

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

COMMISSIONERS

Dale E. Klein, Chairman  
Gregory B. Jaczko  
Peter B. Lyons  
Kristine L. Svinicki

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In the Matter of )

PACIFIC GAS and ELECTRIC CO. )

(Diablo Canyon Power Plant Independent  
Spent Fuel Storage Installation) )

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) Docket No. 72-26-ISFSI  
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CLI-08-26

**MEMORANDUM AND ORDER**

This proceeding is a reopening, on remand from the Ninth Circuit,<sup>1</sup> of a proceeding to license an independent spent fuel storage installation (ISFSI) at the site of the Diablo Canyon nuclear power plant in California. In February of last year, we directed the NRC Staff to prepare a revised environmental assessment, pursuant to the Ninth Circuit's remand and the National Environmental Policy Act (NEPA), addressing "the likelihood of a terrorist attack at the Diablo Canyon ISFSI site and the potential consequences of such an attack."<sup>2</sup> The NRC Staff

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<sup>1</sup> *San Luis Obispo Mothers for Peace v. NRC*, 449 F.3d 1016 (9th Cir. 2006), *cert. denied*, 127 S.Ct. 1124 (2007).

<sup>2</sup> *Pacific Gas and Electric Co. (Diablo Canyon Power Plant Independent Spent Fuel Storage Installation)*, CLI-07-11, 65 NRC 148, 149 (2007).

responded to our direction by preparing draft<sup>3</sup> and final<sup>4</sup> environmental assessment supplements (the latter taking into account public comments) and a finding of no significant impact. The Staff's supplemental assessment led San Luis Obispo Mothers for Peace (SLOMFP) to request a hearing and to file five proposed contentions,<sup>5</sup> which the Staff<sup>6</sup> and the Pacific Gas and Electric Company (PG&E)<sup>7</sup> opposed.

In January of this year, we issued an order admitting limited portions of two of the contentions proposed by SLOMFP.<sup>8</sup> We delegated to a previously-designated presiding officer the resolution of one of these, Contention 1(b), a Freedom of Information Act (FOIA)-based claim on the availability and withholding of certain documents (or portions of documents) underlying the NRC Staff's NEPA findings.<sup>9</sup> The presiding officer resolved Contention 1(b) on an unopposed NRC Staff motion for summary disposition.<sup>10</sup> We retained jurisdiction over Contention 2, and on July 1, 2008, we heard oral argument on it under 10 C.F.R. § 2.1109 (10

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<sup>3</sup> *Supplement to the Environmental Assessment and Draft Finding of No Significant Impact Related to the Construction and Operation of the Diablo Canyon Independent Spent Fuel Storage Installation*, 72 Fed. Reg. 30,398 (May 31, 2007) (Draft EA Supplement).

<sup>4</sup> *Supplement to the Environmental Assessment and Final Finding of No Significant Impact Related to the Construction and Operation of the Diablo Canyon Independent Spent Fuel Storage Installation* (Aug. 2007) (Final EA Supplement), available as ADAMS Accession No. ML072400303.

<sup>5</sup> *San Luis Obispo Mothers for Peace's Contentions and Request for a Hearing Regarding Diablo Canyon Environmental Assessment Supplement* (June 28, 2007) (SLOMFP Petition), with attachment: Thompson, Gordon R., *Assessing Risks of Potential Malicious Actions at Commercial Nuclear Facilities: The Case of a Proposed Spent Fuel Storage Installation at the Diablo Canyon Site* (June 27, 2007) (Thompson Report).

<sup>6</sup> *NRC Staff's Answer to Contentions Submitted by San Luis Obispo Mothers for Peace* (July 13, 2007).

<sup>7</sup> *Pacific Gas and Electric Company's Response to Proposed Contentions* (July 9, 2007).

<sup>8</sup> CLI-08-1, 67 NRC 1 (2008).

<sup>9</sup> CLI-08-5, 67 NRC 174, 177 (2008).

<sup>10</sup> LBP-08-7, 67 NRC \_\_\_, slip op. (May 14, 2008).

C.F.R. Part 2, Subpart K).<sup>11</sup> As called for under 10 C.F.R. § 2.1113, the parties based their oral arguments on previously filed summaries of the facts, data, and arguments.<sup>12</sup> The parties also relied on reply briefs<sup>13</sup> we authorized in a scheduling order<sup>14</sup> prior to the oral argument.

SLOMFP made an additional filing seeking to supplement its Subpart K summary by adding a Staff affidavit obtained as part of the Contention 1(b) discovery process before the presiding officer.<sup>15</sup> The NRC Staff and PG&E both opposed this request.<sup>16</sup>

We find that SLOMFP's Contention 2 is without merit. SLOMFP's arguments do not require the Staff to prepare an environmental impact statement.

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<sup>11</sup> This proceeding is being conducted under our pre-2004 procedural rules. See CLI-08-1, 67 NRC at 5.

<sup>12</sup> *San Luis Obispo Mothers for Peace's Detailed Summary of Facts, Data, and Arguments on Which it Intends to Rely at Oral Argument to Demonstrate the Inadequacy of the U.S. Nuclear Regulatory Commission's Final Supplement to the Environmental Assessment for the Proposed Diablo Canyon Indep[en]dent Spent Fuel Storage Installation to Consider the Environmental Impacts of an Attack on the Facility (Contention 2)* (April 14, 2008) (SLOMFP Summary); *NRC Brief and Summary of Relevant Facts, Data and Arguments Upon Which the Staff Proposes to Rely at Oral Argument on San Luis Obispo Mothers for Peace's Contention 2* (April 14, 2008) (Staff Summary); *Summary of Facts, Data, and Arguments on Which Pacific Gas and Electric Company Will Rely at the Subpart K Oral Argument on Contention 2* (April 14, 2008) (PG&E Summary).

<sup>13</sup> *NRC Staff's Response to San Luis Obispo Mothers for Peace's Subpart K Presentation* (June 16, 2008) (Staff Reply); *San Luis Obispo Mothers for Peace's Reply to NRC Staff and PG&E Subpart K Presentations* (June 16, 2008) (SLOMFP Reply).

<sup>14</sup> Order (June 6, 2008) (unpublished), available as ADAMS Accession No. ML081580413.

<sup>15</sup> *San Luis Obispo Mothers for Peace's Request to Supplement Subpart K Presentation with NRC Staff Affidavit* (April 26, 2008) (SLOMFP Request to Supplement).

<sup>16</sup> *NRC Staff Response to San Luis Obispo Mothers for Peace's Request to Supplement Subpart K Presentation with NRC Staff Affidavit* (May 12, 2008) (Staff Response to SLOMFP Request); *Pacific Gas and Electric Company's Answer to San Luis Obispo Mothers for Peace Request to Supplement Subpart K Presentation* (May 6, 2008) (PG&E Response to SLOMFP Request).

## I. DISCUSSION

The sole question remaining in this Subpart K proceeding — arising out of SLOMFP's Contention 2, as we narrowed it in CLI-08-1 — is whether the NRC Staff has shown that potential land contamination and latent health effects from the terrorist scenarios it considered credible are insignificant, not warranting a full environmental impact statement.

