

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION  
ATOMIC SAFETY AND LICENSING BOARD

Before Administrative Judges:

Michael M. Gibson, Chairman  
Dr. Anthony J. Baratta  
Dr. Mark O. Barnett

In the Matter of

EXELON NUCLEAR TEXAS HOLDINGS, LLC

(Victoria County Station Site)

Docket No. 52-042

ASLBP No. 11-908-01-ESP-BD01

June 30, 2011

MEMORANDUM AND ORDER

(Rulings on Standing, Contention Admissibility, and Selection of Hearing Procedures)

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On March 25, 2010, Exelon Nuclear Texas Holdings, LLC (Exelon) applied to the Nuclear Regulatory Commission (NRC) for an early site permit (ESP) under 10 C.F.R. Part 52, Subpart A, that would approve the Victoria County Station (VCS) site in Victoria County, Texas, for one or more nuclear power reactors.<sup>1</sup> On January 24, 2011, Texans for a Sound Energy Policy (TSEP or Petitioner) filed a petition to intervene and request for hearing challenging the environmental report (ER) and site safety analysis report (SSAR) of the ESP application.

For the reasons set forth below, we conclude that TSEP has established the requisite standing to intervene in this proceeding, and has submitted eight admissible contentions, which are set forth in Attachment A to this decision. Accordingly, we admit TSEP as a party to this proceeding. Additionally, we rule on certain procedural and scheduling matters.

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<sup>1</sup> Exelon Nuclear Texas Holdings, LLC, Early Site Permit Application for the Victoria County Station Site, Notice of Hearing, Opportunity To Petition for Leave To Intervene, and Associated Order Imposing Procedures for Access to Sensitive Unclassified Non-Safeguards Information and Safeguards Information for Contention Preparation, 75 Fed. Reg. 71,467, 71,468 (Nov. 23, 2010); see also Exelon Nuclear Texas Holdings, LLC; Notice of Receipt and Availability of Application for an Early Site Permit, 75 Fed. Reg. 22,434, 22,434 (Apr. 28, 2010).

## I. BACKGROUND

### A. Exelon Early Site Permit Application

Under the 10 C.F.R. Part 52, Subpart A, licensing process, an entity may apply for an ESP authorizing it to resolve key site-related environmental, safety, and emergency planning issues before selecting the design of a nuclear power facility for the subject site. Thus, if granted, an ESP essentially allows an entity to “bank” a site for the possible future construction of a specified number of new nuclear power generation facilities.<sup>2</sup>

Exelon seeks to obtain an ESP for an undeveloped area it refers to as the Victoria County Station (VCS) site, in Victoria County, Texas.<sup>3</sup> Exelon’s ESP application includes a site safety analysis report (SSAR) and an environmental report (ER), which are the subject of the petition in the instant proceeding.<sup>4</sup>

### B. TSEP Hearing Request/Licensing Board Establishment and Initial Procedures

In response to the November 23, 2010 notice of hearing and opportunity for leave to petition to intervene,<sup>5</sup> TSEP filed a timely petition to intervene seeking to establish its standing

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<sup>2</sup> See 10 C.F.R. Part 52, Subpart A; see also Southern Nuclear Operating Co. (Early Site Permit for Vogtle ESP Site), LBP-07-3, 65 NRC 237, 247 (2007).

<sup>3</sup> Letter from Marilyn C. Kray, Vice President, Nuclear Project Development, Exelon Generation Corp., to NRC Document Control Desk (Mar. 25, 2010) at 1 (ADAMS Accession No. ML101030742), available at <http://www.nrc.gov/reactors/new-reactors/esp/victoria.html>. Exelon previously submitted a combined license (COL) application for the VCS, which it subsequently withdrew. See Exelon Generation Company, LLC; Victoria County Station, Units 1 and 2; Notice of Withdrawal of Application for a Combined License, 75 Fed. Reg. 43,579, 43,579 (July 26, 2010).

<sup>4</sup> See Exelon Generation – Victoria County ESP, Part 2 – Site Safety Analysis Report (SSAR) (Apr. 22, 2010) (ADAMS Accession No. ML101120145) [hereinafter SSAR]; Exelon Generation – Victoria County ESP, Part 3 – Environmental Report (Apr. 20, 2010) (ADAMS Accession No. ML101120186) [hereinafter ER].

<sup>5</sup> 75 Fed. Reg. at 71,468.

and the admissibility of twenty-three separate contentions.<sup>6</sup> Four of these contentions challenge the SSAR, eighteen challenge the ER, and one is a miscellaneous contention.<sup>7</sup> On February 2, 2011, this Atomic Safety and Licensing Board (Board) was established to adjudicate the VCS ESP proceeding.<sup>8</sup> Exelon responded to the TSEP petition on February 15, 2011, and the NRC Staff responded three days later.<sup>9</sup> TSEP submitted its reply brief on March 2, 2011.<sup>10</sup> On March 16 and 17, 2011, we conducted oral argument in Victoria, Texas, regarding the admissibility of TSEP's twenty-three proffered contentions.<sup>11</sup> At that oral argument, TSEP, Exelon and the NRC Staff agreed that TSEP-ENV-7 through TSEP-ENV-14 should be withdrawn and replaced with two revised contentions, revised TSEP-ENV-7 (TSEP-ENV-7a or ENV-7a) and revised TSEP-ENV-8 (TSEP-ENV-8a or ENV-8a), which TSEP, Exelon and the NRC Staff agreed were admissible.<sup>12</sup>

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<sup>6</sup> See Texans for a Sound Energy Policy's Petition to Intervene and Contentions (Jan. 24, 2011) at 7-8 [hereinafter Petition].

<sup>7</sup> Id.

<sup>8</sup> Exelon Nuclear Texas Holdings, LLC; Establishment of Atomic Safety and Licensing Board, 76 Fed Reg. 6837, 6837 (Feb. 8, 2011).

<sup>9</sup> Exelon Nuclear Texas Holdings, LLC's Answer to Petition to Intervene and Contentions (Feb. 15, 2011) [hereinafter Exelon Answer]; NRC Staff's Answer to "Texans for a Sound Energy Policy's Petition to Intervene and Contentions" (Feb. 18, 2011) [hereinafter NRC Staff Answer].

<sup>10</sup> Texans for a Sound Energy Policy's Consolidated Reply to NRC Staff and Exelon Nuclear Texas Holdings, LLC's Answers (Mar. 2, 2011) [hereinafter Reply]. On February 18, 2011, the Board granted TSEP's request to submit a consolidated reply and extend the reply filing deadline to March 2, 2011. Licensing Board Order (Granting Motion to Consolidate Reply and Extend Reply Date (Feb. 18, 2011) (unpublished).

<sup>11</sup> Tr. at 1-251.

<sup>12</sup> Id. at 207-19.

## II. ANALYSIS

### A. Standing

#### 1. Legal Standards Governing Standing

Under NRC regulations, a petitioner seeking to intervene in the licensing process must show that it has standing to participate as a party to the NRC proceeding.<sup>13</sup> The Commission's regulations state in 10 C.F.R. § 2.309(d)(1) that to establish standing, a petition for leave to intervene must state: (1) the name, address and telephone number of the requestor or petitioner; (2) the nature of the requestor's/petitioner's right under the Act to be made a party to the proceeding; (3) the nature and extent of the requestor's/petitioner's property, financial or other interest in the proceeding; and (4) the possible effect of any decision or order that may be issued in the proceeding on the requestor's/petitioner's interest.

In determining whether a petitioning entity has established standing under the provisions of 10 C.F.R. § 2.309(d)(1), the agency has applied judicial standing concepts that require a participant to establish that (1) it has suffered or will suffer a distinct and palpable injury that constitutes injury-in-fact within the zones of interests arguably protected by the governing statutes (e.g., the Atomic Energy Act of 1954 (AEA), the National Environmental Policy Act of 1969 (NEPA)); (2) the injury is fairly traceable to the challenged action; and (3) the injury is likely to be redressed by a favorable decision.<sup>14</sup> In cases involving the possible construction or operation of a nuclear power reactor, the NRC considers proximity to the proposed facility to be sufficient to establish standing.<sup>15</sup> This "proximity presumption" applies when an individual or

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<sup>13</sup> 10 C.F.R. § 2.309(a).

<sup>14</sup> See, e.g., Sequoyah Fuels Corp. and General Atomics (Gore, Oklahoma Site), CLI-94-12, 40 NRC 64, 71-72 (1994) (quoting Lujan v. Defenders of Wildlife, 504 U.S. 555, 560-61 (1992)).

<sup>15</sup> See USEC, Inc. (American Centrifuge Plant), CLI-05-11, 61 NRC 309, 311 (2005) (citing Cleveland Electric Illuminating Co. (Perry Nuclear Power Plant, Unit 1), CLI-93-21, 38 NRC 87, 95 (1993)); Vogtle, LBP-07-3, 65 NRC at 249-50 (citing Florida Power & Light Co. (St. Lucie Nuclear Power Plant, Units 1 & 2), CLI-89-21, 30 NRC 325, 329 (1989)).

organization, or an individual authorizing an organization to represent his or her interests seeks to establish its representational standing, resides within fifty miles of the proposed facility, or has “frequent contacts” with the area affected by the proposed facility.<sup>16</sup>

Where an organization petitions to intervene in a proceeding, it must demonstrate either organizational or representational standing. To demonstrate organizational standing, the petitioner must show “injury-in-fact” to the interests of the organization itself. Where, as here, an organization seeks to establish representational standing, that organization must show that at least one of its members would be affected by the proceeding and must identify that member by name and address. Further, the organization must show that the member would have standing to intervene in his or her own right and that the identified members have authorized the organization to request a hearing on their behalf.<sup>17</sup> To determine whether these elements are met, we are to “construe the petition in favor of the petitioner.”<sup>18</sup> We apply these rules and guidelines in evaluating TSEP’s standing presentation.

## 2. TSEP’s Standing to Participate as a Party to this Proceeding

TSEP asserts it has standing to intervene as a representative of three of its members living within fifty (50) miles of the VCS site, who have authorized TSEP to represent their interests in this proceeding.<sup>19</sup> Exelon does not object to TSEP’s claim for standing, and the

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<sup>16</sup> Calvert Cliffs 3 Nuclear Project, LLC (Combined License Application for Calvert Cliffs, Unit 3), CLI-09-20, 70 NRC 911, 915-16 (2009); see PPL Bell Bend, LLC (Bell Bend Nuclear Power Plant), CLI-10-7, 71 NRC \_\_, \_\_ (slip op. at 6) (Jan 7, 2010).

<sup>17</sup> See Consumers Energy Co. (Palisades Nuclear Power Plant), CLI-07-18, 65 NRC 399, 409 (2007); see also Friends of the Earth, Inc. v. Laidlaw Env’tl. Servs. (TOC), Inc., 528 U.S. 167, 181 (2000); Vogtle, LBP-07-3, 65 NRC at 250 (citing Vermont Yankee Nuclear Power Corp. (Vermont Yankee Nuclear Power Station), CLI-00-20, 52 NRC 151, 163 (2000)).

<sup>18</sup> See id. (citing Georgia Institute of Technology (Georgia Tech Research Reactor, Atlanta, Georgia), CLI-95-12, 42 NRC 111, 115 (1995)).

<sup>19</sup> Petition at 3 & n.1; see Petition Exh. A, Declaration of Ralph R. Gilster, III in Support of [TSEP’s] Petition to Intervene and Contentions; Petition Exh. B, Declaration of Michael S.

NRC Staff concedes that TSEP has satisfied the standards for representational standing.<sup>20</sup> The Board agrees with the NRC Staff and, for the reasons set forth below, we conclude that TSEP has standing to intervene in this proceeding.<sup>21</sup>

TSEP has identified three members who reside within fifty miles of the proposed VCS site and who have provided declarations authorizing TSEP to represent their interests in this proceeding.<sup>22</sup> Following the “proximity presumption” of standing applicable in NRC proceedings relating to reactor or site permit applications, each of the three members has established standing in his own right. We therefore conclude that TSEP has satisfied the standards for representational standing.

B. TSEP’s Contentions

1. Legal Standards Governing Contention Admissibility

To become a party in an adjudicatory proceeding, a petitioner must submit at least one admissible contention.<sup>23</sup> In 10 C.F.R. § 2.309(f)(1), the Commission specifies the six criteria that a contention must satisfy to be admissible for litigation in a given proceeding. Specifically, a contention must

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Anderson in Support of [TSEP’s] Petition to Intervene and Contentions; Petition Exh. C, Declaration of Joe B. Bland in Support of [TSEP’s] Petition to Intervene and Contentions.

<sup>20</sup> Exelon Answer at 1; Staff Answer at 1, 8; see Petition at 1-4.

<sup>21</sup> See PPL Susquehanna LLC (Susquehanna Steam Electric Station, Units, 1 and 2), LBP-07-10, 66 NRC 1, 11 (2007) (citing Yankee Atomic Electric Co. (Yankee Nuclear Power Station), LBP-04-27, 60 NRC 530, 542 n.3 (2004) (stating that “[E]ven if undisputed, jurisdictional nature of standing [in NRC Proceedings] requires independent examination by presiding officer.”).

<sup>22</sup> Petition Exh. A, Declaration of Ralph R. Gilster, III in Support of Texans for a Sound Energy Policy’s Petition to Intervene and Contentions (Jan. 19, 2011); id. Exh. B, Declaration of Michael S. Anderson in Support of Texans for a Sound Energy Policy’s Petition to Intervene and Contentions (Jan. 19, 2011); id. Exh. C, Declaration of Joe B. Bland in Support of Texans for a Sound Energy Policy’s Petition to Intervene and Contentions (Jan. 19, 2011).

<sup>23</sup> 10 C.F.R. § 2.309(a).



