136, 153, 156, 91 S.Ct. 814], abrogated by *Califano v. Sanders*, 430 U.S. 99, 97 S. Ct. 980, 51 L.Ed.2d 192(1977) on unrelated grounds.

The "Assessment of California's Nuclear Power Plants: AB 1632 Report" is located at http://www.energy.ca.gov/2008publications/CEC-100-2008-009/CEC-100-2008-009-CMF.PDF.

Assessment, p. 3, emphasis added. The Assessment identified Diablo Canyon's proximity (4.5 kilometers distance) to the offshore Hosgri Fault Zone as a significant seismic vulnerability. *Id.* at 3. Regarding SONGS, the Assessment explained that the seismologic and geologic data that have become available since SONGS was built indicate that the SONGS site could experience larger and more frequent earthquakes than had been anticipated when the plant was designed. *Id.* at 4. Meaning, when the NRC approved SONGS' earthquake design basis as part of licensing, it might have underestimated the seismic risk at the site. *Ibid.*

The Assessment further explained that in addition to the direct hazard from earthquake ground motion, there are secondary seismic hazards that could impact the nuclear plants and emergency ingress and egress such as landslides and tsunamis. *Id*. at 9-10. And, even if Diablo Canyon and SONGS were designed to remain safe during earthquakes of magnitude 7.5 on the Hosgri Fault and 7.0 in the South Coast Offshore Fault Zone, non-safety related systems, structures, and components are most vulnerable to damage from earthquakes and pose direct risk of injury and loss of life to plant workers and occupants and indirect injury to the public. *Ibid.*

Specifically regarding plant vulnerability to spent fuel storage, the Assessment explained that at the time, SONGS used both pools and dry cask storage, and Diablo Canyon used pools, with the intent of later using dry casks.

The Assessment opined that earthquakes could hasten the greatest risk to any nuclear spent fuel pool: loss of water or loss of active cooling. *Id.* at 14. Although spent fuel pools are not expected to suffer a catastrophic loss of cooling as the result of earthquakes, if contaminated water spills from a pool, radioactivity could spread. According to the Assessment, this was of particular concern because the spent fuel pools at Diablo Canyon and SONGS were "re-racked" to provide increased storage capability by placing the fuel assemblies closer together. *Ibid.*

The Assessment addressed seismic and tsunami hazards, reliability concerns, and specific vulnerabilities of Diablo Canyon and SONGS, and made policy recommendations that were incorporated into the 2008 IEPR Update and subsequent IEPRs.

***The Energy Commission's 2013 IEPR Also Discussed Nuclear Power Plant Seismic Vulnerabilities.***

The Energy Commission recently repeated these concerns and its call for vigilant assessment of seismic vulnerability in its 2013 IEPR.[4] The 2013 IEPR is not part of the administrative record; however it provides pertinent background and relevant to the Court's review of the subject GEIS. See footnote 3.

[4] California Energy Commission 2013 Integrated Energy Policy Report, Publication Number CEC-100-2013-001-CMF, is located at http://www.energy.ca.gov/2013publications/CEC-100-2013-001/CEC-100-2013-001-CMF.pdf

The 2013 IEPR expressed the Energy Commission's concern about the substantial direct and indirect regional and national impacts of the earthquake and tsunami that damaged Japan's Fukushima Daiichi nuclear plant in March, 2011. 2013 IEPR, pp. 195-196, 197.

The IEPR also conveyed the Energy Commission's concern about an outdated evaluation by the NRC and the plant owner of seismic hazards against Diablo Canyon's licensed design basis. In this regard, the IEPR stated, in pertinent part:

> Two elements of the design basis, the Design Earthquake[279] (DE) and the Double Design Earthquake[280] (DDE), include more conservative assumptions about seismic hazards than the third element, the Hosgri Evaluation, which was the basis for the Diablo Canyon's LTSP [Long Term Seismic Program] ground motion response spectra. In August 2011, the NRC noted that "Region IV was unable to confirm the licensee's statements that new seismic information was only required to be evaluated under the LTSP. Although the LTSP margin analysis demonstrated that the new Shoreline Fault Zone information was bounded by the Hosgri Evaluation, the licensee didn't evaluate the new seismic information against the other two design basis earthquakes, the DE and DDE, the license didn't evaluate the new seismic information against the other two design basis earthquakes, the DE and DDE.
>
> *Id.* at 200-201.[5]

[5] Referenced footnote 279 describes a design earthquake (0.2g) as the amount of vibratory ground motion for which those plant features necessary for continued operation remain functional without undue risk to the health and safety of the public.