SLOMFP asks us, “as provided by 10 C.F.R. § 2.1115(a)(2), [to] rule that there is no unresolved dispute of law or fact regarding Contention 2, and that SLOMFP should prevail on the claims raised in the contention.”<sup>17</sup> As a remedy, SLOMFP asks us to compel the NRC Staff to prepare an environmental impact statement. The NRC Staff and PG&E also ask for disposition on the merits pursuant to 10 C.F.R. § 2.1115(a)(2). PG&E argues that the environmental assessment supplement satisfies NEPA on its face since it omitted no required analysis, and that in any event Contention 2 can be resolved in PG&E's favor based on the adjudicatory filings and oral argument, with no further analysis, evidence, or testimony.<sup>18</sup> The Staff argues that the Commission should resolve the contention in the Staff's favor because “SLOMFP . . . failed to raise any genuine issue concerning the adequacy of the Staff's environmental review, [as] documented in the [s]upplemental [environmental assessment],”<sup>19</sup> and because the Staff's analysis of land contamination and latent health impacts satisfied NEPA.

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<sup>17</sup> SLOMFP Summary at 3-4.

<sup>18</sup> PG&E Summary at 15-16.

<sup>19</sup> Staff Reply at 1.

## A. Legal Framework

Under our Subpart K rules, the presiding officer, here, the Commission itself, is required to issue a written order based on due consideration of the parties' oral arguments and written filings that:

- (1) Designate[s] any disputed issues of fact, together with any remaining issues of law, for resolution in an adjudicatory hearing; and
- (2) Dispose[s] of any issues of law or fact not designated for resolution in an adjudicatory hearing.

With regard to issues not designated for resolution in an adjudicatory hearing, the presiding officer shall include a brief statement of the reasons for the disposition. If the presiding officer finds that there are no disputed issues of fact or law requiring resolution in an adjudicatory hearing, the presiding officer shall also dismiss the proceeding.<sup>20</sup>

Designating an issue of fact or law for resolution in an adjudicatory hearing requires a determination that:

- (1) There is a genuine and substantial dispute of fact which can only be resolved with sufficient accuracy by the introduction of evidence in an adjudicatory hearing; and
- (2) The decision of the Commission is likely to depend in whole or in part on the resolution of that dispute.<sup>21</sup>

Subpart K implements the "totally new procedure" established by the Nuclear Waste Policy Act (NWPA)<sup>22</sup> for adjudicating spent fuel storage controversies expeditiously.<sup>23</sup> Subpart K allows the presiding officer to resolve factual and legal disputes, including disagreements between experts, on the basis of a brief discovery period and written submissions and oral

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<sup>20</sup> 10 C.F.R. § 2.1115(a).

<sup>21</sup> 10 C.F.R. § 2.1115(b).

<sup>22</sup> 42 U.S.C. §§ 10101 *et seq.*

<sup>23</sup> *Carolina Power & Light Co.* (Shearon Harris Nuclear Power Plant), CLI-01-11, 53 NRC 370, 383-86 (2001), *citing* 42 U.S.C. § 10154.

argument — without a full trial-type evidentiary hearing.<sup>24</sup> Under Subpart K and the NWPAA we resort to full evidentiary hearings “only” when necessary for “accuracy.”<sup>25</sup>

Under NEPA, an environmental assessment, with its accompanying finding of no significant impact, constitutes an agency’s evaluation of the environmental effects of a proposed action — unless a more detailed statement is required. A more detailed environmental impact statement is not required unless the contemplated action is a “major Federal [action] *significantly* affecting the quality of the human environment.”<sup>26</sup> Our implementing regulations<sup>27</sup> provide that “environmental assessment”:

Means a *concise* public document for which the Commission is responsible that serves to:

- (1) *Briefly* provide sufficient evidence and analysis for determining whether to prepare an environmental impact statement or a finding of no significant impact.
- (2) Aid the Commission’s compliance with NEPA when no environmental impact statement is necessary.
- (3) Facilitate preparation of an environmental impact statement when one is necessary.<sup>28</sup>

Similarly, “finding of no significant impact”:

[M]eans a *concise* public document for which the Commission is responsible that briefly states the reasons why an action, not otherwise excluded, will not have a significant effect on the human environment and for which therefore an environmental impact statement will not be prepared.<sup>29</sup>

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<sup>24</sup> See *id.* at 385-86.

<sup>25</sup> See *id.*

<sup>26</sup> 42 U.S.C. § 4332(2)(C) (emphasis added).

<sup>27</sup> Our regulation, at 10 C.F.R. § 51.14, tracks the implementing regulation of the Council on Environmental Quality (CEQ), at 40 C.F.R. § 1508.9.

<sup>28</sup> 10 C.F.R. § 51.14(a) (emphasis added).

<sup>29</sup> 10 C.F.R. § 51.14(a) (emphasis added).

## B. Procedural History of Contention 2

Contention 2, as initially proposed by SLOMFP,<sup>30</sup> asserted that the Staff's environmental assessment supplement failed to satisfy NEPA because the NRC's decision not to prepare an environmental impact statement was based on "hidden and unjustified assumptions."<sup>31</sup>

SLOMFP challenged the Staff's screening of attack scenarios and also sought to litigate whether a successful attack on the ISFSI hypothesized by its expert would result in increased cancers and illnesses. SLOMFP argued that a main effect of an attack would be land contamination that could "render uninhabitable a large land area, causing significant economic and social impacts."<sup>32</sup> SLOMFP also argued as part of Contention 2 that the environmental assessment supplement's discussion of emergency planning upgrades that could mitigate the effects of an attack on the ISFSI was inadequate for NEPA purposes.

In CLI-08-1, we rejected that portion of proposed Contention 2 that sought litigation of alternate attack scenarios (an inquiry we also rejected by denying Contention 3), noted that SLOMFP's concern with the staff's reliance on "hidden and unjustified" information would be considered as part of Contention 1(b), and excluded litigation of the mitigating effects of emergency planning measures. As narrowed in CLI-08-1, the following parts of SLOMFP's Contention 2 remained, and were the subject of the parties' written presentations and the oral argument held on July 1, 2008:

**Contention 2:** The NRC Staff's "environmental assessment ignore[d] environmental effects on the surrounding land" and failed to consider "non-fatal health effects (e.g., latent cancers) from a hypothetical terrorist attack."<sup>33</sup>

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<sup>30</sup> See SLOMFP Petition.

<sup>31</sup> SLOMFP Petition at 10.

<sup>32</sup> *Id.* at 12.

<sup>33</sup> CLI-08-1, 67 NRC at 18.

Because all parties agree that there is no unresolved dispute of law or fact regarding Contention 2 and that consequently no further adjudicatory hearing is necessary in this proceeding, our task at this juncture is to determine the merits of Contention 2 — unless we find *sua sponte*, despite the parties' view, that further adjudicatory hearing is required in order to resolve an issue of fact or law. Based on our evaluation of the record we find that no further adjudicatory hearing is required, and we turn, therefore, to the merits of the contention.

### **C. Resolution of Contention 2**

In its Subpart K written presentation and at the oral argument, SLOMFP offered little evidence on Contention 2, as admitted, but instead attempted to re-litigate elements of Contention 2 relating to attack-scenario selection that we had already excluded from the proceeding.<sup>34</sup> In contrast, the NRC Staff and PG&E provided essentially uncontradicted evidence that the probability of a significant radioactive release caused by a terrorist attack was low, and that the potential latent health and land contamination effects of the most severe plausible attack would be small. We agree with the Staff and PG&E.