- (i) provide a specific statement of the issue of law or fact to be raised or controverted;
- (ii) provide a brief explanation of the basis for the contention;
- (iii) demonstrate that the issue raised in the contention is within the scope of the proceeding;
- (iv) demonstrate that the issue raised in the contention is material to the findings the NRC must make to support the action that is involved in the proceeding;
- (v) provide a concise statement of the alleged facts or expert opinions which support the petitioner's position on the issue and on which the petitioner intends to rely, together with references to the specific sources and documents on which the petitioner intends to rely; and
- (vi) sufficient information to show that a genuine dispute exists in regard to a material issue of law or fact, including either references to specific portions of the application that the petitioner disputes, or where the application is alleged to be deficient, the identification of such deficiencies and supporting reasons for this belief.<sup>24</sup>

The Commission's intent in 10 C.F.R. § 2.309(f)(1) is to "focus litigation on concrete issues and result in a clearer and more focused record for decision,"<sup>25</sup> and to ensure that the Commission expends resources to support "the hearing process [only for] issue[s] that [are] appropriate for, and susceptible to, resolution in an NRC hearing."<sup>26</sup> "While a board may view a petitioner's supporting information in a light favorable to the petitioner . . . the petitioner (not the board) [is required] to supply all of the required elements for a valid intervention petition."<sup>27</sup> The rules on contention admissibility are "strict by design."<sup>28</sup> Mere "notice pleading" is insufficient.<sup>29</sup>

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<sup>24</sup> See id. § 2.309(f)(1)(i)-(vi).

<sup>25</sup> Changes to Adjudicatory Process, 69 Fed. Reg. 2182, 2202 (Jan. 14, 2004).

<sup>26</sup> Id.

<sup>27</sup> AmerGen Energy Co., LLC (Oyster Creek Nuclear Generating Station), CLI-09-7, 69 NRC 235, 260 (2009).

<sup>28</sup> See, e.g., Dominion Nuclear Connecticut, Inc. (Millstone Nuclear Power Station, Unit 2), CLI-03-14, 58 NRC 207, 213 (2003); Dominion Nuclear Connecticut, Inc. (Millstone Nuclear Power

However, a petitioner need not prove its contentions at the admissibility stage,<sup>30</sup> as boards do not adjudicate disputed facts at this juncture.<sup>31</sup> The factual support required for an admissible contention is “a minimal showing that material facts are in dispute.”<sup>32</sup> The necessary factual support “need not be in affidavit or formal evidentiary form and need not be of the quality necessary to withstand a summary disposition motion.”<sup>33</sup> Further, absent a waiver, contentions challenging applicable statutory requirements or Commission regulations are not admissible in agency adjudications.<sup>34</sup> Failure to comply with any of these requirements is grounds for rejecting a contention as inadmissible.<sup>35</sup>

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Station, Units 2 and 3), CLI-01-24, 54 NRC 349, 358-59 (2001); Duke Energy Corp. (Oconee Nuclear Station, Units 1, 2, and 3), CLI-99-11, 49 NRC 328, 334-35 (1999).

<sup>29</sup> Fansteel, Inc. (Muskogee, Oklahoma, Site), CLI-03-13, 58 NRC 195, 203 (2003).

<sup>30</sup> Private Fuel Storage, L.L.C (Independent Spent Fuel Storage Installation), CLI-04-22, 60 NRC 125, 139 (2004).

<sup>31</sup> Amergen Energy Co., LLC (Oyster Creek Nuclear Generating Station), LBP-06-22, 64 NRC 229, 244 (2006).

<sup>32</sup> Gulf States Utils. Co. (River Bend Station, Unit 1), CLI-94-10, 40 NRC 43, 51 (1994) (quoting Final Rule, Rules of Practice for Domestic Licensing Proceedings – Procedural Changes in the Hearing Process, 54 Fed. Reg. 33,168, 33171 (Aug. 11, 1989)) (internal quotation marks omitted).

<sup>33</sup> 54 Fed. Reg. at 33,171.

<sup>34</sup> 10 C.F.R. § 2.335(a).

<sup>35</sup> Dominion Nuclear Connecticut, Inc. (Millstone Nuclear Power Station, Units 2 and 3), CLI-04-36, 60 NRC 631, 636 (2004).

## 2. Safety Contentions

### a. TSEP-SAFETY-1: INADEQUATE IDENTIFICATION OF GROWTH FAULTS

CONTENTION: The Exelon application does not satisfy the requirements of 10 C.F.R. § 100.23(d)(2) because it does not provide sufficient geological data regarding growth faults or present an adequate evaluation of the potential for subsurface deformation. As a result, Exelon underestimates the risk of surface deformation.<sup>36</sup>

The focus of TSEP's concern in safety contention TSEP-SAFETY-1 (SAFETY-1) is that Exelon's SSAR fails to provide sufficient data to enable the requisite determination, under the NRC's regulations in 10 C.F.R. § 100.23(d)(2) and Part 100, Appendix A, of the potential for surface deformation as a result of growth faults at the VCS site. TSEP argues that this deficiency renders the VCS site unsuitable for a nuclear power station.<sup>37</sup>

Neither TSEP's petition nor the NRC Staff's answer provides a definition or description of "growth faults."<sup>38</sup> However, in response to SAFETY-1, Exelon summarizes its SSAR in explaining that there are numerous growth faults in the "thick layers of sediment, which extend more than 40,000 feet beneath the surface of the VCS site before reaching bedrock."<sup>39</sup> According to Exelon, the VCS is located within the Vicksburg fault zone, which is characterized by sedimentation and numerous growth faults.<sup>40</sup> Exelon states that "[t]hese growth faults do not originate in or extend to the basement bedrock and therefore are not tectonic in nature."<sup>41</sup> Exelon provides further description of growth faults as follows:

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<sup>36</sup> Petition at 10; see also id. at 10-14; Exelon Answer at 13-22; NRC Staff Answer at 9-16; Reply at 7-17; Tr. at 23-62.

<sup>37</sup> Petition at 12.

<sup>38</sup> See id. at 10-14.

<sup>39</sup> Exelon Answer at 14 (citing SSAR at 2.5.3-11).

<sup>40</sup> Id. (citing SSAR at 2.5.1-45 to -46, 2.5.1-70 to -71).

<sup>41</sup> Id. (citing SSAR at 2.5.1-45 to -46, 2.5.1-70 to -72, 2.5.3-3, 2.5.3-11).

Growth faults occur parallel to the Gulf Coast when the weight of the younger sediment causes the underlying sediment to slip and creep toward the Gulf. Movement of a growth fault occurs in a direction normal to the fault itself, with that portion of the sediment on the Gulf side of the fault dropping to a lower elevation than the inland side of the fault.

Because growth faults occur in the sediment rather than the bedrock, growth faults do not have the capability to store significant amounts of elastic strain energy that can be released during movement of the fault in the form of an earthquake. In contrast, tectonic faults commonly release substantial elastic strain energy in the form of an earthquake when the fault moves. Accordingly, growth faults do not present any significant seismic hazard. Instead, growth faults represent a surface displacement hazard if they are active and move while directly underneath a structure. As stated in Regulatory Guide 1.208:

Large, naturally occurring growth faults as those found in the coastal plain of Texas and Louisiana can pose a surface displacement hazard, even though offset most likely occurs at a much less rapid rate than that of tectonic faults. They are not regarded as having the capacity to generate damaging vibratory ground motion, can often be identified and avoided in siting, and their displacements can be monitored.<sup>42</sup>

In SAFETY-1, TSEP cites the summary and report of John C. Halepaska & Associates, Inc. (JCHA), attached to its Petition as Exhibits D-1 and D-2,<sup>43</sup> which reviews three-dimensional (3D) seismic data for the VCS site. TSEP argues that the 3D data provides a more complete picture of seismic conditions at the VCS site than that provided in the SSAR and indicates greater movement along growth faults than is shown in the two-dimensional (2D) seismic

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<sup>42</sup> Id. at 15 (citing SSAR at 2.5.1-47, 2.5.1-52, 2.5.1-70 to -73, 2.5.3-3; SSAR Figure 2.5.1-25; Regulatory Guide 1.208, A Performance-Based Approach to Define the Site-Specific Earthquake Ground Motion at C-7).

<sup>43</sup> Petition at 9 (citing id. Exh. D-1, Summary of Contentions, Exelon's ESP Application for the proposed Victoria County Station Site, John C. Halepaska and Associates, Inc., Water Resources Consultants (Oct. 8, 2010) [hereinafter JCHA Summary]; id. Exh. D-2 Texans for a Sound Energy Policy, Contested Issues Concerning Early Site Permit, Exelon's Victoria County Station, John C. Halepaska and Associates, Inc., Consulting Groundwater Engineers (Jan. 2011) [hereinafter JCHA Report]); see also id. Exh. D, Declaration of John C. Halepaska in Support of Texans for a Sound Energy Policy's Petition to Intervene and Contentions (Jan. 19, 2011).

analysis in Exelon's SSAR.<sup>44</sup> TSEP also claims that the JCHA analysis identified four growth faults reaching the VCS site surface, whereas the SSAR only identified one such fault.

Specifically, TSEP claims that its expert's 3D analysis of growth faults at and near the VCS site shows evidence of historical, recent, and continuing movement at the fault traversing the cooling pond area, posing "an unacceptable risk to the proposed facility's cooling pond."<sup>45</sup> According to TSEP, the impacts of these growth faults on the design and operation of the VCS are ignored in the Exelon application, especially considering the application's lack of maps or figures showing the relationship of the growth faults to important plant infrastructure, with the one exception of the planned power block.<sup>46</sup> TSEP claims further that the possibility of seepage from the cooling pond into this fault zone could cause activation of the fault leading to cooling pond infrastructure failure.<sup>47</sup> TSEP argues that the cooling pond is a safety feature, and that potential damage to the cooling pond is a considerable safety issue, in that it poses significant safety-related operational difficulties.<sup>48</sup> TSEP also cites the JCHA review of nuclear reactor sites across the United States in claiming that the VCS site "is the only site in the United States with faults showing evidence of current fault movement at the surface."<sup>49</sup> For these reasons, TSEP asserts that Exelon's analysis of the potential for surface deformation is insufficient to satisfy 10 C.F.R. § 100.23(d)(2) and Part 100, Appendix A.<sup>50</sup>

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<sup>44</sup> Petition at 10-14 (citing SSAR §§ 2.5.1.2.4.2; Fig. 2.5.1-40; 2.5.3.2.2; 2.5.1-85; 2.5.3.4.2.1; Figs. 2.5.1-37, 2.5.1-38, 2.5.1-39, 2.5.1-40, 2.5.1-41, 2.5.1-42, 2.5.1-43).

<sup>45</sup> Id. at 10.

<sup>46</sup> Id. at 10, 12, 13-14.

<sup>47</sup> Id. at 10.

<sup>48</sup> Id. at 10-11.

<sup>49</sup> Id. at 12-13.

<sup>50</sup> Id. at 11.

Exelon argues that SAFETY-1 is inadmissible for failure to raise a genuine dispute with the application on a material issue of law or fact, contrary to 10 C.F.R § 2.309(f)(1)(vi).<sup>51</sup> The NRC Staff argues it does not oppose admissibility of SAFETY-1, but only to the extent that SAFETY-1 alleges that Exelon's application fails to provide sufficient geological data regarding growth faults or present an adequate evaluation of the potential for subsurface deformation as required by 10 C.F.R. § 100.23(d)(2).<sup>52</sup> With respect to the other issues TSEP raises in SAFETY-1, the NRC Staff argues that the remainder of this contention is inadmissible either as not material to the findings the NRC must make in this proceeding, as lacking adequate factual or expert support, or as failing to demonstrate a genuine dispute with the application on a material issue of law or fact, contrary to 10 C.F.R. § 2.309(f)(1)(iv) through (vi).<sup>53</sup>

Looking to the application of the six factors under 10 C.F.R. § 2.309(f)(1) that govern contention admissibility, we begin by noting the agency's regulatory regime governing seismic siting criteria in 10 C.F.R. Part 100. In particular, 10 C.F.R. § 100.23 declares that it

sets forth the principal geologic and seismic considerations that guide the Commission in its evaluation of the suitability of a proposed site and adequacy of the design bases established in consideration of the geologic and seismic characteristics of the proposed site, such that, there is a reasonable assurance that a nuclear power plant can be constructed and operated at the proposed site without undue risk to the health and safety of the public.<sup>54</sup>

Further, 10 C.F.R. § 100.23(d) describes geologic and seismic siting factors, stating that

[t]he geologic and seismic siting factors considered for design must include a determination of the Safe Shutdown Earthquake Ground Motion for the site, the potential for surface tectonic and nontectonic deformations, the design bases for seismically induced floods and water waves, and other design conditions as stated in paragraph (d)(4) of this section. . . .

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<sup>51</sup> Exelon Answer at 14.

<sup>52</sup> NRC Staff Answer at 9-10.

<sup>53</sup> Id.

<sup>54</sup> 10 C.F.R. § 100.23.

(2) Determination of the potential for surface tectonic and nontectonic deformations. Sufficient geological, seismological, and geophysical data must be provided to clearly establish whether there is a potential for surface deformation.<sup>55</sup>

Appendix A to 10 C.F.R. Part 100 also describes the NRC's required seismic and geologic siting criteria for nuclear power plants, and discusses surface faulting as follows:

The design basis for surface faulting shall be taken into account in the design of the nuclear power plant by providing reasonable assurance that in the event of such displacement during faulting certain structures, systems, and components will remain functional. These structures, systems and components are those necessary to assure (i) the integrity of the reactor coolant pressure boundary, (ii) the capability to shut down the reactor and maintain it in a safe shutdown condition, or (iii) the capability to prevent or mitigate the consequences of accidents which could result in potential offsite exposures comparable to the guideline exposures of this part.<sup>56</sup>

As stated above, § 100.23(d) requires that “[t]he geologic and seismic siting factors considered for design must include a determination of the Safe Shutdown Earthquake Ground Motion for the site, [and] the potential for surface tectonic and nontectonic deformations . . . .”<sup>57</sup> Thus, to the extent growth faults constitute a mechanism of nontectonic deformation, the agency's siting criteria require their analysis in an ESP application.