Referenced footnote 280 describes a double design earthquake (0.4g) as the evaluation the maximum earth-quake potential (producing the maximum vibratory

## ARGUMENT

### I. NEPA Requires Full Disclosure and Analysis of Environmental Impacts

The National Environmental Policy Act (NEPA), 42 U.S.C. § 4321 *et seq.* (1969), is a procedural statute which generally requires federal agencies to document environmental conditions, both existing and foreseeable, that are related to a proposed agency action significantly affecting the quality of the human environment. *Id.* at § 4332. NEPA requires, to the fullest extent possible, that federal agencies prepare a detailed statement on the environmental impacts of any proposed federal action that significantly affects the quality of the human environment. *Id.* at § 4332 (C).

NEPA's primary purpose and effect is to ensure that federal agencies carefully gather and evaluate relevant information about the potential impact of a proposed agency action on the environment and that this information is made available to the public. *Vermont Yankee Nuclear Power Corp. v. NRDC*, 435 U.S. 519, 53; 98 S. Ct. 1197, 1216; 55 L. Ed. 460 (1978); 42 U.S.C. § 4322 (2)(C)(i), (iii). To this end, NEPA requires agencies to take a "hard look" at the environmental effects of a proposed action and its alternatives. *Baltimore Gas and Elec. Co. v. Natural Resources Defense Council, Inc.*, 462 U.S. 87, 97-98; 103 S.

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ground motion) for which structures, systems, and components needed to prevent or mitigate an accident will remain functional, allowing for some plastic deformation of structural material.

Ct. 2246, 2252; 76 L. Ed. 2d 437 (1983); *City of Grapevine, Texas v. Department of Transportation, et al.*, 17 F.3d 1502, 1506, 1507 (D.C. Cir. 1994). *See* also petitioner New York's Brief, pp. 6-7.

Whether an analysis is generic or site-by-site, the "hard look" must be thorough and comprehensive. *State of New York, et al. v. Nuclear Regulatory Commission and United States of America* (*New York*), 681 F.3d 471, 481 (D.C. Cir. 2012).

## II. The GEIS Violates NEPA by Failing to Evaluate or Rely on Any Local, Regional, or Site Specific Characteristics and Vulnerabilities.

### A. The Determination of Earthquake and Flood Impacts Is Common to All Plants Throughout the United States.

It is undisputed that an agency may prepare a generic environmental impact statement (EIS) to address broad environmental consequences attendant upon a wide-ranging federal program, based upon the premise that a systematic program is likely to generate disparate yet related impacts. *State of New York, supra*, 681 F.3d 471. In *State of New York*, the Court endorsed the NRC's generic approach towards the analysis of the environmental impacts of nuclear power reactor operation, stating that there is ". . . no reason that a comprehensive general analysis would be insufficient to examine onsite risks that are essentially common to all plants." *Id.* at 480. The corollary, however, is that a generic EIS that fails to consider site-specific impacts is not appropriate when specific potential for and

severity of environmental impacts from a seismic event is not common to all nuclear power plants. A thorough and comprehensive (and, therefore, legally compliant) generic EIS would necessarily disclose known and knowable factors that influence the probability of environmental impacts and related consequences. The GEIS fails to satisfy this prerequisite.

Analysis of the very foreseeable threat posed by earthquakes and earthquake-related events along California's coastline is conspicuously absent from the GEIS. Given California's unique seismic profile and the unique local and regional characteristics of many plants under NRC jurisdiction, the GEIS should have considered site-specific seismically-related vulnerabilities and impacts. The NRC determined years ago that earthquake hazards are a "Generic Issue" that can be addressed by regulatory action in the future (no sooner than 2017 by the NRC's estimate), after it receives a post-Fukushima vulnerability assessment from each of its regulated powerplants. To date, however, the NRC has been unable to address seismic hazards in a generic way that satisfies the thorough "hard look" that NEPA requires.