To analyze potential land contamination and radiation exposure levels (and thus, potential latent health effects of the most severe plausible attack) the NRC Staff performed a series of calculations. The Staff expert located the residence nearest the Diablo Canyon ISFSI, which is approximately 1.5 miles north-northwest of the facility on property owned by PG&E, and reasonably assumed that its occupant would be the maximally exposed individual in the unlikely event of a significant radioactive release.<sup>35</sup> The Staff rightly concluded that the only plausible way for radioactive material to reach that residence would be by air and that any

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<sup>34</sup> SLOMFP Summary at 21.

<sup>35</sup> Staff Summary, *Affidavit of Elizabeth A. Thompson*, ¶ 20.

airborne release would disperse and settle on the ground as it continued downwind.<sup>36</sup> The Staff's "dose calculation assumed that the individual would be exposed to radiation from inhalation and also from radiation that has been deposited on the ground and assumes the individual will be in the same place for four days."<sup>37</sup> As part of her calculations, the Staff expert "accounted for the contribution of land contamination to dose . . . and concluded that the dose would result in a low likelihood of developing discern[i]ble health effects."<sup>38</sup> The Staff expert's calculations are described in detail in her testimony.<sup>39</sup>

In performing her calculations, the Staff expert used a computer code that implements a mathematical model of the behavior of pollutants in the atmosphere (the Gaussian plume model, HOTSPOT computer code developed by Lawrence Livermore National Laboratory<sup>40</sup>), inputting values such as source term, height of release above ground level, wind speed, turbulence, and distance to calculate both downwind concentrations of radioactive material in the air and on the ground.<sup>41</sup> After calculating downwind concentrations of radioactive material in the air and on the ground using HOTSPOT, the Staff expert performed a series of additional calculations to determine the total effective dose, which is the 50-year committed effective dose from internally deposited radionuclides plus the equivalent dose from outside the body — that is, radionuclides in passing clouds and in ground contamination.<sup>42</sup> The Staff expert's calculation

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<sup>36</sup> *Id.* at ¶ 21.

<sup>37</sup> Transcript at 27.

<sup>38</sup> Staff Summary at 19.

<sup>39</sup> Staff Summary, *Affidavit of Elizabeth A. Thompson* at ¶¶ 15-51.

<sup>40</sup> *Id.*, Reference 11.

<sup>41</sup> *Id.* at ¶ 29.

<sup>42</sup> *Id.* at ¶¶ 39-49.

included the dose contributed by 4 days of exposure to contaminated ground<sup>43</sup> as a result of the release of radioactive material from the casks. For the case with the most serious potential consequences, the Staff expert calculated that the 50-year total effective dose equivalent to this nearest resident would be less than 5 rem — and “at that low dose level there would not be any discernible health effects of any kind.”<sup>44</sup>

Supporting the Staff’s view, PG&E highlights instances where the NRC has concluded that a 5 rem dose would be insignificant, notes that the Environmental Protection Agency limits doses to workers during emergencies to 5 rem, and states that the Food and Drug Administration sets a 5 rem threshold for recommended emergency action.<sup>45</sup> PG&E states that

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<sup>43</sup> *Id.* at ¶ 48.

<sup>44</sup> Transcript at 29. See also Staff Summary, *Affidavit of Elizabeth A. Thompson* at ¶ 51, Ref. 19 (citing a 2004 Health Physics Society position paper stating that below 5-10 rem “risks of health effects are either too small to be observed or are nonexistent.”).

<sup>45</sup> Regarding the use of a 5 rem dose as an indicator of environmental impacts, the PG&E experts point to:

- 10 C.F.R. § 72.106(b), which sets a dose limit of 5 rem at the boundary of the ISFSI as a result of any design basis accident. The experts provide citations to the rulemaking history and to NUREG-1092 for support noting that in the rulemaking (*citing Licensing Requirements for the Independent Storage of Spent Nuclear Fuel and High-level Radioactive Waste*, 53 Fed. Reg. 31,651, 31,672-73, 31,658 (Aug. 19, 1988)) the NRC concluded the associated environmental and human health effects would be insignificant at this exposure level. PG&E Summary, *Testimony of Jearl Strickland and Mark Mayer*, ¶¶ 21-22.
- 10 C.F.R. § 20.1201(a)(1)(i), which sets a 5 rem total effective dose equivalent for adult occupational exposures. The experts provide citations to the rulemaking history and to Reg. Guide 8.29 (attached at Tab 7 of PG&E’s filing) for support. Citing to Reg. Guide 8.29, the experts state that approximately 20% of people die from cancer irrespective of occupational exposure, and that a 5 rem exposure would increase the cancer risk by about 0.2%. PG&E’s experts note that in the rulemaking (*citing Standards for Protection Against Radiation*; Republication, 51 Fed. Reg. 1092, 1102 (Jan. 9, 1986)) the NRC concluded the associated environmental and human health effects would be insignificant at this exposure level. PG&E Summary, *Testimony of Jearl Strickland and Mark Mayer*, ¶ 23.

5 rem is “the current occupational annual limit, which is permitted each year over a working lifetime, and is associated with the expectation of minimal increased radiation risks.”<sup>46</sup> PG&E argues that costs of preventive actions (with respect, for example, to dairy farms, the nearest of which is 12 miles away) would be limited.<sup>47</sup> PG&E’s input reinforces our view that the Staff’s finding of no significant impact was reasonable.

The Staff’s use of HOTSPOT to perform its quantitative analysis was contested by SLOMFP, which maintained that the HOTSPOT computer code is not suited for accurately modeling the complex behaviors of atmospheric plumes released in a location with the topology of the Diablo Canyon site. But SLOMFP offered little more than a bare assertion that HOTSPOT, a readily available and “widely used model for emergency preparedness and nuclear safety analysis,”<sup>48</sup> was inadequate. Even if SLOMFP’s expert would have selected a different computer code to perform the analysis,<sup>49</sup> “[w]hen specialists express conflicting views, an agency must have discretion to rely on the reasonable opinions of its own qualified experts . .

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- U.S. Environmental Protection Agency (EPA), *Manual of Protective Action Guides and Protective Actions for Nuclear Incidents*, EPA-400-R-92-001 (May 1992) (excerpts attached at Tab 8 of PG&E’s filing), which PG&E’s experts cite for the propositions that, to the extent practicable, doses to workers during emergencies should be limited to 5 rem; exposures for workers during emergencies should be limited to 10 rem to protect valuable property; and exposures for workers during emergencies should be limited to 25 rem for lifesaving activities and protection of large populations. The experts also review the EPA’s definitions of the “phases” of a nuclear incident. PG&E Summary, *Testimony of Jearl Strickland and Mark Mayer*, ¶¶ 25-28.
  - Food and Drug Administration (FDA) exposure pathway based recommended protective actions, which have 5 rem trigger points. *Id.* at ¶¶ 29-36.

<sup>46</sup> PG&E Summary at 12-13.

<sup>47</sup> *Id.* at 13.

<sup>48</sup> Staff Summary, *Affidavit of Elizabeth A. Thompson*, ¶ 22.

<sup>49</sup> See Transcript at 81.