For its part, Exelon asserts that its application states the cooling basin at the proposed VCS would not serve any of these safety functions. According to Exelon, it plans to use mechanical draft cooling towers to provide the ultimate heat sink (UHS) necessary to enable safe shut down cooling and maintenance of a safe shutdown condition at the proposed VCS.<sup>58</sup> Nonetheless, paragraph VI(b)(3) to Appendix A of 10 C.F.R. Part 100 goes on to state that the design provisions shall be based on an assumption that the design basis for surface faulting can

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<sup>55</sup> Id. § 100.23(d) (emphasis added).

<sup>56</sup> 10 C.F.R. Part 100, Appendix A, para. VI(b)(3) (emphasis added).

<sup>57</sup> 10 C.F.R. § 100.23(d) (emphasis added).

<sup>58</sup> Exelon Answer at 20.

occur in any direction and azimuth and under any part of the nuclear power plant unless evidence indicates this assumption is not appropriate, and shall take into account the estimated rate at which the surface faulting may occur.”<sup>59</sup> Also, 10 C.F.R. § 100.23(c) adds that “each applicant shall investigate all geologic and seismic factors (for example, volcanic activity) that may affect the design and operation of the proposed nuclear power plant irrespective of whether such factors are explicitly included in this section.” (emphasis added) So, even though the cooling pond is not a safety-related structure, Appendix A requires knowledge of the faulting under the pool and the impact this faulting might have on the pool’s operation.

In 1973, the Atomic Energy Commission (the predecessor agency to the NRC) amended 10 C.F.R. Part 100 to incorporate Appendix A.<sup>60</sup> Appendix A restricts the application of the “Operating Basis Earthquake” analysis to those features of a nuclear power plant that are safety-related, as opposed to the operability of structures, systems and components (SSCs) necessary for power generation. However, in its promulgation of Appendix A, the Commission stated that

[t]he purpose of [the seismic and geologic siting criteria in Appendix A] is to set forth the principal seismic and geologic considerations which guide the Commission in its evaluation of the suitability of proposed sites for nuclear power plants and the suitability of the plant design bases established in consideration of the seismic and geologic characteristics of the proposed sites in order to provide reasonable assurance that the nuclear power plant can be constructed and operated at a proposed site without undue risk to the health and safety of the public.<sup>61</sup>

The plain language of Appendix A also speaks to this intention of the Commission to address “Other Design Conditions” such as “soil instability due to ground disruption . . . not directly related to surface faulting.” This section in Appendix A provides

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<sup>59</sup> 10 C.F.R. Part 100, Appendix A, para. VI(b)(3) (emphasis added).

<sup>60</sup> Seismic and Geologic Siting Criteria, 38, Fed. Reg. 31,279, 31,279 (Nov. 13, 1973).

<sup>61</sup> Id.



geologic features which could affect the foundations of the proposed nuclear power plant structures shall be evaluated, taking into account the information concerning the physical properties of materials underlying the site . . .

- i. Areas of actual or potential surface or subsurface subsidence, uplift, or collapse resulting from
  - a) Natural features such as tectonic depressions and cavernous or karst terrains, particularly those underlain by calcareous or other soluble deposits;
  - b) Man's activities such as withdrawal of fluid from or addition of fluid to the subsurface, extraction of minerals or the loading effects of dams or reservoirs; and
  - c) Regional deformation

Against this regulatory backdrop, we conclude that SAFETY-1 is admissible because, while the cooling pond is not a "safety feature," faulting in the footprint of the cooling pond is nonetheless subject to the regulations in 10 C.F.R. Part 100 and Appendix A thereto, which govern the analysis in Exelon's SSAR. In SAFETY-1, TSEP outlines its central allegation that the SSAR does not comply with 10 C.F.R. § 100.23(d)(2) and Appendix A of 10 C.F.R. Part 100 because the SSAR does not assess adequately the growth faults at the VCS site and the related potential for subsurface deformation. In this regard, TSEP has submitted a "specific statement of the issue of law or fact to be raised or controverted."<sup>62</sup> TSEP also provides a "brief explanation of the basis" underlying SAFETY-1, by establishing a significant discrepancy between its expert's growth fault data and that which Exelon submitted in its application.<sup>63</sup>

Relying on its expert's analysis of this growth fault data, TSEP describes various surface deformation consequences that would result to the proposed VCS plant. As a result, SAFETY-1 addresses a potential failure of the ESP application to satisfy 10 C.F.R. Part 51, which sets forth the applicable safety regulations regarding geologic/seismic conditions at the VCS site and,

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<sup>62</sup> 10 C.F.R. § 2.309(f)(1)(i).

<sup>63</sup> Id. § 2.309(f)(1)(ii).

therefore, alleges an inadequacy within the scope of this ESP proceeding that is material to the findings the NRC must make on whether to grant the ESP. Moreover, in formulating its allegations in SAFETY-1, TSEP makes numerous references to the report and summary of its expert, JCHA, and explains the methodology applied in the JCHA report. Therefore, SAFETY-1 meets the contention admissibility requirements of 10 C.F.R. § 2.309(f)(1)(iii), (iv), and (v).

Finally, although Exelon claims that it followed NRC regulatory guides in conducting its growth fault analysis of the VCS site, TSEP asserts that this analysis is deficient in light of the applicable NRC regulations that, unlike regulatory guidance, are binding on ESP applicants.<sup>64</sup> TSEP claims essentially that, while Exelon might have conducted its seismic analysis in accordance with NRC regulatory guidance, that analysis fails to satisfy the requisite safety regulations addressing the potential for surface deformation in 10 C.F.R. Part 100, and Appendix A thereto, because Exelon predicated that analysis on faulty data. TSEP's claim is that because Exelon's fundamental data on this subject are flawed, any conclusions flowing from that data are likewise flawed and inadequate. This assertion states a dispute with the portions of the SSAR on this subject in accordance with the pleading requirements for contentions under 10 C.F.R. § 2.309(f)(1)(i) through (vi).

We therefore admit SAFETY-1 in full, recognizing that, while the cooling pond is not a safety structure, system or component, it is a part of the nuclear power plant that is required for plant operation.

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<sup>64</sup> USEC, Inc. (American Centrifuge Plant), LBP-07-6, 65 NRC 429, 440 n.31 (2007) (citing Curators of the University of Missouri (TRUMP-5 Project), CLI-95-1, 41 NRC 71, 98 (1995); Carolina Power & Light Co. (Shearon Harris Nuclear Power Plant), ALAB-852, 24 NRC 532, 544-45 (1986)); see also New Jersey v. NRC, 526 F.3d 98, 102 (3d Cir. 2008); Private Fuel Storage, L.L.C. (Independent Spent Fuel Storage Installation), LBP-03-8, 57 NRC 293, 319-20 (2003), review denied CLI-03-8, 58 NRC 11 (2003).

b. TSEP-SAFETY-2: RATE OF RECENT SURFACE MOVEMENT AT GROWTH FAULTS

CONTENTION: Exelon fails to satisfy 10 C.F.R. § 100.23(d)(2) because the SSAR greatly understates the rate of recent surface movement of the growth faults, as established by field studies showing rates of movement 1000 to 10,000 times greater than Exelon estimates.<sup>65</sup>

In safety contention TSEP-SAFETY-2 (SAFETY-2), TSEP asserts that Exelon's SSAR is deficient under 10 C.F.R. Part 100, Appendix A, and § 100.23(d)(2), because it has not properly analyzed the rate of recent surface movement of the growth faults on the VCS site.<sup>66</sup> As a result of this asserted inadequate assessment of growth fault movement, TSEP claims that Exelon has inadequately assessed surface movement impacts on plant infrastructure, including the cooling pond and related pumps, pipes, and other structures.<sup>67</sup>

TSEP claims that the field data and testing its expert conducted "dramatically contradicts Exelon's estimates" of the activity of the two faults with a potential for surface deformation.<sup>68</sup> Based on field studies discussed in the JCHA report, TSEP alleges that the rate of movement of one of the growth faults on site is approximately 1,000 to 10,000 times larger than rates estimated in the SSAR.<sup>69</sup> TSEP states in its petition that "Exelon used a standard NRC procedure" to estimate activity at the two faults expected to cause surface deformation.<sup>70</sup> However, TSEP cites its expert's field data and testing results that "dramatically contradict[]

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<sup>65</sup> Petition at 14; see also id. at 14-18; Exelon Answer at 22-23; NRC Staff Answer at 16; Reply at 17-19; Tr. at 62-66.

<sup>66</sup> Petition at 14-15.

<sup>67</sup> Id.

<sup>68</sup> Id. at 18.

<sup>69</sup> Id. at 16.

<sup>70</sup> Id. at 17.

Exelon's estimates."<sup>71</sup> As a result of these alleged discrepancies, TSEP insists that Exelon's SSAR does not fully account for impacts resulting from movement of these growth faults on the design and operation of the VCS plant.<sup>72</sup> More specifically, TSEP asserts that the potential for failure or damage to the VCS structures constructed on top of these growth faults poses an unacceptable risk to the proposed facility's cooling pond.<sup>73</sup>

While the NRC Staff does not oppose admission of SAFETY-2,<sup>74</sup> Exelon opposes admission of SAFETY-2 as failing to raise a genuine dispute of material fact regarding the application, in contravention of 10 C.F.R. § 2.309(f)(1)(iv) and (vi).<sup>75</sup> Exelon argues that SAFETY-2 pertains only to Growth Fault E, which is located more than two miles from the VCS power block, and which Exelon asserts is the only area that contains safety-related structures, systems, and components (SSCs).<sup>76</sup> As such, Exelon insists that TSEP's characterization of this fault does not establish a dispute regarding a material fact, because Growth Fault E does not pose a threat to any safety-related structure on the VCS site.<sup>77</sup> According to Exelon, had SAFETY-2 addressed Growth Fault D, which is beneath the proposed VCS cooling basin, SAFETY-2 would still fail to dispute a material issue because the cooling basin is not a safety-related structure.<sup>78</sup> Finally, Exelon argues that TSEP's arguments in SAFETY-2 are based on

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<sup>71</sup> Id. at 18.

<sup>72</sup> Id.

<sup>73</sup> Id.

<sup>74</sup> NRC Staff Answer at 16.

<sup>75</sup> Exelon Answer at 22.

<sup>76</sup> Id.

<sup>77</sup> Id.

<sup>78</sup> Id. at 23.

speculation that surface changes near the VCS site are the result of growth fault movement, rather than some other cause.<sup>79</sup>

In assessing this contention's admissibility, we again recognize that the cooling basin of the proposed VCS is not a "safety feature." Nonetheless, the NRC's regulations in 10 C.F.R. Part 100 require investigation of geologic and seismic factors at the proposed plant site, given the impact these factors may have on design and operation of the entire plant, rather than merely on safety-related SSCs. With this in mind, we conclude that SAFETY-2 satisfies the general admissibility criteria of 10 C.F.R. § 2.309(f)(1)(i) through (vi). First, TSEP provides a specific statement and a brief explanation of its position that Exelon's assessment has inadequately characterized the rate of movement of growth faults at the VCS site, as it relates to its analysis of surface deformation required under 10 C.F.R. § 100.23(d)(2).<sup>80</sup> Likewise, because SAFETY-2 explores the adequacy of Exelon's ESP application under an applicable regulation relating to this issue, it is within the scope of this proceeding, and is material to the findings the NRC must make to support the action involved in this proceeding.<sup>81</sup>

Relative to the 10 C.F.R. § 2.309(f)(1)(v) criteria, TSEP again references several times its JCHA report and summary in its statement of facts and expert opinion in support of its allegations in SAFETY-2, thus providing a concise statement of the alleged facts or expert opinions on which its allegations in SAFETY-2 rest.<sup>82</sup> Further, TSEP has made a sufficient showing in SAFETY-2, along with references to the SSAR, to articulate a genuine dispute with

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<sup>79</sup> Id.

<sup>80</sup> 10 C.F.R. § 2.309(f)(1)(i), (ii).

<sup>81</sup> Id. § 2.309(f)(1)(iii), (iv).

<sup>82</sup> Id. § 2.309(f)(1)(v).

Exelon on a material issue, i.e., the issue of rate of movement of growth faults on and near the VCS site.<sup>83</sup>

We also note that, like SAFETY-1, SAFETY-2 asserts that Exelon's inadequate assessment of growth faults at and near the VCS site has led to its improper assessment of risks related thereto. Specific to SAFETY-2, TSEP alleges that Exelon's inadequate assessment of growth faults has led to inaccurate estimates of the rate of movement of growth faults leading to surface deformation at the VCS site. Exelon improperly focuses its opposition to this contention on the two faults it identified and analyzed in its SSAR, assuming that a more adequate analysis, if required under the NRC regulations, would detect no further growth faults. While SAFETY-1 concerns identification of growth faults at the VCS site, SAFETY-2 concerns a different, albeit related, matter of whether Exelon has adequately characterized the rate of movement of those faults.

We also reject Exelon's argument that SAFETY-2 is inadmissible because it is based on mere speculation. As TSEP explains in its reply, TSEP did not have access to the VCS property to conduct a full assessment of the growth faulting conditions at that location.<sup>84</sup> TSEP did, however, reference in SAFETY-2 its attached expert analysis of growth faulting in the vicinity of the VCS site, which TSEP maintains contains a reasonable extrapolation of the rate of movement along growth faults at the VCS site that is unaccounted for in Exelon's SSAR. At the contention admissibility stage of this proceeding, we decline to adjudicate the merits of the dispute and of the expert support on which TSEP relies in SAFETY-2, and conclude that TSEP provides sufficient support in SAFETY-2 to satisfy the requirement of 10 C.F.R. § 2.309(f)(1)(v) and (vi).

We therefore admit SAFETY-2, in full.