Specifically, nowhere within this meager 18-page analysis does the GEIS mention the probability or consequence of site, local, regional, or statewide impacts. Nor does the analysis mention specific site characteristics that make

certain plants more vulnerable than others to the hazards of earthquakes or flooding.

### B. The GEIS Discussions of Probability and Consequences of Impacts Caused by Seismic and Other Natural Hazards Lack Substance.

***Spent Fuel Pools and Dry Cask Storage – Design Basis Events.***

Regarding design basis events[6] in spent fuel pools, the GEIS earthquake analysis comprises a single, half-page paragraph that references three supporting documents. Much of the "analysis" discusses NRC regulatory action after the March 2011 tsunami in Japan; in particular, NRC's issuance of a March 2012 request for information to all U.S. Nuclear power plants (the "March 2012 Letter")[7] asking licensees to: (1) conduct walkdowns of their plants, including the spent fuel pools, to identify and address plant-specific vulnerabilities (through their corrective action programs) and verify the adequacies of monitoring and maintenance procedures; and (2) reevaluate the seismic hazards at the plants

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[6] "These are conditions of "normal operation, design basis accidents, external events, and natural phenomena, for which the plan must be designed to ensure the capability to prevent or mitigate the consequences of accidents that would result[] in potential offsite exposures." CI-1052, p. 4-72.

[7] The complete title of the March 2012 Letter is: Publication NRC (U.S. Nuclear Regulatory Commission), 2012d, *Request for Information Pursuant to Title 10 of the Code of Federal Regulations 50.54(f) Regarding Recommendations 2.1.2.3, and 9.3 of the Near-Term Task Force Review of Insights from the Fukushima Dai-Ichi Accident*, Washington, D.C. Accession No. ML 12053A340; it is located at http://pbadupws.nrc.gov/docs/ML1205/ML12053A340.pdf.

against present day-NRC requirements and guidance. CI-1052, p. 4-77. According to the GEIS, these assessments may make use of new consensus seismic hazard estimates for the power plants in the central and eastern United States. *Ibid.* These estimates are the result of NRC action begun in 2005, to study safety implications of increased nuclear power plant earthquake hazards *in plants located only in* the central and eastern United States. *Ibid.*

It is unclear how or why studies of plants in central and eastern United States are or could be relevant to the seismic vulnerabilities of California's coastal plants. Further, to the extent the reference to the March 2012 NRC letter is intended to show NRC attention to unique vulnerabilities of each plant throughout the United States, the referenced letter makes clear that requested site-specific information about seismic hazards had no place in or bearing on the GEIS. The March 2012 letter stated, in pertinent part:

> *INFORMATION REQUEST JUSTIFICATION*
>
> Hazard Reevaluations and Walkdowns
>
> Current NRC regulations and associated regulatory guidance provide a robust regulatory approach for the evaluation of site hazards associated with natural phenomena. However, this framework has evolved over time as new information regarding site hazards and the potential consequence has become available. As a result, the licensing basis, design, and level of protection from natural phenomena differ among the existing operating reactors in the U.S., depending on when the plant was constructed and licensed for operation. Additionally, the assumptions and factors that were considered in determining the

level of protection necessary at these sites vary depending on a number of contributing factors. To date, the NRC has not undertaken a comprehensive re-establishment of the design basis for existing plants to reflect the current state of knowledge or current licensing criteria**.**

Protection from natural phenomena is critical for safe operation of nuclear power plants. Failure to protect structures, systems, and components (SSCs) important to safety from natural phenomena with appropriate safety margins has the potential to result in common-cause failures with significant consequences, as was demonstrated at Fukushima. Additionally, the consequences of an accident from some natural phenomena may be aggravated by a "cliff-edge" effect, in that a small increase in the hazard (e.g., flooding level) may sharply increase the number of SSCs affected.