. .<sup>50</sup> SLOMFP has given us no basis for overturning the Staff expert's reasonable use of HOTSPOT to perform a quantitative dose assessment in this case.<sup>51</sup>

The Staff's finding of no significant impact was supported not only by quantitative dose assessment, but by additional qualitative analysis. The Staff's qualitative analysis showed that the probability of a significant radioactive release caused by terrorist attack on the Diablo Canyon ISFSI is very low. In its qualitative analysis, the NRC Staff points first to the "robustness" of the storage system PG&E plans to use at Diablo Canyon:

*By design, dry cask storage systems are highly resistant to penetration. To be licensed or certified by [the] NRC, these systems must meet stringent requirements for structural, thermal, shielding, and criticality performance, and confinement integrity, for normal and accident events. Consequently, spent fuel storage casks are extremely robust structures, specifically designed to withstand severe accidents, including the impact of a tornado-generated missile such as a 4000-pound automobile at 126 miles per hour.*<sup>52</sup> The massive HI-STORM 100SA storage casks to be used at the Diablo Canyon ISFSI are made of inner and outer cylindrical carbon steel shells, filled with 30 inches of concrete, and weighing up to 170 tons when fully loaded with spent fuel. Each cask surrounds an internal multi-purpose canister, which safely confines the spent fuel in a completely sealed, welded stainless steel cylinder. The spent fuel is further protected by the metallic zircaloy cladding surrounding the fuel pellets in each fuel rod of a spent fuel assembly. Finally, *the nuclear fuel itself is in the form of solid ceramic pellets of uranium dioxide; this means that a large amount of the radioactive material would remain in solid form and in the immediate vicinity of the ISFSI, even if a terrorist act were successful in breaching the multiple layers*

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<sup>50</sup> *Marsh v. Oregon Natural Resources Council*, 490 U.S. 360, 378 (1989).

<sup>51</sup> Even assuming, *arguendo*, that HOTSPOT is not the most sophisticated means for modeling atmospheric plumes at the Diablo Canyon site, "NEPA does not require [a decision] whether an [environmental impact report] is based on the best scientific methodology available, nor does NEPA require [resolution of] disagreements among various scientists as to methodology." *Friends of Endangered Species, Inc. v. Jantzen*, 760 F.2d 976, 986 (1985).

<sup>52</sup> PG&E adds that, structurally, the dry cask design has been demonstrated to withstand certain design basis events, documented in PG&E's Safety Analysis Report and Environmental Report (originally submitted Dec. 21, 2001) and in the NRC Staff's Safety Evaluation Report (Mar. 22, 2004). These design basis events include not just the impacts of an automobile hurled into the cask at 126 miles per hour but also the impacts of other solid steel objects hurled at high velocities (by tornados and other natural phenomena), as well as the impacts from a postulated collapse of two transmission towers close to the ISFSI. PG&E Summary, *Testimony of Jearl Strickland and Mark Mayer*, ¶¶ 9, 10.

*of protection. Thus, only a small fraction of the radioactive material released would be in the dispersible form of fine particulate material or radioactive gases with the potential to be transported offsite.*<sup>53</sup>

PG&E's experts<sup>54</sup> describe the Holtec HI-STORM 100SA storage system as an anchored version of the design certified for general use, specifically licensed for the Diablo Canyon ISFSI. When loaded, the fully-sealed, multi-purpose storage canisters will hold up to 32 fuel assemblies (or certain other hardware), in an "egg-crate" fuel basket. The overpack allows natural circulation of air around the outside surface of the multi-purpose canister through four air inlet ducts spaced at 90 degree intervals at the base of the overpack and four outlet ducts in the top lid of the overpack. The inlet ducts are below the base plate of the multi-purpose canister and the outlet ducts are above the steel lid of the multi-purpose canister. Because there is no direct line of sight through the upper and lower vents to the multipurpose canister inside, access to the surface of the multipurpose canister is prevented, as is a direct impact of an airborne missile or projectile on that surface. Within the multipurpose canister, the solid fuel pellets are protected by metallic zircaloy cladding. As a result, even if the external barriers are breached, only a small fraction of the radioactive material could be released in a form that could be transported offsite. The fuel rod array and the geometry of the fuel basket also would act as a filter to limit escaping material.<sup>55</sup> These details, provided by the Staff and PG&E, support the Staff's finding that because there is "a very low probability that there will be any significant release from the casks in the event of a terrorist attack . . . there would not be any significant impacts from land contamination."<sup>56</sup>

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<sup>53</sup> Final EA Supplement at 6 (emphasis added).

<sup>54</sup> PG&E Summary, *Testimony of Jearl Strickland and Mark Mayer*, ¶¶ 6-8, 11.

<sup>55</sup> PG&E Summary at 10-11.

<sup>56</sup> Transcript at 28.

The record indicates that significant health or environmental consequences are particularly unlikely under site conditions at Diablo Canyon. The Staff explains that it compared the assumptions underlying the post-9/11/2001 generic ISFSI and determined that conditions at the Diablo Canyon site rendered potential doses “much lower” than generic assessments might suggest:

[T]he assumptions used in [the] generic [ISFSI] security assessments, regarding the storage cask design, the source term (amount of radioactive material released), and the atmospheric dispersion, were representative, and in some cases, conservative, relative to the actual conditions at the Diablo Canyon ISFSI. In fact, because of the specific characteristics of the spent fuel authorized for storage at the Diablo Canyon ISFSI (lower burnup fuel), and the greater degree of dispersion of airborne radioactive material likely to occur at the site, *any dose to affected residents nearest to the Diablo Canyon site calculated using site-specific parameters will be much lower than doses calculated using the assumptions made for the generic assessments.*<sup>57</sup>

PG&E lists several additional characteristics of the Diablo Canyon site that would further limit the human health, land contamination, and other environmental effects of a terrorist attack. First of all, the power plant site is large and is located in a sparsely populated region, so the number of exposed individuals would be small and the costs of evacuation or relocation also would be small. Moreover, PG&E also owns and controls a large area of land surrounding the site — relatively little of this land is productive, and the nearest dairy is 12 miles away, so “any costs associated with protective actions for ingestion pathways would be minimal.”<sup>58</sup> Also, if there were a terrorist attack that caused a release of radioactive material, the site emergency plan would be activated, further assuring low long-term health impacts, “both in the 10-mile emergency planning zone and in the 50-mile ingestion pathway zone.”<sup>59</sup>

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<sup>57</sup> Final EA Supplement at 7 (emphasis added).

<sup>58</sup> PG&E Summary at 14.

<sup>59</sup> *Id.* at 14-15.

Finally, as the NRC Staff's threat-assessment expert stresses, the likelihood that a terrorist attack would even be attempted at the Diablo Canyon ISFSI is low.<sup>60</sup> While the Staff's expert acknowledges the precise probability of a successful terrorist attack on the Diablo Canyon ISFSI cannot be calculated or quantified,<sup>61</sup> that does not mean we should disregard her opinion that the likelihood of such an event is low.<sup>62</sup> Where quantification is "not possible," we expect our license applicants and our Staff to assess pertinent factors "in qualitative terms."<sup>63</sup>

In sum, after considering the entire record, we find by a preponderance of the evidence<sup>64</sup> that SLOMFP's Contention 2 lacks merit. The Staff examined a range of plausible terrorist attacks on the Diablo Canyon ISFSI and found that even the most severe would cause no immediate or latent health effects after quantitatively evaluating how air and land contamination would contribute to those effects.<sup>65</sup> Additional qualitative analysis by the Staff showed that an

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<sup>60</sup> Staff Summary, *Affidavit of Kelley, Hall, Warren, and Sanders*, ¶ 6. See also Transcript at 10 (stating "the Staff believes that the probability an attack will be attempted on the Diablo Canyon ISFSI is low"); Final EA Supplement at 7 (describing the mitigating potential of emergency response actions "in the unlikely event that an attack were attempted at the Diablo Canyon ISFSI.")