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<sup>83</sup> Id. § 2.309(f)(1)(vi).

<sup>84</sup> Reply at 18.

c. TSEP-SAFETY-3: DANGERS FROM OIL AND GAS WELLS AND BORINGS

CONTENTION: Exelon's SSAR fails to provide adequate data or an adequately reasoned evaluation of the threats of explosion and seepage of poisonous gas posed by the existence of hundreds of active and abandoned oil and gas wells and borings on and near the VCS site.<sup>85</sup>

In safety contention TSEP-SAFETY-3 (SAFETY-3), TSEP asserts that Exelon has failed to satisfy the requirements of 10 C.F.R. §§ 100.20(b) and 100.21(e) because the SSAR provides insufficient data to enable an evaluation of the condition and associated risks of active and abandoned oil and gas wells and borings on and near the VCS site.<sup>86</sup> TSEP claims that "[o]il and abandoned wells are poorly documented, may be improperly plugged, and pose risks from possible emissions of explosive and poisonous gases and upward migration of hydrocarbons."<sup>87</sup> TSEP asserts that "[t]he site is a veritable 'Swiss cheese' and unsuitable as a location of a future nuclear power plant."<sup>88</sup>

Citing several times to the JCHA report and summary, TSEP describes various risks that it alleges Exelon evaluates improperly in Exelon's analysis of the wells and borings.<sup>89</sup> TSEP asserts that the active and abandoned oil and gas wells and borings: (1) pose threats of explosion on and near the proposed facility;<sup>90</sup> (2) pose threats of leakage of poisonous gas, such as hydrogen sulfide, on and near the proposed facility;<sup>91</sup> (3) allow the potential for upward

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<sup>85</sup> Petition at 18; see also id. at 18-26; Exelon Answer at 24-28; NRC Staff Answer at 16-22; Reply at 19-24; Tr. at 219-50.

<sup>86</sup> Petition at 18-19.

<sup>87</sup> Id. at 19.

<sup>88</sup> Id.

<sup>89</sup> Id. at 20-25.

<sup>90</sup> Id. at 22.

<sup>91</sup> Id. at 23.

migration of hydrocarbons and other contaminants at the VCS site;<sup>92</sup> and (4) are a rarity at nuclear power plant sites, so that construction and operation at the VCS site would represent a nearly unprecedented location for a nuclear power plant.<sup>93</sup>

The NRC Staff does not oppose admission of SAFETY-3, to the extent TSEP asserts the SSAR does not fully describe the active and abandoned oil and gas wells and borings on the VCS site as required by 10 C.F.R. Part 100 and the guidance in Regulatory Guide (RG) 1.70, “Standard Format and Content of Safety Analysis Report for Nuclear Power Plants LWR Edition.”<sup>94</sup> Yet, the NRC Staff argues that the other aspects of SAFETY-3 are inadmissible. Namely, the NRC Staff claims that potential hazards associated with upward migration of hydrocarbons and the risk of explosion is bounded by the SSAR analysis in Section 2.2.2.3.4 of natural gas transmission lines, which are closer to the VCS site and pose a greater risk to safety at that site.<sup>95</sup> Because TSEP has not disputed the conclusions of this bounding analysis, the NRC Staff insists that this aspect of SAFETY-3 is inadmissible. Further, the NRC Staff argues that the portion of SAFETY-3 addressing the release of poisonous gases concerns facility design information (relating to control room ventilation and habitability) that is not required at the ESP stage, and hence is this outside the scope of this proceeding.<sup>96</sup>

While the NRC Staff views SAFETY-3 as admissible in part, Exelon claims that SAFETY-3 is wholly inadmissible for failing to raise a genuine dispute of material fact. Exelon argues that SAFETY-3 is speculative because it has not identified any abandoned wells or

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<sup>92</sup> Id. at 24.

<sup>93</sup> Id.

<sup>94</sup> NRC Staff Answer at 17.

<sup>95</sup> Id. at 17-18.

<sup>96</sup> Id. at 20-22.



borings that have not been properly plugged.<sup>97</sup> Exelon further claims that SAFETY-3 is inadmissible for its failure to raise a dispute with various portions of the SSAR in Sections 2.2.2.3 and 2.2.3.1 describing oil and gas fields, natural gas/chemical pipelines, and potential accidents.<sup>98</sup> Exelon alleges that the potential for release of toxic or asphyxiating gases is a hazard that would be analyzed at the COL stage to account for control room ventilation design for the selected technology.<sup>99</sup> Lastly, Exelon claims that the risk of explosions at active wells at the VCS site is bounded by its analysis of the risk of fires and explosions posed by natural gas pipelines in the area, and that TSEP has not disputed this analysis in SAFETY-3.<sup>100</sup>

We agree with the NRC Staff that SAFETY-3 is admissible in part. We will first address those aspects of SAFETY-3 that are not admissible, and then will discuss the portion of SAFETY-3 that we find admissible. First, regarding TSEP's claim that Exelon has not properly analyzed the threat of explosion from active and abandoned oil and gas wells and borings on and near the VCS site, we conclude that TSEP fails to dispute the relevant analysis in Exelon's SSAR indicating that the proposed VCS would be designed to withstand an explosion of a natural gas pipeline.<sup>101</sup>

Pursuant to 10 C.F.R. § 2.309(f)(1)(vi), for a contention to be admissible, it must provide "sufficient information to show that a genuine dispute exists with the applicant/licensee on a material issue of law or fact" together with "references to specific portions of the application . . . that the petitioner disputes and the supporting reasons for each dispute." TSEP asserts in SAFETY-3 that Exelon has not adequately assessed the risk of explosions due to improperly-

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<sup>97</sup> Exelon Answer at 25.

<sup>98</sup> Id. at 26.

<sup>99</sup> Id. at 27.

<sup>100</sup> Id. at 28 (citing SSAR at 2.2-33 to -34).

<sup>101</sup> See id.; NRC Staff Answer at 18 (citing SSAR § 2.2.2.3.4 at 2.2-15).

assessed oil and gas wells and borings on and near the VCS site.<sup>102</sup> The SSAR asserts that the VCS plant would be designed to withstand an explosion of a natural gas pipeline and that the risk of explosions at active wells is bounded by the risk posed by natural gas pipelines in the area.<sup>103</sup> The SSAR also concludes that external fires would not threaten the safety of the VCS plant and that the analysis of the risk of external fires bounds the risk of fires associated with oil and gas wells.<sup>104</sup> In SAFETY-3, TSEP claims that the analysis of gas pipeline explosions in SSAR Section 2.2.2.3.4 is not bounding with regard to the risk of explosions at oil and gas wells. However, TSEP fails to explain or otherwise allege how the conclusions in that analysis are improper or inadequate under the NRC's requirements in 10 C.F.R. Part 100.<sup>105</sup>

Boards must not adjudicate the merits of allegations at the contention admissibility stage of an NRC proceeding. However, to be admissible, a contention must provide more than a "bare assertion," and must explain the supporting reasons for the dispute raised in that contention.<sup>106</sup> TSEP explains a mechanism for explosions in SAFETY-3, but it does not allege why the SSAR analysis of fires and explosions is not bounding and/or why it insufficiently addresses these risks at the proposed VCS site.<sup>107</sup> For this reason, we decline to admit this aspect of SAFETY-3 for failure to raise a genuine dispute of material fact or law with the SSAR pursuant to 10 C.F.R. § 2.309(f)(1)(vi).

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<sup>102</sup> Petition at 22.

<sup>103</sup> See Exelon Answer at 26 (citing SSAR § 2.2.2.3.4).

<sup>104</sup> See id. at 27-28.

<sup>105</sup> Petition at 22-23, 25-26.

<sup>106</sup> See 10 C.F.R. § 2.309(f)(1)(vi); Fansteel, CLI-03-13, 58 NRC at 203; see also USEC, Inc. (American Centrifuge Plant), LBP-05-28, 62 NRC 585, 597 (2005), aff'd CLI-06-10, 63 NRC 451 (2006).

<sup>107</sup> Petition at 22-23, 25-26.

We further decline to admit the portion of SAFETY-3 in which TSEP alleges that Exelon improperly characterized the threat of release of poisonous gases posed by these wells and borings on and near the proposed VCS site. In SAFETY-3, TSEP claims that the SSAR inadequately addresses the hazard of worker exposure to poisonous gases.<sup>108</sup> However, SAFETY-3 fails to explain or otherwise to allege why SSAR Section 2.2.3.1.3 inadequately treats this issue. SSAR Section 2.2.3.1.3 states that Exelon intends to provide a more detailed control room habitability assessment at the COL licensing stage, due to the current lack of information regarding onsite chemicals and control room ventilation design for the selected technology.<sup>109</sup> Exelon and the NRC Staff both maintain that an analysis of the hazard posed by the potential release of poisonous gases is dependent on design information that is neither required nor available now, at the ESP stage.<sup>110</sup> The NRC Staff cites 10 C.F.R. § 52.17, which lists the requisite contents of an SSAR at the ESP stage.<sup>111</sup> This regulation does not require information regarding control room habitability and ventilation system design.<sup>112</sup>

TSEP fails to cite any other relevant NRC regulations that require the SSAR to assess the hazard of worker exposure to poisonous gases at the ESP stage. Although TSEP alleges that 10 C.F.R. §§ 100.20(b) and 100.21(e) require assessment of oil and gas wells and borings on and near the proposed VCS site, it fails to explain how these regulations require analysis of worker exposure in the absence of more detailed facility design information.

As such, this issue is outside the scope of the instant ESP proceeding, and is therefore inadmissible pursuant to 10 C.F.R. § 2.309(f)(1)(iii).

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<sup>108</sup> Id. at 23.

<sup>109</sup> Exelon Answer at 27.

<sup>110</sup> Id. at 27; NRC Staff Answer at 20-22; Tr. at 233-34, 241.

<sup>111</sup> NRC Staff Answer at 20.

<sup>112</sup> See generally, 10 C.F.R. § 52.17.

After eliminating these inadmissible portions of SAFETY-3, we are left with the following revision to SAFETY-3:

Exelon's SSAR fails to provide adequate data regarding active and abandoned oil and gas wells and borings on and near the VCS site, contrary to the requirements of 10 C.F.R. Part 100.

As we explain below, we conclude that SAFETY-3, as thus revised, is admissible pursuant to 10 C.F.R. § 2.309(f)(1).

In accordance with 10 C.F.R. § 2.309(f)(1)(i), TSEP provides a specific statement of the issue of fact to be adjudicated in SAFETY-3, i.e., whether the SSAR sufficiently describes active and abandoned oil and gas wells and borings on and near the VCS site under 10 C.F.R. §§ 100.20(b) and 100.21(e). As required by 10 C.F.R. § 2.309(f)(1)(ii), TSEP provides a brief explanation of the basis for SAFETY-3 by claiming that there is insufficient data in Exelon's analysis of oil and gas wells and borings on and near the proposed VCS site to satisfy these regulations.

In this respect, SAFETY-3 raises an issue that is within the scope of this proceeding, as required by 10 C.F.R. § 2.309(f)(1)(iii). The Notice of Hearing in this proceeding specifies that the subject of this proceeding is Exelon's ESP application.<sup>113</sup> SAFETY-3 concerns whether the SSAR portion of that application has met site suitability requirements of 10 C.F.R. Part 100 with regard to the assessment of oil and gas wells and borings on and near the proposed VCS site.<sup>114</sup> Therefore, SAFETY-3 is within the scope of this proceeding as the Notice of Hearing defines it.

ESP applications must comply with 10 C.F.R. Part 100 requirements regarding reactor site suitability criteria. In SAFETY-3, TSEP questions whether the SSAR's assessment of oil and gas wells and borings on and near the VCS site satisfies these requirements and, as such,

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<sup>113</sup> 75 Fed. Reg. at 71,467-68.

<sup>114</sup> Id.

has raised an issue that is material to the findings the NRC must make to grant the ESP. Although we have rejected certain aspects of SAFETY-3 relating to how the oil and gas wells and borings affect the risk of explosions and worker exposure to toxic gases, the issue of whether the SSAR sufficiently assesses the presence and prospective treatment of these wells in terms of site suitability under the requirements of 10 C.F.R. Part 100 remains in issue. TSEP thus raises an issue that satisfies the materiality requirement for admissibility of 10 C.F.R. § 2.309(f)(1)(iv).

TSEP has also submitted alleged facts or expert opinions to support SAFETY-3, in satisfaction of 10 C.F.R. § 2.309(f)(1)(v). Citing to its expert's report and summary, TSEP alleges the SSAR does not contain adequate foundational data to enable an evaluation of active and abandoned oil and gas wells and borings on and near the VCS site as required by 10 C.F.R. §§ 100.20(b) and 100.21(e).<sup>115</sup> As Exelon and the NRC Staff point out, the SSAR discusses this issue in several locations.<sup>116</sup> However, TSEP is challenging the adequacy of the foundational information on which Exelon predicated these SSAR discussions.

We reject Exelon's argument that SAFETY-3 is too speculative to be admissible under 10 C.F.R. § 2.309(f)(1) because TSEP has neither identified wells other than those set forth in the SSAR nor identified a related release of toxic gases.<sup>117</sup> TSEP and its expert's report provide data from the Texas Railroad Commission (TRRC) indicating an unknown status for at least 70 of almost 300 wells within the VCS property and its vicinity.<sup>118</sup> On this foundation, TSEP

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<sup>115</sup> See Petition at 20-25 (citing JCHA Report at 69-85).

<sup>116</sup> See Exelon Answer at 25-28 (citing SSAR §§ 2.2.2.3, 2.2.2.3.4, 2.2.3.1.1.1, 2.2.3.1.2.1; SSAR Fig. 2.2-5); NRC Staff Answer at 18-22 (citing SSAR §§ 2.2.2.3.4, 2.5.4.5.1, 2.5.4.5.2, 2.2.3).

<sup>117</sup> See Exelon Answer at 25.