As the state of knowledge of these hazards has evolved significantly since the licensing of many of the plants within the U.S., and given the demonstrated consequences from Fukushima, it is necessary to confirm the appropriateness of the hazards assumed for U.S. plants and their ability to protect against them.

In accordance with Commission direction, the NRC staff is implementing the following:

A hazard evaluation consistent with Recommendation 2.1 will be implemented in two phases as follows:

[¶]

[¶]

The NRC staff's goal is to complete Phase 1 and collect sufficient information to make a regulatory decision for most plants within five years. It is anticipated that collection of this information for all plants will take no longer than seven years**.**

See Addendum, March 2012 letter referenced in the GEIS but not listed in the filed Revised Certified Index of the Record, emphasis added.

The very act of soliciting site-specific post-Fukushima vulnerability assessments underscores the NRC's recognition that site-specific information and analysis matter. Indeed, the GEIS and the March 2012 letter make it plain that the NRC intends, at some unspecified period of time no sooner than 2017, to take regulatory action based on the site-specific assessments. According to the GEIS, these assessments may make use of new consensus seismic hazard estimates for the power plants in the central and eastern United States; the NRC implicitly acknowledges that its prior assessments for these two broad regions are insufficient for it to take appropriate regulatory action to address seismic and flooding vulnerabilities. CI-1052, p. 4-77.

***Design Basis Events.***

The GEIS flood discussion is much the same as the earthquake discussion described above. However, unlike the earthquake discussion, the GEIS points out that plant physical siting location and characteristics are important. Even so, this is merely a bald statement with no elaboration or discussion of site-specific characteristics or vulnerabilities or the probability and consequences of a flood affecting a specific site, locality, or region. CI-1052, pp. 4-77 - 4-78.

The earthquake and flood discussions stand in stark contrast to the GEIS discussion of high winds (tornadoes and hurricanes). Regarding high winds, the GEIS explains that NRC considered characteristics of each of the three regions in the United States: east of the eastern foothills of the Rocky Mountains, the Pacific Coastal regions, and Rocky Mountain region. CI-1052, pp. 4-78 – 4-79. It further describes anticipated maximum wind speeds in each of these regions and makes particular note of its assumptions for central and western United States and, states along the east coast, northern border, and western Great Plains. CI-1052, p. 4-79.

***Dry Cask Storage – Design Basis Events.***

The GEIS identifies flood and high wind as the only climate-change induced natural hazards important to dry cask storage siting and design. CI-1052, p. 4-83. The NRC assumes that dry cask facilities are designed (and on that basis licensed) to withstand severe weather conditions such as hurricanes, tornadoes, and floods. But there is no discussion of probability and consequence on a site, local, or regional level to alert decisionmakers and the public to potential hazards should the NRC's assumption be proven false. CI-1052, p. 4-84.

***Spent Fuel Pools and Dry Cask Storage - Severe Accidents.***

Severe accidents, or beyond-design-basis accidents, are accidents that may challenge plant safety systems at a level higher than that for which they were designed. CI-1052, p. 4-84. The GEIS's assessment of environmental impacts of

severe accidents addresses wet pool and dry cask storage. According to the GEIS, severe spent fuel pool accidents can arise from either loss of pool cooling, drainage of the pool, or heavy objects dropping into the pool. CI-1052, p. 4-85. The GEIS explained that prior NRC analyses examined the risk from seismic events and tornadoes to a spent fuel pool. CI-1052, p. 4-85. Based on these prior analyses, the GEIS points out that structural failure (floor, liner, or wall) damage could occur in a beyond-design-basis earthquake, if the magnitude of the event is significantly larger than that used in the design. And, if this occurred, water would rapidly drain out of the pool possibly leading to a spent fuel pool fire and subsequent release of radioactive aerosols and vapors into the surrounding environment. CI-1052, pp. 4-86 – 4-87.