<sup>61</sup> Staff Summary, *Affidavit of Kelley, Hall, Warren, and Sanders*, ¶ 6.

<sup>62</sup> *Id.* As indicated in her Statement of Qualifications submitted along with her affidavit, NRC Staff expert Roberta Warren currently heads the agency's Intelligence Liaison and Threat Assessment Branch and has over 30 years experience in "counterterrorism analysis." SLOMFP apparently does not agree with the Staff's view, but SLOMFP brought no equivalent expertise to the proceeding.

<sup>63</sup> 10 C.F.R. § 51.45(c). See also 10 C.F.R. § 51.71(d).

<sup>64</sup> See *Pacific Gas and Electric Co.* (Diablo Canyon Nuclear Power Plant, Units 1 and 2), ALAB-763, 19 NRC 571, 577 (1984) ("[T]o prevail on . . . factual issues, the . . . position must be supported by a preponderance of the evidence"); *Tennessee Valley Authority* (Hartsville Nuclear Plant, Units 1A, 2A, 1B, and 2B), ALAB-463, 7 NRC 341, 360 (1978), *reconsideration denied*, ALAB-467, 7 NRC 459 (1978) ("Absent some special statutory standard of proof, factual issues . . . are determined by a preponderance of the evidence.").

<sup>65</sup> We do not read the Staff's supplemental environmental assessment in isolation. Rather, we consider it in conjunction with evidence presented in the adjudicatory record, including the affidavit of the Staff expert who performed the dose calculation. That affidavit explains in detail

attempted attack is improbable, but even if a plausible attack occurred, the likelihood of a significant radioactive release is very low because of the nature of the Diablo Canyon storage casks and ISFSI site.

Thus, Contention 2, as illuminated by the parties' written submissions and oral argument, provides no basis for invalidating the NRC Staff's supplemental environmental assessment or for requiring the NRC Staff to prepare a full environmental impact statement.

#### **D. Selection of Attack Scenarios**

As we indicated above, in CLI-08-1 we rejected SLOMFP's proposed Contention 3, which presented SLOMFP's view that the Staff should have considered a broader range of terrorist attack scenarios, as well as the portions of SLOMFP's Contention 2 that made similar complaints:

The NRC Staff's supplemental environmental assessment explains that the Staff considered "[p]lausible threat scenarios . . . includ[ing] a large aircraft impact similar in magnitude to the attacks of September 11, 2001, and ground assaults using expanded adversary characteristics consistent with the design basis threat for radiological sabotage for nuclear power plants." This approach, grounded in the NRC Staff's access to classified threat assessment information, is reasonable on its face. We do not understand the Ninth Circuit's remand decision — which expressly recognized NRC security concerns and suggested the possibility of a "limited proceeding" — to require a contested adjudicatory inquiry into the credibility of various hypothetical terrorist attacks against the Diablo Canyon ISFSI.

Adjudicating alternate terrorist scenarios is impracticable. The range of conceivable (albeit highly unlikely) terrorist scenarios is essentially limitless, confined only by the limits of human ingenuity. And hearings on such claims could not be conducted in a meaningful way without substantial disclosure of classified and safeguards information on threat assessments and security arrangements and without substantial litigation over their significance. Such information — disclosure of which is prohibited by law — would lie at the center of any adjudicatory inquiry into the probability and success of various terrorist scenarios.<sup>66</sup>

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how air and ground contamination would contribute to dose in the unlikely event of a significant release.

<sup>66</sup> CLI-08-1, 67 NRC at 20 (internal footnotes omitted).

In its Subpart K written presentation and at the oral argument, SLOMFP attempted to re-litigate elements of Contention 2 relating to attack-scenario selection, arguing primarily that an attack of the nature postulated by SLOMFP's expert would result in consequences that the NRC Staff had not analyzed.<sup>67</sup> SLOMFP's arguments amount to a request that we revisit our decision in CLI-08-1 against litigating the staff's screening of plausible terrorist scenarios.<sup>68</sup> This we decline to do. As we held in CLI-08-1, NEPA does not require us to reveal sensitive government security information regarding the agency's environmental analysis, and there is no compelling policy reason to do so in this case.

As a legal matter, NEPA claims are governed by NEPA's own specific non-disclosure provision, as construed by the Supreme Court in *Weinberger v. Catholic Action League*,<sup>69</sup> rather than by more general provisions in the AEA or in NRC regulations.<sup>70</sup> Under NEPA, the agency may withhold from public disclosure any information that is exempt under the Freedom of

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<sup>67</sup> SLOMFP Summary at 21.

<sup>68</sup> SLOMFP also attempts to resurrect its claim from the proposed Contention 2 that the NRC Staff inappropriately used terrorist attacks' potential for "early fatalities" as an inappropriate criterion to screen out other kinds of terrorist attacks or as a proxy for environmental effects. See SLOMFP Summary at 21-24. But in CLI-08-1 the Commission *rejected* that aspect of SLOMFP's Contention 2. 67 NRC at 18; see *also* 67 NRC at 28 (Commissioner Lyons, dissenting in part). The terrorist event the Staff analyzed in depth was one with a 5-rem release, far lower than any "fatal" threshold. And at the public hearing on the supplemental environmental assessment, the Staff explained that it "did not apply a threshold of early fatalities in screening out security scenarios." Transcript at 88. Contrary to SLOMFP's repeated assertions, the record shows that the Staff did not use an "early fatalities" criterion to avoid analyzing environmental effects.

<sup>69</sup> *Weinberger v. Catholic Action League*, 454 U.S. 139 (1981).

<sup>70</sup> In statutory construction, "the specific prevails over the general." See, e.g., *Bonneville Power Admin. v. FERC*, 422 F.3d 908, 916 (9th Cir. 2005). *Accord Guidry v. Sheet Metal Workers Nat'l Pension Fund*, 493 U.S. 365, 375 (1990).

Information Act.<sup>71</sup> Accordingly, in CLI-08-01 we directed the Staff to redact FOIA-exempt information from relevant documents, provide whatever was not exempt to other parties, and identify the exemption relied upon so that the proposed withholding could be challenged. As a result, the Staff released all information regarding its environmental assessment that was suitable for public dissemination.

Further disclosure of sensitive, security-related information would not assist the Commission in determining whether the agency's environmental review was reasonable under NEPA. We have read the Staff's supplemental environmental assessment, reviewed outside of this adjudication the non-public documents that provide the basis for the Staff's selection of the attack scenarios evaluated, and considered the pleadings and transcripts developed by the parties in support of our public hearing in this case. In our judgment, the environmental information developed by the Staff and the parties is more than adequate to permit informed decision making by the Commission in this case, which is what NEPA requires.