<sup>118</sup> Petition at 20-22.

reasonably disputes the SSAR conclusion that all wells are known and that unused wells have been properly abandoned, given extant uncertainties and incomplete data of the TRRC.<sup>119</sup>

Further, SAFETY-3 takes issue with the SSAR portion of the application, questioning whether that section meets the site criteria of 10 C.F.R. Part 100. Therefore, TSEP has raised in SAFETY-3 a genuine dispute of material fact with Exelon's ESP application under 10 C.F.R. § 2.309(f)(1)(vi).

Lastly, showing consistency with certain agency guidance documents does not affirmatively establish compliance with NRC regulations. While boards may give reasonable deference to NRC guidance, such agency guidance does not substitute for regulations, is not binding authority, and does not prescribe NRC requirements.<sup>120</sup>

We therefore admit SAFETY-3 in part, revised as follows:

Exelon's SSAR fails to provide adequate data regarding active and abandoned oil and gas wells and borings on and near the VCS site, contrary to the requirements of 10 C.F.R. Part 100.

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<sup>119</sup> See id. at 26.

<sup>120</sup> See USEC, Inc. (American Centrifuge Plant), LBP-07-6, 65 NRC 429, 440 n.31 (2007) (redacted public version) (citing Curators of the University of Missouri (TRUMP-5 Project), CLI-95-1, 41 NRC 71, 98 (1995); Carolina Power & Light Co. (Shearon Harris Nuclear Power Plant), ALAB-852, 24 NRC 532, 544-45 (1986)); see also New Jersey v. NRC, 526 F.3d 98, 102 (3d Cir. 2008); Private Fuel Storage, L.L.C. (Independent Spent Fuel Storage Installation), LBP-03-8, 57 NRC 293, 320 (2003), review denied CLI-03-8, 58 NRC 11 (2003); c.f. Private Fuel Storage, L.L.C. (Independent Spent Fuel Storage Installation), CLI-02-25, 56 NRC 340, 348 n.22 (2002) (citing and quoting Long Island Lighting Co. (Shoreham Nuclear Power Station, Unit 1), CLI-91-2, 33 NRC 61, 72 n.3 (1991)); Louisiana Energy Services, L.P. (Claiborne Enrichment Center), LBP-91-41, 34 NRC 332, 339 (1991); see generally Robertson v. Methow Valley Citizens Council, 490 U.S. 332, 334, 355-56 (1989).

d. TSEP-SAFETY-4: FAILURE TO ASSURE DEPENDABLE WATER SUPPLY

CONTENTION: The ER fails to demonstrate the existence of a dependable water supply for a new reactor.<sup>121</sup>

In safety contention TSEP-SAFETY-4 (SAFETY-4), TSEP asserts that Exelon has failed to address, in its ER and its SSAR, whether the water supply in the drought-prone lower Guadalupe Basin area of the South Central Texas Regional Water Planning Area (Region L) is sufficiently dependable to comply with NRC's safety regulations in 10 C.F.R. Part 100, Appendix A.<sup>122</sup> Specifically, TSEP alleges there is no unappropriated (new) surface water right available that Exelon can seek.<sup>123</sup> TSEP explains that water use rights in the State of Texas are assigned according to the "prior appropriation doctrine," where "the oldest water right (the 'senior' right) has first call on available supplies."<sup>124</sup> Under this doctrine, "[i]f the water supplied to the VCS cooling system is an existing 'senior' water right, Exelon would have 'first call' on diverting the water during periods when the Guadalupe River flows are low."<sup>125</sup>

TSEP references its expert's report, as well as data from the South Texas Water Master, in claiming that Exelon both understates water usage in the area and fails to identify higher

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<sup>121</sup> Petition at 26; see also id. at 26-32; Exelon Answer at 28-32; NRC Staff Answer at 22-29; Reply at 24; Tr. at 88-108.

<sup>122</sup> Petition at 26-30. Exelon explains in its answer that the State of Texas has established Regional Water Planning Groups (RWPGs) that are required under Texas state law to plan for future water needs under drought conditions. As it further explains, "[t]he RWPG for the South Central Texas Regional Water Planning Area ("Region L") has prepared a water plan for the area encompassing VCS and the Guadalupe River, including a state-mandated, detailed analysis of projected water demands and supplies during a repeat of the drought of record (which occurred in 1950-57)." Exelon Answer at 37-38 (quoting ER at 2.3-121 to -131).

<sup>123</sup> Id. at 26-27. TSEP cites the ER at 2.3-134 in asserting that Exelon incorrectly states that unappropriated water remains available for new applications, further claiming that Exelon failed to identify appropriately two pending permit requests in the ESP application's discussion of obtaining new water rights in the basin. Id. at 29-30.

<sup>124</sup> Id. at 29 (citing ER at 5.2-10).

<sup>125</sup> Id.

reported usages in earlier years.<sup>126</sup> Because several water use permit applications are currently pending with the Texas Commission on Environmental Quality (TCEQ),<sup>127</sup> collectively seeking 264,484 acre feet per year (acft/yr) of surface water from the Guadalupe River, TSEP claims that these potential water users will have priority over any new water use permit that Exelon may seek to obtain.<sup>128</sup> TSEP maintains that all of these factors together create uncertainty as to whether Exelon will be able to obtain sufficient surface water at the VCS plant.<sup>129</sup> Therefore, TSEP argues that Exelon has not adequately addressed this issue in its application, as required by 10 C.F.R. Part 100, Appendix A, paragraph V(d)(3) and the NRC Regulatory Guide 4.7 (RG 4.7).<sup>130</sup>

More specifically, in SAFETY-4, TSEP challenges Exelon's statement that the cooling basin would contain enough water to support operation of the plant for several months during low flow periods.<sup>131</sup> TSEP also takes issue with Exelon's assumption that 70,000 acft/yr of return flow from San Antonio would be available during drought conditions. TSEP claims that,

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<sup>126</sup> Id. at 27, 29. TSEP cites the report of its expert, Joseph F. Trungale, P.E., (Trungale Report) in stating that data obtained from the South Texas Water Master shows that the reported water usage for one of GBRA's lower basin water rights (certificate of adjudication 18-5178) was actually higher than Exelon reported for all ten of the rights currently issued. Id. (citing id. Exh. E-1, Effect of Diversions from the Guadalupe River on San Antonio Bay and Estuary Health, Joseph F. Trungale, P.E., at 2-3 Table 1 (Jan. 20, 2011) [hereinafter Trungale Report]; see also id. Exh. E, Declaration of Joseph F. Trungale in Support of Texans for a Sound Energy Policy's Petition to Intervene and Contentions (Jan. 20, 2011); Exh. E-2, Curriculum Vitae of Joseph F. Trungale, P.E..

<sup>127</sup> As Exelon explains in its answer, the TCEQ is a governmental agency of the State of Texas, which analyzes requests for new water rights to use surface water in Texas. According to Exelon, the TCEQ "analyzes [requests for water use rights] with respect to water availability, effect on other water rights holders, and the impact on the environment." Exelon Answer at 37.

<sup>128</sup> Petition at 26-27.

<sup>129</sup> Id. at 27.

<sup>130</sup> See [RG 4.7], General Site Suitability Criteria for Nuclear Power Stations (Rev. 2, Apr. 1998) [hereinafter RG 4.7].

<sup>131</sup> Petition at 27-30.



to the contrary, any such water would have to be drawn from the Edwards Aquifer – groundwater that would be required to supply San Antonio’s water needs under drought conditions, and that would not be available for use at VCS.<sup>132</sup> By comparison, TSEP states that the alternative site in Matagorda County would use sea water from the Gulf of Mexico, which would eliminate the safety issues relating to water availability that are encompassed in SAFETY-4.<sup>133</sup>

TSEP also notes that of the sixty-four nuclear power plant sites in the United States, only twelve obtain cooling water from small rivers, and that the VCS would similarly obtain its cooling water from a small river (the Guadalupe River). However, TSEP argues, none of the twelve sites has a thermal capacity in the 7000 MWt range, far lower than the proposed VCS plant capacity of 9000 MWt.<sup>134</sup>

In SAFETY-4, TSEP makes a single general reference to Exelon’s SSAR in claiming that it misrepresents actual water usage,<sup>135</sup> but otherwise references various sections of Exelon’s ER and one of TSEP’s expert reports in support of its argument that Exelon has not adequately discussed the availability of water for use at the proposed VCS.<sup>136</sup> TSEP claims that the application fails to comply with 10 C.F.R. Part 100, Appendix A, paragraph V(d)(3), which provides that “[a]ssurance of adequate cooling water supply for emergency and long-term shutdown decay heat removal shall be considered in the design of the nuclear power plant.”<sup>137</sup>

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<sup>132</sup> Id. at 30.

<sup>133</sup> Id.

<sup>134</sup> Id. at 31.

<sup>135</sup> Id. at 26.

<sup>136</sup> See id. at 26-32.

<sup>137</sup> Id. at 27.

TSEP argues that Exelon has failed to comply with two provisions of RG 4.7.<sup>138</sup> First, TSEP asserts that Exelon has failed to show that a “highly dependable system of water supply sources [would be] available under postulated occurrences of natural and site-related accidental phenomena or combinations of such phenomena.”<sup>139</sup> Second, TSEP claims Exelon has failed to meet RG 4.7 because “[t]o evaluate the suitability of sites there should be reasonable assurance that permits for consumptive use of water in the quantities needed for a nuclear power plant . . . can be obtained by the applicant from the appropriate State, local or regional agency.”<sup>140</sup> TSEP claims in SAFETY-4 that Exelon has not shown that it can meet these requirements.

Exelon argues that SAFETY-4 is inadmissible for its failure to raise a genuine dispute over a material issue of law or fact, in contravention of 10 C.F.R. § 2.309(f)(1)(vi).<sup>141</sup> Exelon maintains that adequate safety protection is provided without the cooling basin and that the cooling basin is, therefore, not a safety-related structure.<sup>142</sup> Because Exelon claims that safety of the VCS is maintained without a water supply to the cooling basin, Exelon argues that SAFETY-4 fails to raise an admissible dispute with the SSAR regarding availability of water to the cooling basin.<sup>143</sup> Exelon argues further that SAFETY-4 fails to raise an admissible dispute because SAFETY-4 does not challenge or address SSAR Section 2.4.11, which discusses

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<sup>138</sup> RG 4.7 is a nonbinding agency guidance document that discusses compliance with 10 C.F.R. Part 100, Appendix A, paragraph V(d)(3).

<sup>139</sup> Petition at 27-28 (quoting RG 4.7 at 4.7-13).

<sup>140</sup> See id. (quoting RG 4.7 at 4.7-13).

<sup>141</sup> Exelon Answer at 28.

<sup>142</sup> Id. at 29.

<sup>143</sup> Id. at 29, 30.

potential low water conditions at the VCS.<sup>144</sup> Exelon claims that the ultimate heat sink (UHS) provides the source of cooling water needed to maintain plant safety and that it can function without makeup water from the cooling basin.<sup>145</sup> Under conditions of insufficient water supply to the UHS, Exelon explains that the plant shuts down to maintain safety.<sup>146</sup> For this reason, Exelon argues that the issue of water supply to the cooling basin has no bearing on maintaining safety of the plant.<sup>147</sup> Because SAFETY-4 does not challenge this discussion in SSAR 2.4.11, Exelon argues that SAFETY-4 is inadmissible for failing to state a genuine dispute of material fact with the SSAR.<sup>148</sup>

Similarly, the NRC Staff argues that SAFETY-4 fails to challenge any portion of the SSAR that discusses water supply and availability, and therefore it is inadmissible for failure to raise a genuine dispute with the application over a material issue of law or fact.<sup>149</sup> According to the NRC Staff, these sections explain why the cooling basin does not serve a safety function, and thus that low flow conditions in the cooling basin will have no effect on safety-related SSCs at the VCS.<sup>150</sup> The NRC Staff also argues that SAFETY-4 fails to explain how the cited support for SAFETY-4 indicates inadequacies in the SSAR regarding water availability and that SAFETY-4 thus fails to provide sufficient support in SAFETY-4, contrary to 10 C.F.R. § 2.309(f)(1)(v).<sup>151</sup>

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<sup>144</sup> Id.

<sup>145</sup> Id. at 30.

<sup>146</sup> Id. at 31.

<sup>147</sup> Id. at 31-32.

<sup>148</sup> Id. at 32.

<sup>149</sup> NRC Staff Answer at 23-25 (citing SSAR §§ 2.4.8.1, 2.4.11.6).

<sup>150</sup> Id. (citing SSAR at 2.4.8-5).

<sup>151</sup> Id. at 23, 25.

We agree with Exelon and the NRC Staff that SAFETY-4 fails to raise a genuine dispute with the application and so conclude that it is inadmissible. As Exelon states in its answer, low water considerations are discussed in SSAR Section 2.4.11, and the cooling basin, specifically, is discussed in SSAR Section 2.4.8. Exelon claims that “[t]he safety-related cooling functions for VCS, including the UHS [ultimate heat sink], do not rely upon river or stream flow rates or water levels.”<sup>152</sup>

SAFETY-4 nowhere challenges or even addresses the discussion or conclusions in these sections of the SSAR regarding low water availability conditions in the cooling basin at the VCS. In fact, SAFETY-4 makes only one general, non-specific reference to the SSAR, and otherwise cites to Exelon’s ER to support TSEP’s claim that safety implications of low water availability is insufficiently addressed in Exelon’s ESP application. For a contention to be admissible it “must include references to specific portions of the application . . . that the petitioner disputes and the supporting reasons for each dispute.”<sup>153</sup> SAFETY-4 does not provide specific references to relevant sections of the SSAR that address low water considerations, and it fails to explain how its supporting references might indicate an inadequacy in the SSAR regarding water availability to the VCS cooling basin.<sup>154</sup>

Although SAFETY-4 references RG 4.7 (a regulatory guidance document discussing reactor site criteria),<sup>155</sup> RG 4.7 is not a regulation. At most, it offers the NRC Staff’s opinion as

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<sup>152</sup> See Exelon Answer at 30 (quoting SSAR at 2.4.11-2). Exelon notes that mechanical draft cooling towers would be used for the UHS for non-passive reactor technologies, and that passive designs would rely on passive cooling mechanisms instead of an external UHS. Id. According to Exelon, neither of these systems would rely on the cooling basin for plant safety. Id.