Despite the severe consequence of this potential accident, the GEIS makes no mention of the probability of such an occurrence at sites particularly vulnerable to earthquakes. *See* petitioner New York's Brief, p. 30. Presenting only a high-level summary of the prior analyses, the GEIS summarily concluded, with a passing reference to a discussion in Appendix F, that the frequency of stored fuel being uncovered is very small and "between $5.8 \times 10^{-7}$ and $2.4 \times 10^{-6}$ /yr," as if the significance of these mathematical expressions is readily understandable. And, while referenced Appendix F presents a detailed probability and consequence

analysis of the consequences of a spent fuel pool fire, it too omits discussion of probability and consequences specific to seismically vulnerable plant sites.

The climate change analysis of potential sea level rise also lacks any discussion of probability and consequence to sites, localities, or regions vulnerable to seismic events. CI-1052, p. 4-87. It simply assures readers that if climate change influences on sea-level rise create conditions that threaten safety, those changes would occur so slowly that the NRC would have sufficient time to require licensees to implement corrective actions to identify and correct conditions adverse to safety. For example, the spent fuel could be transferred into dry casks and either relocated to higher elevation within the existing site or transported to a different site. CI-1052, p. 4-87.

***Variation in Seismic and Natural Hazard Vulnerability Across Sites***

The GEIS maintains that the impacts of continued storage are not expected to vary significantly across sites, despite variation in site-specific-characteristics, a generic analysis is capable of determining and expressing the reasonably foreseeable environmental impacts that may result from continued storage and, therefore, site-specific analysis is unwarranted. CI-1052, p. D-76. Yet, the public record – at least in California and the Petitioners' states – proves otherwise.

The above-referenced Energy Commission Assessment and 2013 IEPR establish that the plants along California's seismically sensitive coastline must be

continuously evaluated based on new facts and updated studies. The GEIS mentions updated circumstances (i.e., the Fukushima disaster), but makes no effort to discuss whether or how unique siting characteristics affect a probability and consequence analysis. *See* also petitioner New York's Brief, p. 26, 28. Yet, without any such analysis, the GEIS concludes that environmental impacts from continued storage of spent fuel – across all plants nationwide – would be "small." CI-1052, p. 4-81.

As a matter of law, however, a federal agency conducting an Environmental Assessment generally must examine both the probability of a given harm occurring *and* the consequences of that harm if it does occur. *See* petitioner New York's Brief, pp. 26-27. Only if the harm in question is so "remote and speculative" as to reduce the effective probability of its occurrence to zero may the agency dispense with the consequences portion of the analysis. *New York, supra,* 681 F.3d at p. 482; 42 U.S.C. § 4332 (2)(c). By issuing a GEIS that treats all nuclear power plants as if they are seismically and geographically identical for the purposes of continued storage environmental impacts analysis, the NRC evaded its obligation to assess individualized impacts, and instead effectively treated the potential harms to seismically vulnerable plants remote and speculative. *See* CI-1052, pp. 4-77, 4-80. However, as is explained in the Energy Commission's 2013 IEPR and its Assessment of California's Nuclear Power Plants, discussed *supra*, the potential

harms to California's seismically vulnerable plants are significant, and probable. The GEIS's failure to differentiate between such foreseeable seismic risks posed to sites within affected states like California, and the remote and unlikely risks of seismic activity elsewhere, renders the GEIS flawed, incomplete, and inconsistent with NEPA.

## CONCLUSION

For the foregoing reasons, the Energy Commission respectfully requests that the Court grant Petitioners' petition.

Dated: July 6, 2015

Respectfully Submitted,
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Senior Staff Counsel
California Energy Commission

## CERTIFICATE OF COMPLIANCE

Pursuant to Fed. R. App. P. 32 (a)(7)(C), I certify that this brief complies with the type-volume limitation of Fed. R. App. P. 32 (a)(7)(B). The brief is proportionately spaced, printed in Times New Roman font in 14 point typeface, and the body of the brief contains 4652 words, as counted by Word.

By: /s/ Kevin W. Bell
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**CERTIFICATE OF SERVICE**

I hereby certify that on July 6, 2015, I electronically filed the foregoing with the Clerk of the Court for the United States Court of Appeals for the District of Columbia Circuit by using the appellate CM/ECF system. Participants in the case who are registered CM/ECF users will be served by the appellate CM/ECF system.

By: /s/ Kevin W. Bell
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