Nothing in our procedural hearing rules requires greater disclosure of the agency's environmental analysis.<sup>72</sup> Although those rules have been used in a very few cases to disclose classified information in contested licensing proceedings, in those cases the information was necessary to evaluate challenges to the agency's compliance with security requirements in the Atomic Energy Act, not NEPA.<sup>73</sup> And in those prior cases, the interest in providing classified information to NRC hearing litigants was clearer than in this case, where no party has

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<sup>71</sup> See NEPA § 102(2)(C). Contrary to the suggestion made by Commissioner Jaczko in his dissent, the authority granted by NEPA § 102(2)(C) to withhold sensitive information from public disclosure is not limited to withholding of military or state secrets.

<sup>72</sup> 10 C.F.R. § 2.900 *et seq.* (Subpart I).

<sup>73</sup> See *Duke Cogema Stone & Webster* (Savannah River Mixed Oxide Fuel Fabrication Facility), CLI-02-19, 56 NRC 143 (2002); *Pacific Gas & Elec. Co.* (Diablo Canyon Nuclear Power Plant, Units 1 and 2), ALAB-653, 14 NRC 629 (1981).

challenged the ability of the Diablo Canyon ISFSI to meet NRC safety or security requirements. In our view, any benefit to be gained in this case from further disclosure is outweighed by the risks inherent in disseminating security-related information, even under protective order.<sup>74</sup>

As we made clear in CLI-08-1,<sup>75</sup> our decision not to permit litigation of attack scenarios does not equate to disinterest in SLOMFP's or other citizens' views and opinions on terrorist risks. The NRC Staff, for instance, was made aware of SLOMFP's alternate scenarios both when considering contentions in this adjudication and when reviewing SLOMFP's comments on the draft supplemental environmental assessment. At the oral argument before us the Staff's counsel repeatedly asserted that the Staff was familiar with SLOMFP's "zircaloy fire" scenario and had concluded that it did not alter the Staff's finding of no significant environmental impact.<sup>76</sup>

#### **E. SLOMFP's Request to Supplement Subpart K Presentation**

In its request to supplement its Subpart K presentation, SLOMFP asks to add an affidavit the NRC Staff attached to its motion for summary disposition of Contention1(b). Our rules, at 10

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<sup>74</sup> We agree with Commissioner Jaczko's dissent insofar as it suggests there should be no "false choice" between protecting sensitive information and meeting our responsibilities under NEPA. The information-protection balance we have struck in this case avoids such a "false choice" by making public meaningful information about the bases for the agency's environmental analysis (including references to sensitive documents relied upon by the Staff) while minimizing the risk that sensitive, security-related information will be compromised. The result is a far greater sharing of information than in *Weinberger*, a case in which no part of the agency's environmental analysis was made public.

<sup>75</sup> 67 NRC at 21 n.98.

<sup>76</sup> See, e.g., Transcript at 26, 90. In a written submission prior to the oral argument, the Staff said: "Since the factual information regarding terrorist threat scenarios considered credible by the Staff has been withheld from public disclosure to protect national security, it follows that SLOMFP's speculation that the Staff may have ignored credible threat scenarios with significant environmental impacts or misapprehended the vulnerability of the ISFSI to a terrorist attack by ignoring attack scenarios with greater sophistication is factually unsupported. Further, SLOMFP's claims cannot be considered undisputed simply because they cannot be addressed by the Staff in this public adjudication." Staff Reply at 4-5.

C.F.R. § 2.1113, do not provide for supplementing Subpart K presentations. Moreover, in its request, SLOMFP says that its intended use of the Staff affidavit is to further its argument that “the Staff violated [NEPA] by arbitrarily applying an irrational — and secret — screening criterion to exclude consideration of reasonably foreseeable attack scenarios that would cause significant offsite contamination, human illness, and adverse socioeconomic effects.”<sup>77</sup> SLOMFP’s reason for asking us to allow it to supplement its written presentation is thus to support a proposition —the consideration of alternate terrorist attack scenarios — that is outside the scope of the admitted contention. We deny the request.

#### IV. SUMMARY

This remand proceeding has presented a number of new and difficult issues for us to resolve. In doing so, our choice of procedures has been guided by NEPA, which is meant to inform agency decision making and to provide the public with information about the environmental impacts of our action. We have also been guided by the Ninth Circuit, which recognized the value of qualitative analysis and the importance of protecting sensitive, security-related information.<sup>78</sup> We are confident that our approach strikes a reasonable balance between public disclosure and information protection while permitting informed agency decision making.

Much of this case has centered on the Staff’s determination of “plausible” attack scenarios. The Staff’s selection of plausible attack scenarios—a concept it used to assess the effects of a terrorist attack—was based on information gathered through the agency’s regular interactions with the law enforcement and intelligence communities regarding the capabilities of

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<sup>77</sup> SLOMFP Request to Supplement at 2.

<sup>78</sup> See *San Luis Obispo Mothers for Peace v. NRC*, 449 F.3d at 1031-32, 1034-35.

potential adversaries, as well as the Staff's expert judgment in intelligence analysis.<sup>79</sup> Although that information cannot be made public for reasons of national security, as we pledged earlier in this remand proceeding<sup>80</sup> and as required by *Weinberger*,<sup>81</sup> we ourselves, outside the adjudicatory proceeding, have reviewed the non-public information underlying the NRC Staff's selection of terrorist attack scenarios, and are satisfied that the selection was reasonable.

Once plausible scenarios were selected, the Staff did not attempt to quantify the probability that any given scenario would actually be attempted, but instead conservatively "assume[d] that the attack would be attempted [and] successfully completed."<sup>82</sup> The Staff then quantitatively analyzed the human health impacts that would result from the most severe plausible scenario. The Staff's quantitative analysis showed that the worst-consequence scenario would result in a "projected dose of less than 5 rem for the nearest resident,"<sup>83</sup> a dose lower than that permitted by a number of NRC health and safety regulations and other Federal

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<sup>79</sup> See Final EA Supplement at 7; Transcript at 88.

<sup>80</sup> 67 NRC at 21 n.98.

<sup>81</sup> 454 U.S. at 146.

<sup>82</sup> Transcript at 15. Commissioner Jaczko in his dissent points to statements by the Staff that it "did not analyze any specific [attack] scenario for probability" and "[doesn't] believe that the probability of a terrorist attack can be quantified in any way" to cast doubt on the Staff's finding of no significant impact. We do not understand those statements to mean that the Staff's selection of plausible attack scenarios was arbitrary. The record shows scenarios were selected based on intelligence and law-enforcement information regarding attack trends and the demonstrated capabilities of potential adversaries. Rather, we understand those statements to mean that the Staff did not quantify the probability that an adversary would *attempt* a "plausible" attack scenario. Instead, the Staff assumed that a plausible attack, *if attempted*, would succeed. We consider the Staff's assumption a reasonable (and conservative) approach to consequence analysis.

<sup>83</sup> Final EA Supplement at 7.

radiation-protection guidelines.<sup>84</sup> The Staff used a reliable quantitative methodology that took into account the contribution of air and land contamination to dose, and we find it reasonable.

The Staff bolstered its quantitative analysis with a qualitative assessment showing that the likelihood of a significant release in the event of a plausible attack would be very low. The Staff's qualitative assessment reasonably credited the robustness of ISFSI cask designs, the effectiveness of NRC security requirements, the mitigating effect of emergency planning and response actions, and site-specific meteorology and source term to show that its quantitative dose analysis likely overstated the significance of the impacts that would result in the event of a plausible attack.<sup>85</sup> The Staff also found that an attack would be improbable. Having shown through a combination of quantitative and qualitative analysis that the projected dose resulting from the most severe plausible attack "would likely be well below 5 rem,"<sup>86</sup> and that the chance of any attack at all was low, the Staff reasonably concluded that further analysis of the economic or other environmental impacts was not necessary.