<sup>153</sup> 10 C.F.R. § 2.309(f)(1)(vi).

<sup>154</sup> Petition at 27-32 (citing RG 4.7 at 4.7-13, Trungale Report at 2-3, tbl. 1, Region L 2011 Water Plan; JCHA Summary at 14, 18-19; JCHA Report at 66).

<sup>155</sup> See RG 4.7.

to what will satisfy 10 C.F.R. Part 100, but it does not itself impose legal requirements on license or permit applicants.<sup>156</sup> In addition, while SAFETY-4 references the report of TSEP's expert, Joseph F. Trungale, P.E.,<sup>157</sup> (Trungale Report) to show that Exelon's ER misstates actual water use in the lower Guadalupe River basin, it nowhere attempts to explain how the environmental review portion of Exelon's ESP application indicates an insufficiency in its safety review (the SSAR).<sup>158</sup> Finally, SAFETY-4 does not attempt to explain how increased demand for water or comparison to other nuclear power plants indicates an insufficiency with the SSAR regarding low water considerations.<sup>159</sup>

For these reasons, we conclude that SAFETY-4 fails to establish a genuine dispute with the SSAR, contrary to 10 C.F.R. § 2.309(f)(1)(vi), and is therefore inadmissible.

### 3. Environmental Contentions

#### a. TSEP-ENV-1: IMPACTS FROM ENHANCED COOLING BASIN SEEPAGE

CONTENTION: The ER fails to satisfy 10 C.F.R. § 51.45 because it understates and does not rigorously evaluate the environmental impacts of enhanced seepage of fluids and contaminants out of the cooling pond into oil and gas wells and borings beneath the VCS site. Exelon's ER does not identify how it will prevent or mitigate this impact by identifying and plugging the wells and borings.<sup>160</sup>

In environmental contention TSEP-ENV-1 (ENV-1), TSEP claims that the ER's discussion of environmental effects and cumulative impacts of seepage from the cooling basin

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<sup>156</sup> See American Centrifuge, LBP-07-6, 65 NRC at 440 n.31; see also New Jersey v. NRC, 526 F.3d at 102; Private Fuel Storage, LBP-03-8, 57 NRC at 320; c.f. Private Fuel Storage, CLI-02-25, 56 NRC at 348 n.22; Louisiana Energy Services, L.P., LBP-91-41, 34 NRC at 339; see generally Methow Valley, 490 U.S. at 334, 355-56.

<sup>157</sup> Petition at 29, 31, 32 (citing Trungale Report at 2-3 tbl. 1).

<sup>158</sup> Id.

<sup>159</sup> See id. at 30, 31 (citing JCHA Summary at 14, 18-19; JCHA Report at 66).

<sup>160</sup> Id. at 34; see also id. at 34-36; Exelon Answer at 32-37; NRC Staff Answer at 29-34; Reply at 25; Tr. at 108-31.

into groundwater and surface water through undocumented or unplugged oil and gas wells and borings fails to comply with the requirements of 10 C.F.R. § 51.45(b) and (c).<sup>161</sup> TSEP insists that these wells and borings could pose a danger of enhanced seepage of contaminants and other fluids out of the proposed VCS cooling basin and into the groundwater.<sup>162</sup> Specifically, TSEP claims that tritium and other water treatment chemicals may seep out of the cooling basin at an enhanced rate because of the nature and location of these wells and borings, which act as additional conduits for groundwater contamination.<sup>163</sup> TSEP acknowledges that both the SSAR and the ER discuss the estimated six million gallons per day of water seepage from the cooling basin.<sup>164</sup> Still, TSEP insists that Exelon fails to provide an adequate account of the potential environmental impacts from enhanced seepage and movement of water due to the wells and borings located within the footprint of the cooling basin.<sup>165</sup>

According to TSEP, it is not enough that Exelon's SSAR and ER represent that Exelon will locate and plug these wells and borings in accordance with the applicable state regulations.<sup>166</sup> Rather, TSEP maintains that Exelon must provide additional information detailing how it will locate and plug these wells.<sup>167</sup> TSEP acknowledges the SSAR's reference to state regulations for water wells, but notes that it does not reference specifically the proper regulations for plugging oil and gas wells.<sup>168</sup> TSEP claims that onsite wells and borings could

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<sup>161</sup> Petition at 34.

<sup>162</sup> Id.

<sup>163</sup> Id. at 34, 35.

<sup>164</sup> Id. at 35.

<sup>165</sup> Id. at 35.

<sup>166</sup> Id. (citing JCHA Report at 79).

<sup>167</sup> Id.

<sup>168</sup> Id.

serve as pathways for harmful chemicals to seep into freshwater aquifers, which could affect drinking water quality and overall ecosystem health.<sup>169</sup> TSEP asserts that Exelon must perform a more rigorous investigation and evaluation in its ER of the number and scope of oil and gas wells within the footprint of the cooling basin that could result in groundwater contamination.<sup>170</sup>

Both Exelon and the NRC Staff argue that ENV-1 is not admissible because it fails to provide adequate support and fails to raise a genuine dispute with the application regarding a material issue of fact or law, contrary to 10 C.F.R. § 2.309(f)(1)(v) and (vi).<sup>171</sup> Exelon argues that it addresses the possibility of increased seepage at oil and gas wells and borings and discusses how it will abandon such wells in accordance with applicable Texas law in ER Sections 4.2.3.2, 7.2.3.3, and 3.9.1.2.<sup>172</sup> Exelon argues further that TSEP does not provide legal authority that would obligate Exelon to provide a more detailed discussion than is contained in these sections of the ER, and that “boards do not sit to ‘flyspeck’ environmental documents or to add details or nuances.”<sup>173</sup> Still further, Exelon alleges that ENV-1 impermissibly assumes that Exelon will violate applicable Texas law regarding its treatment of wells at the VCS site.<sup>174</sup> Exelon also maintains that TSEP provides insufficient support for ENV-1 with regard to seepage of radioactive materials.<sup>175</sup> Exelon claims to have explained

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<sup>169</sup> Id. at 35-36.

<sup>170</sup> Id. at 36.

<sup>171</sup> See Exelon Answer at 32; NRC Staff Answer at 29.

<sup>172</sup> Exelon Answer at 33-34, 35 (citing ER at 4.2-12, 3.9-3, 4.1-3; ER § 7.2.3.3).

<sup>173</sup> Id. at 34 (quoting Sys. Energy Res., Inc. (Early Site Permit for Grand Gulf ESP Site), CLI-05-4, 61 NRC 10, 13 (2005)) (internal quotation marks omitted).

<sup>174</sup> Id. (citing Private Fuel Storage, L.L.C. (Independent Spent Fuel Storage Installation), CLI-01-9, 53 NRC 232, 235 (2001)).

<sup>175</sup> Id. at 34-35.

sufficiently in its ER at 3.5-1 and 5.4-1 that any radioactive material, such as tritium, is discharged to the plant's liquid waste management system (LWMS), rather than to the cooling basin.<sup>176</sup> Even if radioactive materials were to leak to groundwater, Exelon cites its discussion in ER Section 7.2 that those releases would be less than effluent concentration limits (ECL) listed in 10 C.F.R. Part 20, Appendix B, Table 2, Column 2.<sup>177</sup> Exelon claims that ENV-1 is inadmissible for its failure to dispute these sections of its ER and for its failure to provide sufficient support for its claims.<sup>178</sup>

Exelon also claims that ENV-1 consists of “bare assertions and speculation” with regard to seepage of environmentally harmful water treatment chemicals, and as a result, ENV-1 fails to comply with 10 C.F.R. § 2.309(f)(1)(v).<sup>179</sup> Exelon states that it discussed water treatment chemicals and other effluents in ER Sections 3.3.2 and 3.6.1, that any discharges to groundwater or to the Guadalupe River would be subject to state water quality standards, and that any related impacts would be “SMALL.”<sup>180</sup> Because ENV-1 fails to controvert any of these sections of the ER, Exelon argues that it is inadmissible.

The NRC Staff also argues that ENV-1 fails to controvert directly relevant sections of the ER discussing the potential for seepage,<sup>181</sup> and that ENV-1 otherwise fails to allege why enhanced seepage, beyond that discussed in the ER, is reasonably foreseeable, i.e., required

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<sup>176</sup> Id.

<sup>177</sup> Id.

<sup>178</sup> Id.

<sup>179</sup> Id. (quoting Fansteel, CLI-03-13, 58 NRC at 203).

<sup>180</sup> Id. at 36 (citing ER §§ 5.2.3.1, 6.6.3.2, 5.3.2.2.2, 5.2.1.2.2).

<sup>181</sup> NRC Staff Answer at 29-31 (citing ER §§ 5.2.1.2.2.1, 5.2.1.2.1, 4.2.1.1.4, 3.9.1.2, 4.1.1.1, 4.2.3.2).



subject matter for the ER's environmental impacts analysis.<sup>182</sup> The NRC Staff also argues that ENV-1 fails to explain sufficiently the documentation it cites as support for its claims, contrary to 10 C.F.R. § 2.309(f)(1)(v).

We conclude that ENV-1 is admissible. First, ENV-1 presents "a specific statement of the issue of law or fact to be raised or controverted," as required by 10 C.F.R. § 2.309(f)(1)(i). Specifically, ENV-1 alleges that Exelon's ER fails to provide an adequate impacts analysis, as required by 10 C.F.R. § 51.45, regarding undocumented, improperly plugged, or unplugged wells beneath the VCS site that could serve as conduits for enhanced seepage of fluids and contaminants from the cooling pond into groundwater or surface water. ENV-1 also alleges that Exelon's explanation of how it will prevent and/or mitigate these impacts is deficient under the regulations.

Second, TSEP provides a brief explanation of the basis for ENV-1, by stating that undocumented or improperly plugged and abandoned oil and gas wells and borings beneath the VCS site could act as conduits for contaminated water to seep from the cooling basin into groundwater. TSEP further explains that Exelon's ER improperly fails to discuss the resulting impacts to groundwater from enhanced seepage of fluids and contaminants at unidentified or improperly plugged wells and borings at the VCS site.

Third, ENV-1 is within the scope of this proceeding, as required by 10 C.F.R. § 2.309(f)(1)(iii) by challenging the ER, which is a required portion of Exelon's ESP application pursuant to 10 C.F.R. Part 51.

Fourth, ENV-1 meets the materiality requirement of 10 C.F.R. § 2.309(f)(1)(iv). Under 10 C.F.R. § 51.45(b)(1) and (2), Exelon must describe in its ER (1) reasonably foreseeable environmental impacts, which shall be discussed in proportion to their significance; and (2) adverse environmental effects that cannot be avoided should the proposal be implemented. In

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<sup>182</sup> Id. at 30 (citing Duke Energy Corp. (McGuire Nuclear Station, Units 1 and 2; Catawba Nuclear Station, Units 1 and 2), CLI-03-17, 58 NRC 419, 431 (2003)).

ENV-1, TSEP alleges that “Exelon has not rigorously investigated or evaluated the number or scope of oil and gas wells within the footprint of the cooling basin that could result in tritium seepage and groundwater contamination,” and that a mere promise to follow applicable regulations in capping and abandoning active and inactive oil and gas wells in the footprint of the cooling basin and plant is insufficient to satisfy the NRC’s regulations in 10 C.F.R.

§ 51.45.<sup>183</sup>

Exelon discusses its intentions to cap or to abandon active and inactive oil and gas wells within the footprint of the cooling basin, in accordance with applicable state regulations, for the purpose of “prevent[ing] the water and inactive oil and gas wells from acting as conduits to the underlying aquifers.”<sup>184</sup> Given that Exelon itself discusses the potential for these wells to act as conduits for fluid transfer to the aquifer, it is hardly unreasonable to anticipate that unidentified or improperly capped and abandoned wells or borings could produce adverse impacts on groundwater.<sup>185</sup>

Fifth, ENV-1 provides alleged facts or expert opinions as required by 10 C.F.R. § 2.309(f)(1)(v) to support TSEP’s claims that Exelon provides an inadequate analysis of the impacts and mitigation of enhanced seepage into groundwater of fluids from the cooling pond due to the presence of unidentified or abandoned oil and gas wells and borings beneath the VCS site. In support of its allegations in ENV-1, TSEP attaches and references the report of its expert (the JCHA Report at 79-81). Further, as mentioned above, Exelon itself acknowledges

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<sup>183</sup> Petition at 36; Tr. at 110-11.

<sup>184</sup> Exelon Answer at 33 (quoting ER at 4.2-12).