Finally, the Staff made its draft supplemental environmental assessment public, received public comments on the draft and provided public responses, and published a final supplement that included a bibliography of the sensitive, security-related information upon which it relied. We then held a public hearing to consider additional evidence and argument regarding the Staff's assessment. The result is a far greater sharing of information than in *Weinberger*, a case in which no part of the agency's environmental analysis was made public.

Accordingly, we conclude that the Staff's final, supplemental environmental assessment and finding of no significant impact, the adjudicatory record in this case, and our own

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<sup>84</sup> See, e.g., 10 C.F.R. § 72.106(b) (setting a 5 rem dose limit for ISFSI design-basis accidents); 10 C.F.R. § 20.1201(a)(1)(i) (setting a 5 rem total effective dose equivalent for adult occupational exposures). See also n.45, *supra*.

<sup>85</sup> See Final EA Supplement at 4-7.

<sup>86</sup> *Id.* at 7.

supervisory review of the non-public information underlying portions of the Staff's analyses, are more than sufficient to satisfy the agency's NEPA obligations. Consistent with longstanding NRC practice, today's decision becomes part of the environmental record of decision along with the environmental assessment itself.<sup>87</sup>

## V. CONCLUSION

For the reasons stated above, we reject SLOMFP's Contention 2 on the merits and find that an environmental impact statement is not required in order to address the land contamination and latent health effect issues raised in the contention.

IT IS SO ORDERED.

For the Commission

**(NRC Seal)**

**/RA/**

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Annette L. Vietti-Cook  
Secretary of the Commission

Dated at Rockville, Maryland,  
this 23rd day of October, 2008

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<sup>87</sup> "The adjudicatory record and Board decision (and, of course, any Commission appellate decisions) become, in effect, part of the FEIS." *Louisiana Energy Services, L.P.* (Claiborne Enrichment Center), CLI-98-3, 47 NRC 77, 89 (1998), citing *Philadelphia Electric Co.* (Limerick Generating Station, Units 1 and 2), ALAB-819, 22 NRC 681, 705-707 (1985). See also, *Hydro Resources, Inc.* (P.O. Box 15910, Rio Rancho, NM 87174, CLI-01-4, 53 NRC 31, 53 (2001); *Allied-General Nuclear Services* (Barnwell Nuclear Fuel Plant Separations Facility), ALAB-296, 2 NRC 671, 680 (1975).

**Commissioner Gregory B. Jaczko's Dissent on SECY-08-0120  
Docket No. 72-26-ISFSI  
Decision on the Merits of San Luis Obispo Mothers for Peace Contention**

I disapprove of this Order. In short, nothing in the record justifies the Staff approach to land contamination and non-fatal health effects. For the reasons described below, admitted Contention 2 should be sustained, and the environmental assessment (EA) remanded to the Staff for revision to address these topics.

The San Luis Obispo Mothers for Peace (SLOMFP) Contention 2, as admitted, states:

The NRC Staff's "environmental assessment ignore[d] environmental effects on the surrounding land" and failed to consider "non-fatal health effects (e.g. latent cancers from a hypothetical terrorist attack."

CLI-08-1, 67 NRC at 18. The Staff EA at issue here describes that the Staff "screened" threat scenarios to determine "plausibility." EA at 7. The EA goes on to state that the NRC "made conservative assessments of consequences, to assess the potential for early fatalities from radiological impacts from those plausible scenarios." Id. After describing how the Staff arrived at source term and meteorology inputs, the EA describes how the Staff calculated the dose to the nearest affected resident from the most severe plausible threat scenarios, which "would likely be well below 5 rem." Id. *The EA is silent on how such a dose relates to land contamination or non-fatal health effects.* The EA is also devoid of any other analysis of land contamination and non-fatal health effects.

By failing to address these matters, the Staff failed to meet the challenge the Commission posed to it in the January 15, 2008, Order (CLI-08-01, 67 NRC at 18) to demonstrate that it considered the environmental effects of a terrorist attack in the EA. The burden in this proceeding to show the EA is complete is on the NRC Staff and nothing in the record, including the oral argument proceeding, alters the clear conclusion that the Staff did not consider land contamination.

The Staff's support for its argument that it did analyze the environmental effects on the surrounding land is remarkably thin. The Staff says it *considered* land contamination but did not *analyze* it – "we did not explicitly do an analysis of land contamination." Transcript at 21 (Ms. Clark), *see also* Transcript at 23, 29. How does one square these facts with a statement that a contention claiming that the EA ignored environmental effects on surrounding land "is without merit"? Order at 3.

The Staff made two conclusions not supported by the record before the Commission. First, the Staff concluded that a 5 rem exposure to a resident over five days can only be caused by a release of radioactive material that, by definition, cannot cause a significant adverse affect on the environment. This judgment may be true, but it is a conclusion unsupported by data in the EA. The Staff may view this as an obvious matter, but it must be documented on a case-specific basis. We have no rule stating that the NRC may regard the environmental effects of any specified amount of radiological exposure as insignificant. The NEPA process is about ensuring that high quality, scientifically accurate environmental information is documented and made available to public officials and citizens before decisions are made and before actions are taken. Therefore, any such conclusion must be documented either through reference to

adequate previous analysis or to an application-specific analysis which shows this to be the case. Clearly this was not done in the current EA.

This leads me to the second insufficiently supported Staff conclusion, that is, the probability of a successful terrorist attack is so low that an analysis of the affects on the environment is unnecessary. In response to a line of questioning from Commissioner Svinicki, the Staff makes clear it believed it did not need to do this analysis because there is a very low probability of significant land contamination. The Staff comes to this conclusion even though it stated at oral argument that it cannot calculate a probability of such an event and that it “did not analyze any specific scenario for probability.” Transcript at 34 (Ms. Clark). The Staff went on to state that “we don’t believe that the probability of a terrorist attack can be quantified in any way.” Transcript at 38 (Ms. Clark).

This argument is entirely inconsistent with the Staff position that some scenarios are “plausible.” Either the Staff should have described how its analyses showed that every release scenario is of very low probability and therefore land contamination (and human health effects) need not be considered further, or it should have analyzed why the plausible scenarios would not result in significant land contamination and human health effects.

The majority further clouds this issue by stating in the Order (at 15) that “as the NRC Staff’s threat-assessment expert stresses, the likelihood that a terrorist attack would even be attempted at the Diablo Canyon ISFSI is low.” The actual quote from the expert referenced in footnote 60, however, is “Because of the uncertainty inherent in assessing the likelihood of a terrorist attack, the Staff recognizes that under general credible threat conditions although the probability of such an attack is believed to be low it cannot be reliably quantified.” Affidavit of Kelley, Hall, Warren, and Sanders ¶ 6. Thus, the full quote from the Staff expert elicits a very different sentiment -- one that is more accurate, much closer to the views expressed by the Staff at the oral argument, and that reflects the limits of what we can know.

Other portions in the Order similarly miss the point. The Order contains the majority’s explanation about why the HOTSPOT computer code was the correct tool for the dose calculations the Staff did perform. The Order states that “SLOMFP offered little more than a bare assertion” that this code was not appropriate for accurately modeling the behavior of a plume at Diablo Canyon. Order at 11. But this is not an argument about dose calculations; rather, it is about whether the Staff performed any land contamination analysis. SLOMFP’s objection is that HOTSPOT is “not an appropriate code for considering land contamination.” Transcript at 81 (Ms. Curran). SLOMFP went further and made clear that there was an appropriate code that could perform the required analysis – a code known as MACCS.

The portion of the Order addressing this issue is simply irrelevant to Contention 2, as admitted. The Order states that SLOMFP did not adequately make their case against HOTSPOT, that the agency has the discretion to rely on the reasonable opinions of its own qualified experts, and that we have “no basis for overturning the Staff expert’s reasonable use of HOTSPOT.” Order at 12. The Staff itself, however, *also* stated at the oral argument that HOTSPOT is not the correct code to analyze land contamination. The Staff agreed that MACCS would be required “if one were to project the land contamination that could result and then calculate, for example, the economic costs of cleanup.” Transcript at 23 (Ms. Clark). The Staff further noted that it has contracted for the use of that code in the past. *Id.* Therefore, HOTSPOT was the wrong code to use to analyze land contamination and MACCS was the correct one. There is no disagreement between the Staff and SLOMFP regarding that conclusion.

The Order also categorically dismisses any link between consideration of terrorist scenarios and the admitted contention, without addressing the SLOMFP argument that it is difficult to separate an analysis of consequences from the event that causes them. Transcript at 76 (Ms. Curran). The record of the oral argument makes it clear that a majority of the members of the Commission were similarly unable to completely separate the two, as they pursued lines of questioning about scenarios.

The credibility of the Staff on this issue was undermined when they were unable to answer a technical question I asked about a zirconium fire scenario as posited by SLOMFP. The Staff first said it could not discuss the topic because it was Safeguards Information. Transcript at 33-34. Later, the Staff admitted it did not have the expertise to answer this straightforward scientific question without hiring an outside contractor to do an analysis. Transcript at 92 (Ms. Clark). The Staff refuses to answer whether the scenario proposed by SLOMFP is bounded by their analysis and then further admits to not having the in-house expertise to analyze a related topic. Combining this with the fact that the agency's message all along has been 'trust us to have looked at this information that we refuse to give you access to,' I would say the agency is standing on a very weak foundation to reject this contention.

In addition, the discussion on pages 17-19 of the Order overreaches in an attempt to withhold information. Nothing occurred during the oral argument to change my view that the Commission is overly relying on a court decision concerning the public release of State secrets to categorically withhold classes of information from one of the parties. The proceeding before us does not involve military or state secrets and we do have mechanisms to ensure that sensitive information provided to the participants in the proceeding is protected from disclosure. The majority also seeks credit for providing *more* information than was shared in *Weinberger*, "The result is a far greater sharing of information than in *Weinberger*, a case in which no part of the agency's environmental analysis was made public." Order at 22.

This is a somewhat disingenuous argument. The reason the Supreme Court held that the Navy did not need to make the environmental analysis public (if there was one) was because its very existence would have revealed national security information. The Navy was not required to prepare an environmental impact statement unless they actually stored nuclear weapons at the site in question, and whether or not the Navy stored nuclear weapons there was in itself classified. In the situation where the very act of *publicly* complying with NEPA would have revealed military secrets, the Navy could withhold the EIS that it still must prepare for internal purposes if it did store weapons at the site.

The circumstances in the Diablo Canyon hearing are categorically different. There is no national security secret involving whether or not the ISFSI would contain spent nuclear fuel and the proposals I have made involve sharing sensitive information with appropriately cleared representatives of the parties, not making it publicly available. The fact that previous Commissions have demonstrated the ability in proceedings to share information to appropriately cleared individuals, appropriately safeguarded through a protective order, contradicts the arguments made in the order that this is not possible.

In addition, the very case that the majority hangs their hats on clearly states, "Section 102(2)(C) of NEPA, 42 U.S.C. § 4332(2)(C), provides that, "to the fullest extent possible," all federal agencies shall "include in every recommendation or report on proposals for legislation and other major Federal actions significantly affecting the quality of the human environment, a detailed statement" discussing, *inter alia*, the environmental impact of the proposed action and possible alternatives..." *Weinberger*, 454 U.S. at 142.

The majority's argument in the Order presents a false choice between protecting sensitive information and meeting our responsibilities under NEPA. The order argues that the agency is prohibited from doing more to satisfy NEPA, but limiting information disclosure is simply a choice the majority has made, as is clear from the Order's discussion of finding a "balance." Again, no one is proposing that sensitive information be publicly disclosed. The agency has established and convened closed proceedings in the past and could do so again. Finally, in the absence of holding a closed session, the Commission committed in CLI-08-01 to review the range of terrorist events considered by the Staff. We put in place no process to collectively do so and I am aware of no discussion among the members of the Commission about the results of their ad hoc reviews.

Finally, after spending 20 pages explaining why the Staff's EA is adequate and stands on its own, the majority does an admirable job of attempting to craft a coherent argument in the summary of the order. The summary states "we conclude that the Staff's final, supplemental environmental assessment and finding of no significant impact, the adjudicatory record in this case, and our own supervisory review of the non-public information underlying portions of the Staff's analyses, are more than sufficient to satisfy NEPA obligations." Order at 22. This statement, however, is a fundamental recognition on the part of the majority that the EA by itself is insufficient. Since the burden was on the Staff to prove the EA was sufficient and they were not able to, the contention can not be rejected.

A compromise approach was clearly feasible. First, the Commission should have held a closed proceeding of appropriately cleared representatives of the parties, and in the presence of whatever appropriately cleared contractors the Staff needs to have on hand, to adjudicate the issue of whether or not the SLOMFP's scenario is bounded by the work the Staff did. Second, the Commission should have directed the Staff to use the appropriate computer code to perform an adequate analysis of land contamination. Third, assuming the results of those actions did not change the facts of the matter before us, the EA should have been supplemented with the additional information that resulted from these steps. The EA should also have been supplemented to include the detailed discussion from P&GE about preventive measure that would be taken to limit the impact of any release. Transcript at 50-51 (Mr. Repka). If the results of these steps led to additional questions and concerns, the agency would have had a basis to, and no choice but to, accept SLOMFP's position and prepare an environmental impact statement.

This alternative would have been a more transparent approach for the agency to take in resolving the issues in this specific case and it would have been a better public policy position. I strongly believe this was the only path forward that would be true to our responsibilities under both NEPA and the AEA.

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

In the Matter of )  
 )  
PACIFIC GAS AND ELECTRIC CO. ) Docket No. 72-26-ISFSI  
 )  
(Diablo Canyon Power Plant, )  
Independent Spent Fuel Storage )  
Installation) )

CERTIFICATE OF SERVICE

I hereby certify that copies of the foregoing COMMISSION MEMORANDUM AND ORDER (CLI-08-26) have been served upon the following persons by U.S. mail, first class, or through NRC internal distribution.

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[Original signed by Evangeline S. Ngbea]  
Office of the Secretary of the Commission

Dated at Rockville, Maryland,  
this 23<sup>rd</sup> day of October 2008