<sup>185</sup> We take it as a given that Exelon intends to comply with state law. See U.S. Army Installation Command, (Schofield Barracks, Oahu, Hawaii, and Pohakuloa Training Area, Island of Hawaii, Hawaii), CLI-10-20, 72 NRC \_\_, \_\_ (slip op. at 10) (Aug. 12, 2010) (citing Private Fuel Storage, L.L.C., CLI-01-9, 53 NRC at 235); Crow Butte Resources, Inc. (North Trend Expansion Area), CLI-09-12, 69 NRC 535, 569 (2009). However, this assumption does not eliminate the need to address the environmental impacts of such actions as required by NEPA.

the possibility that fluids could migrate from the cooling pond through wells and into the groundwater. This documentation is sufficient at the contention admissibility stage to support TSEP's claims in ENV-1. Accordingly, TSEP has provided in ENV-1 "a concise statement of the alleged facts . . . which support [its] position on the issue" along with specific references to "sources and documents on which" it purports "to rely to support its position on the issue."<sup>186</sup>

Finally, ENV-1 demonstrates a genuine dispute with the application on a material issue of law or fact, as required by 10 C.F.R. § 2.309(f)(1)(vi). ENV-1 is based on the premise, recognized by Exelon in its ER, that fluids and contaminants might seep from the cooling basin into groundwater through oil and gas wells located on the VCS site.<sup>187</sup> TSEP has shown a dispute of law regarding whether Exelon's discussion of impacts from potential seepage through these well conduits is sufficient under the NRC's environmental regulations in 10 C.F.R. § 51.45. Exelon asserts that any discharges of chemicals and other effluents from the VCS cooling basin to groundwater or surface water would nonetheless remain within limits stated in 10 C.F.R. Part 20, Appendix B, Table 2, Column 2.<sup>188</sup> Exelon and the NRC Staff both argue that any environmental impacts resulting from such discharge would be "SMALL," and that TSEP has failed to challenge the discussion of this issue in the ER.<sup>189</sup>

These arguments do not address the main focus of TSEP's claims in ENV-1, which is that the ER fails to address adequately the enhanced environmental impacts posed by undocumented or unplugged wells at the VCS site, much less how Exelon will mitigate these potentially enhanced impacts. At the contention admissibility stage of this proceeding, we decline to rule on the merits of this issue of whether the relevant sections of the ER discussing

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<sup>186</sup> 10 C.F.R. § 2.309(f)(1)(v).

<sup>187</sup> See Exelon Answer at 33 (quoting ER at 4.2-12).

<sup>188</sup> Id. at 35.

<sup>189</sup> Id. at 36-37; NRC Staff Answer at 29-30.

oil and gas wells and borings, state regulations, and 10 C.F.R. Part 20 satisfy 10 C.F.R.

§ 51.45. We conclude that TSEP has satisfied the admissibility criteria of 10 C.F.R.

§ 2.309(f)(1) for ENV-1, and we therefore admit contention ENV-1.

b. TSEP-ENV-2: IMPACTS OF LIMITED WATER AVAILABILITY

CONTENTION: The ER fails to provide an adequate evaluation of the environmental impacts of severe limits on water availability in the region of the VCS site.<sup>190</sup>

In environmental contention TSEP-ENV-2 (ENV-2), TSEP alleges that the ER's analysis of environmental impacts and alternatives relating to water availability in the region of the VCS is inadequate under the applicable NRC regulations. TSEP claims that Exelon's ER bases its evaluation of water availability on lower-than-actual water usage for the lower basin water rights held by the Guadalupe-Blanco River Authority (GBRA) in the region of the VCS.<sup>191</sup> Specifically, TSEP claims that Exelon understates water usage in this region during the 2000-2006 time period and fails to account for greater usage in earlier years.<sup>192</sup> TSEP further claims that Exelon does not account for pending water permit applications that will, if issued, take priority over, and reduce the water available for, any new permit application from Exelon.<sup>193</sup> TSEP also claims that Texas water law would impose minimum flow requirements on any newly granted permit right,<sup>194</sup> and insists that Exelon does not consider the actual amount of water available during

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<sup>190</sup> Petition at 36; see also id. at 36-42; Exelon Answer at 37-47; NRC Staff Answer at 34-39; Reply at 25-34; Tr. at 131-43.

<sup>191</sup> Petition at 36.

<sup>192</sup> Id. at 37.

<sup>193</sup> Id.

<sup>194</sup> Id. at 37, 39.

drought and other conditions, which makes long term availability of surface water for the proposed VCS uncertain.<sup>195</sup>

TSEP draws attention in ENV-2 to various portions of the ER in which Exelon discusses its plans to obtain water from the Guadalupe River for the VCS raw water makeup system.<sup>196</sup> After noting that the VCS is located in Region L, TSEP argues that Exelon erroneously bases its analysis of available water for the proposed VCS, and potential impacts of that water use, on the 2006 Region L Plan.<sup>197</sup> TSEP also reiterates Exelon's discussion of the options that would be available at the COL licensing stage for obtaining water use rights, which include: (1) securing existing water rights via contract with an existing water rights holder, (2) securing existing water rights by obtaining ownership of existing rights, or (3) obtaining ownership of a new right to withdraw water from the Guadalupe River.<sup>198</sup>

TSEP further claims that there is no unappropriated<sup>199</sup> water right available to Exelon for the VCS property and that, as a consequence, only previously-permitted water rights held by GBRA and Union Carbide Corporation (UCC), or singularly by GBRA, are available to Exelon for the proposed VCS plant.<sup>200</sup> TSEP cites the report of one of its experts (Trungale Report) in claiming that there is reliable data indicating greater reported water usage in one of the GBRA lower basin water rights than Exelon reports in the ER.<sup>201</sup> TSEP asserts the increasing

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<sup>195</sup> Id. at 36-37.

<sup>196</sup> Id. at 38.

<sup>197</sup> Id.

<sup>198</sup> Id.

<sup>199</sup> See supra notes 101 & 102 and accompanying text.

<sup>200</sup> Petition at 38.

<sup>201</sup> Id. at 39.

demands on water in the lower basin, as well as the drought-prone conditions in the area, will strain surface and groundwater resources.<sup>202</sup>

Upon reviewing information for the sixty-four nuclear power reactor sites in the United States, TSEP notes that only twelve of these sites obtain cooling water from small rivers. Of these twelve sites, eight have total thermal requirements less than 5000 MWt, and four have thermal requirements in the 7000 MWt range. TSEP notes that the proposed VCS site would have a thermal capacity of 9000 MWt, which would make it the largest plant on a small river (Guadalupe River) in the United States.<sup>203</sup>

Exelon argues that ENV-2 is inadmissible because it is not material to a finding that the NRC must make under NEPA and fails to raise a genuine dispute with the ER on an issue of material fact.<sup>204</sup> The NRC Staff also opposes the admissibility of the contention, claiming that the issues TSEP raises in ENV-2 are not material to the findings the NRC must make, that ENV-2 fails to provide a concise statement of the alleged facts or expert opinions to support TSEP's position, and that the contention fails to show a genuine dispute with the application, contrary to 10 C.F.R. § 2.309(iv) through (vi).<sup>205</sup>

For the reasons we explain below, we conclude that ENV-2 is inadmissible. TSEP provides three main allegations in ENV-2: (1) new water rights will not be available for the VCS project; (2) GBRA's existing water rights would not be sufficient to supply VCS, given the actual water use under those rights; and (3) Exelon's evaluations have not accounted for the effect of droughts. Regarding the first allegation, TSEP misinterprets the ER's discussion of the

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<sup>202</sup> Id. at 39-40.

<sup>203</sup> Id. at 40-41.

<sup>204</sup> Exelon Answer at 37.

<sup>205</sup> NRC Staff Answer at 35.

availability of new water rights for use at the VCS, which Exelon clarifies in its answer.<sup>206</sup>

Exelon notes the discussion on page 5.2-12 of its ER, which explains Exelon's plans to obtain water at the COL stage, by contracting with one or more new water rights holders, in addition to, or in lieu of, contracting with more senior water rights holders.<sup>207</sup> Further countering TSEP's claims concerning availability of new water rights, Exelon notes, is ER Section 5.11, which discusses the impacts of the pending GBRA water rights permits on water use and which it concludes will be "SMALL."<sup>208</sup> Because TSEP fails to contradict these statements specifically, it has failed to show a genuine dispute with the ER, in contravention of 10 C.F.R. § 2.309(f)(1)(vi).

Regarding the second allegation in ENV-2, as Exelon and the NRC Staff note, TSEP misstates data from its own expert report (Trungale Report, Petition Exhibit E-1) and otherwise fails to allege a material difference between the data in that expert report versus data in the ER.<sup>209</sup> For water use in 2000, TSEP misquotes the report's water use value as 70,544; to the contrary, the Trungale Report states that value to be 47,046 acre-feet.<sup>210</sup> Furthermore, the ER states water use for that year as a more-conservative 49,930 acre-feet, and for 2001, the Trungale Report states 58,526 acre-feet of water use, as compared to the value of 51,670 acre-feet that Exelon reports in its ER at page 2.3-133.<sup>211</sup> Accordingly, ENV-2 fails to allege a material difference between these two values for water use on the existing GBRA water permits for 2001, considering the ER's statement that a sufficient amount of water – over 115,000 acre-

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<sup>206</sup> Exelon Answer at 43 (citing Trungale Report at 3; ER at 2.3-133, -134, -157).

<sup>207</sup> Id. at 39.

<sup>208</sup> Id. at 40.

<sup>209</sup> Id. at 43; NRC Staff Answer at 38.

<sup>210</sup> Exelon Answer at 43 (citing Trungale Report at 3; ER at 2.3-133, -134, -157).

<sup>211</sup> Id.

feet – remained available for other users that year.<sup>212</sup> For these reasons, TSEP has not properly pleaded in ENV-2 that the 75,000 acre-feet per year of water the VCS would need to operate is unavailable under the existing GBRA permits. This aspect of ENV-2 accordingly fails to demonstrate a genuine dispute of material fact with the ER regarding past water usage under the existing GBRA water rights, contrary to 10 C.F.R. § 2.309(f)(1)(vi).

Lastly, concerning the third allegation in ENV-2 – that the ER fails to address sufficiently the impact of drought conditions on water available to the VCS – TSEP fails to address or controvert the sections of the ER that discuss this issue. Exelon describes water budget modeling information in Section 3.4.3.2 of its ER, which considers surface and groundwater supply available during the “drought of record,” and the water availability analysis information derived from the Region L Water Plan. ENV-2 does not address or controvert this analysis or its conclusions. For a contention to be admissible, it must dispute specific portions of the application and must state the supporting reasons for each dispute.<sup>213</sup> This aspect of ENV-2 is also, therefore, inadmissible for failure to show a genuine dispute with the ER regarding a material issue of fact, as required under 10 C.F.R. § 2.309(f)(1)(vi).

Accordingly, ENV-2 is inadmissible.

#### c. TSEP-ENV-3: IMPACTS ON REGIONAL WATER AVAILABILITY

CONTENTION: The ER fails to satisfy 10 C.F.R. §§ 51.50 & 51.45 because it does not evaluate the impacts on regional water availability. In order to provide water for Exelon, other water supply projects must be developed or changed in the region to satisfy other demands.<sup>214</sup>

In environmental contention TSEP-ENV-3 (ENV-3), TSEP claims that Exelon’s ER does not properly evaluate the impacts of VCS water usage on the water that would remain available

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<sup>212</sup> Id.; NRC Staff Answer at 38.

<sup>213</sup> See 10 C.F.R. § 2.309(f)(1)(vi).

<sup>214</sup> Petition at 42; see also id. at 42-47; Exelon Answer at 47-51; NRC Staff Answer at 39-44; Reply at 34-37; Tr. at 143-64.



to satisfy the demands of other water users in the region.<sup>215</sup> TSEP further claims the amount of water that VCS plans to use could not be met with existing water supply plans, but rather would require that additional water supply projects be developed to satisfy the VCS water needs.<sup>216</sup> TSEP describes the region surrounding the VCS site in the Guadalupe and San Antonio River Basin as a drought-prone area where population growth continues to place increasing demands on water resources.<sup>217</sup>

As it argues in support of ENV-2, TSEP asserts in ENV-3 that no unappropriated water remains available to Exelon from the Guadalupe River for a new water use permit, and that Exelon “does not identify any particular existing permit that it might purchase or contract.”<sup>218</sup> TSEP notes that Exelon does not mention in its ESP application its “Reservation Agreement” with GBRA – discussed in Exelon’s previously-withdrawn COL application for the VCS – that would provide up to 75,000 acft/yr of water for use at the proposed VCS from one of GBRA’s existing permits.<sup>219</sup> TSEP notes further that, while Exelon’s ESP application nowhere identifies this ongoing agreement, it “instead discusses in detail the diversion point and raw water makeup intake system as being at the same location as already authorized for the GBRA/UCC rights.”<sup>220</sup> TSEP asserts that the 2011 Region L Water Plan identifies the otherwise unused portion of this

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<sup>215</sup> Petition at 42.

<sup>216</sup> Id.

<sup>217</sup> Id. at 42, 43 (citing 10 C.F.R. § 51.45(c)).

<sup>218</sup> Id. at 43.

<sup>219</sup> Id. at 43-44; see Exelon Answer at 2 n.4. Exelon explains that it requested withdrawal of its COL application for VCS Units 1 and 2 concurrently with the submission of its ESP application. Id. The Commission granted Exelon’s withdrawal request on July 20, 2010. Id.; Exelon Generation Company, LLC; Victoria County Station, Units 1 and 2; Notice of Withdrawal of Application for a Combined License, 75 Fed. Reg. 43,579, 43,579 (July 26, 2010). Exelon states that it “has not resubmitted, or even decided whether to resubmit, an application to construct and operate a nuclear plant at the VCS site.” Exelon Answer at 2 n.4.

<sup>220</sup> Petition at 44.

GBRA water right as potentially available for pipeline transmission to a different part of the basin—which would make it unavailable to supply the needs of VCS or any other use in this part of the basin.<sup>221</sup>

TSEP asserts that the VCS's use of water under the GBRA permit would deprive other projects in the region of water that would otherwise be available under the GBRA permit, and that Exelon's ER inadequately covers the resulting impacts of such deprivation of water for other users.<sup>222</sup> TSEP lists other potential water users – including long-term contract sales to municipalities, farmers, and other industrial users, as well as to other unspecified long term water planning projects – which TSEP claims would need to obtain other water sources were VCS to secure water use under the GBRA permit.<sup>223</sup>

TSEP alleges that, in order to replace the available water it committed to VCS, GBRA has proposed new surface water rights on the Guadalupe River and the use of groundwater that, TSEP claims, will adversely impact surface water flows in the Guadalupe and San Antonio River basins.<sup>224</sup> TSEP further claims that Exelon's ER has not adequately addressed these environmental impacts.<sup>225</sup> TSEP argues that the ER inappropriately relies on the 2011 Regional Water Plan and water availability models, neither of which adequately analyzes the regional water availability impacts of GBRA committing 75,000 acft/yr to the VCS.<sup>226</sup> TSEP argues that this commitment of water resources to the VCS will require GBRA to look elsewhere in order to

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<sup>221</sup> Id. at 45.

<sup>222</sup> Id.

<sup>223</sup> Id. at 44, 45.

<sup>224</sup> Id. at 45.

<sup>225</sup> Id. at 46.

<sup>226</sup> Id.

satisfy future water demands of other users in the basin.<sup>227</sup> TSEP insists that, under 10 C.F.R. Part 51 and NEPA, Exelon's ER must describe with greater precision the additional water availability projects identified in the 2011 Regional Water Plan that TSEP claims would be indirect effects of supplying this water to VCS.<sup>228</sup>

Both Exelon and the NRC Staff argue that ENV-3 is inadmissible for its failure to raise a genuine dispute with the ER regarding a material issue of fact, contrary to 10 C.F.R.

§ 2.309(f)(1)(vi).<sup>229</sup> In addition, the NRC Staff claims that TSEP fails to provide adequate support for its position in ENV-3, contrary to 10 C.F.R. § 2.309(f)(1)(v).<sup>230</sup>

We agree that ENV-3 is inadmissible for failing to demonstrate a genuine dispute with the application. Contrary to TSEP's claims, ER Section 5.11.2 discusses cumulative impacts relating to proposed water withdrawals from the Guadalupe River basin for use at the VCS, and TSEP fails to dispute this evaluation or its conclusions.<sup>231</sup> TSEP also does not provide adequate support for its claims that the VCS's potential use of the GBRA water rights is itself the direct or indirect cause of GBRA's development of other water supply projects in the Region L Water Plan.

TSEP cites to its expert report to support its assertion that Exelon's ER fails to "demonstrate[] an understanding that removal of groundwater will reduce the amount of water available for surface flows and thus the amount of water available for diversion."<sup>232</sup> However, the portions of the JCHA report that TSEP cites, like ENV-3 itself, fail to take issue with relevant

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<sup>227</sup> Id. at 46-47.

<sup>228</sup> Id. at 47.

<sup>229</sup> Exelon Answer at 47; NRC Staff Answer at 39.

<sup>230</sup> NRC Staff Answer at 39, 43.

<sup>231</sup> Id. at 40 (citing ER § 5.11 at 5.11-3 to -5).

<sup>232</sup> Petition at 46 (citing Petition Exh. D-2, JCHA Report at 67).

sections of the ER that address water availability and the GBRA water supply projects, and fails to do more than restate the assertions of the contention itself.<sup>233</sup> Without more, TSEP, and its experts, fail to show how TSEP's claims in ENV-3 are anything more than speculation.

As such, TSEP fails to show a genuine dispute with the ER on this issue, contrary to 10 C.F.R. § 2.309(f)(1)(vi), and ENV-3 is therefore inadmissible.

d. TSEP-ENV-4: IMPACTS ON LONG-TERM WATER AVAILABILITY

CONTENTION: The ER fails to satisfy 10 C.F.R. §§ 51.50 & 51.45 because it does not evaluate the impacts on long-term water availability. In order to provide water for Exelon, other water supply projects must be developed or changed to satisfy other demands. Because the ESP has a life span of twenty to forty years, water availability over that long-term period must be fully evaluated. The ER does not describe or evaluate the long-term impacts on water availability.<sup>234</sup>

In environmental contention TSEP-ENV-4 (ENV-4), TSEP claims that the ER's evaluation of impacts on long-term water availability, for the entire twenty to forty year lifetime of the proposed ESP, is inadequate under 10 C.F.R. §§ 51.45 and 51.50.<sup>235</sup> TSEP claims that the Guadalupe and San Antonio River Basin is one of the most drought-prone areas of Texas,<sup>236</sup> and that a growing population in this area places increasing demands on regional water resources. TSEP incorporates for ENV-4 the same supporting facts and opinions that it states for contention ENV-3.<sup>237</sup>

As it does for ENV-3, TSEP claims in ENV-4 that the ER inaccurately recounts water availability conditions in the Guadalupe River basin. In ENV-4, however, TSEP refers to this

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<sup>233</sup> Id. (citing JCHA Report at 64-67).

<sup>234</sup> Petition at 47; see also id. at 47-49; Exelon Answer at 51-53; NRC Staff Answer at 45-48; Reply at 37-38; Tr. at 164-68.

<sup>235</sup> Petition at 47.

<sup>236</sup> Id. at 47.

<sup>237</sup> Id. at 48.

deficiency as an “omission,” claiming that Exelon does not analyze future water availability over the entire lifetime of the proposed ESP, let alone the lifetime of the plant.<sup>238</sup>

Given that an ESP is valid for twenty to forty years from the date of issuance, ENV-4 alleges that the ER must analyze future water availability over the potential lifetime of the ESP.<sup>239</sup> With regard to long-term water availability impacts, TSEP alleges that VCS water use will necessitate implementation of water supply projects other than those described in the 2011 Regional Water Plan.<sup>240</sup> TSEP claims that the VCS would need to use groundwater to meet its water use needs which, in turn, will reduce the amount of water available for surface flows in the Guadalupe River.<sup>241</sup> TSEP maintains that Exelon’s ER fails to address the environmental impacts that will result from the altered flow conditions from groundwater use at the VCS over the lifetime of the ESP.<sup>242</sup> Even though the 2011 Regional Water Plan lists only potential water projects, TSEP claims that five of the projects mentioned in the 2011 Regional Water Plan must be described as indirect effects in Exelon’s ER. TSEP argues that, for this reason, Exelon must describe or evaluate water availability over the twenty to forty-year life span of the ESP.<sup>243</sup>

Exelon and the NRC Staff argue that ENV-4 is inadmissible because it fails to demonstrate a genuine dispute with the application on a material issue of law or fact.<sup>244</sup> The NRC Staff also argues that ENV-4 is inadmissible for its failure to provide sufficient support.<sup>245</sup>

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<sup>238</sup> Id.

<sup>239</sup> Id. at 48; see also id. at 45 (citing 10 C.F.R. §§ 52.23(a), 52.33).

<sup>240</sup> Id. at 48.

<sup>241</sup> Id.

<sup>242</sup> Id. at 48-49.

<sup>243</sup> Id. at 49.

<sup>244</sup> Exelon Answer at 52; NRC Staff Answer at 45-46.

<sup>245</sup> NRC Staff Answer at 47.

We conclude that ENV-4 is inadmissible. In Section 5.11 of its ER, Exelon discusses both cumulative impacts of future water projects in the GBRA lower basin and water availability in this region through the year 2060.<sup>246</sup> This contradicts TSEP's assertion that Exelon "does not even begin to analyze future water availability over the potential lifetime of the ESP, let alone the lifetime of the plant."<sup>247</sup> Exelon concludes in this section of its ER that cumulative impacts related to the proposed withdrawals for the VCS cooling basin and LGWSP are expected to be "SMALL."<sup>248</sup> Exelon also addresses the Region L Water Plan water supply projects.<sup>249</sup> Consequently, TSEP is in error in asserting that the ER fails to discuss impacts on water availability in the region resulting from future water supply projects that are "a direct consequence of GBRA committing 75,000 acft/yr to VCS and needing to replace it to satisfy the future demands elsewhere."<sup>250</sup>

TSEP fails to explain or to provide support that might indicate how this cumulative impacts discussion is insufficient, or why Exelon's conclusions in this section of its ER are incorrect. TSEP has neglected to challenge the cumulative impacts section of Exelon's ER, which discusses long term water availability in the region of the VCS site through the year 2060, and fails to provide sufficient support for its claims that the ER omits an analysis of long term water availability.

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<sup>246</sup> Exelon Answer at 52-53 (citing ER § 5.11).

<sup>247</sup> Petition at 48.

<sup>248</sup> Exelon Answer at 52-53 (citing ER at 5.11-1).

<sup>249</sup> Id.

<sup>250</sup> Petition at 49.

ENV-4 therefore fails to demonstrate a genuine dispute with the ER and fails to provide sufficient support for TSEP's claims in ENV-4. For these reasons, we conclude that ENV-4 is inadmissible.

e. TSEP-ENV-5: POTENTIAL FEDERAL RESERVED WATER RIGHT FOR THE ARANSAS NATIONAL WILDLIFE REFUGE

CONTENTION: The ER fails to document the potential federal reserved water right mandating freshwater inflow requirements for the Aransas National Wildlife Refuge. The Federal Government may invoke this right to protect the endangered Whooping Crane, which would preclude further use of the waters of the Guadalupe River.<sup>251</sup>

In environmental contention TSEP-ENV-5 (ENV-5), TSEP claims that Exelon's ER improperly fails to document the possibility that the Federal Government might invoke its "implied" right to mandate freshwater inflow from the Guadalupe River for the Aransas National Wildlife Refuge (ANWR) to protect the endangered Whooping Crane.<sup>252</sup> TSEP claims that the ER must consider this potential water right because it would reserve the same water from the Guadalupe River that the VCS would otherwise use for operation.<sup>253</sup> TSEP maintains that San Antonio Bay and the ANWR are home to the last natural flock of endangered and federally-protected Whooping Cranes.<sup>254</sup> TSEP asserts that reduced freshwater inflows due to drought have caused an increase in bay salinity and food shortages, resulting in the death of a significant number of cranes in the ANWR.<sup>255</sup>

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<sup>251</sup> Id. at 49; see also id. at 49-52; Exelon Answer at 53-59; NRC Staff Answer at 48-52; Reply at 38-39; Tr. at 168-73.

<sup>252</sup> Petition at 49-50.

<sup>253</sup> Id.

<sup>254</sup> Id. at 51.

<sup>255</sup> Id.

Citing the reserved water rights doctrine established in Winters v. United States,<sup>256</sup> TSEP argues that the Federal Government's reservation of the ANWR is an implicit reservation of the minimum quantity of unappropriated water necessary to fulfill the primary purpose of that reservation.<sup>257</sup> According to TSEP, the Federal Government could therefore assert this implied water right for 1,242,500 acft/yr of water from the Guadalupe River on behalf of the ANWR with a priority date of December 31, 1937 – the date on which it reserved the ANWR for the public purpose of fulfilling requirements of the Migratory Bird Treaty and the Migratory Bird Conservation Act.<sup>258</sup>

Were the Federal Government to assert this implied water right, TSEP claims that the water supply to the VCS would be unreliable.<sup>259</sup> TSEP quotes Regulatory Guide 4.7 (RG 4.7), arguing that a “highly dependable system of water supply sources must be shown to be available under postulated occurrences of natural and site-related accidental phenomena or combinations of such phenomena.”<sup>260</sup> According to TSEP, the Federal Government's possible assertion of this implied water right on behalf of ANWR would compromise Exelon's demonstration of a “highly dependable” supply of water.<sup>261</sup> TSEP alleges that it is reasonably foreseeable that the Federal Government will assert this implied water right, and so, pursuant to 10 C.F.R. § 51.45(c), the ER impacts analysis must address it.<sup>262</sup>

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<sup>256</sup> Id. at 49-50 (citing Winters v. United States, 207 U.S. 564 (1908)).

<sup>257</sup> Id.

<sup>258</sup> Id. at 50, 51; see also Migratory Bird Conservation Act, 16 U.S.C. § 715 (2006); Migratory Bird Treaty Act, 16 U.S.C. §§ 701-712 (2006).

<sup>259</sup> Petition at 50, 51-52.

<sup>260</sup> Id. at 50 (quoting NRC RG 4.7, General Site Suitability Criteria for Nuclear Power Stations (Rev. 2, Apr. 1998) at 4.7-13).

<sup>261</sup> Id. at 52.

<sup>262</sup> Id. at 50.



Both Exelon and the NRC Staff argue that ENV-5 is inadmissible because TSEP fails to provide sufficient support for its claims in ENV-5, and because it fails to demonstrate a genuine dispute regarding a material issue of law.<sup>263</sup> The NRC Staff also argues that ENV-5 is inadmissible, because it fails to raise an issue that is material to the findings the NRC must make to grant the ESP at issue.<sup>264</sup>

To support its argument that ENV-5 fails to raise a genuine dispute with the ER regarding a material issue of law, Exelon cites to the U.S. Supreme Court decision in United States v. New Mexico.<sup>265</sup> In that decision, the Court held that where the Federal Government reserves land, a water right may be implied only where the underlying purposes of the reservation of land are “entirely defeated” absent such a water right.<sup>266</sup> Exelon also cites the decision of the Supreme Court of Idaho in United States v. Idaho, holding that the “primary purpose of the Migratory Bird Conservation Act will not be defeated without a federal reserved water right.”<sup>267</sup> Exelon quotes that court’s interpretation of the purpose of the Migratory Bird Conservation Act as providing sanctuaries “where the birds could not be molested by hunters.”<sup>268</sup> Finally, Exelon claims that because TSEP does not allege that water flow is related

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<sup>263</sup> Exelon Answer at 53; NRC Staff Answer at 49-51.

<sup>264</sup> NRC Staff Answer at 49-50.

<sup>265</sup> Exelon Answer at 54-55 (citing United States v. New Mexico, 438 U.S. 696, 700 & n.4 (1978)).

<sup>266</sup> Id.

<sup>267</sup> Id. at 56 (quoting United States v. Idaho, 135 Idaho 655, 665 (2001)) (internal quotation marks omitted).

<sup>268</sup> Id. (quoting United States v. Idaho, 135 Idaho at 661).

to protection from hunting, a water right is not critical to the purpose of the ANWR reservation.<sup>269</sup>

The NRC Staff insists that TSEP merely speculates in ENV-5 that the Federal Government “may” assert its implied water right on behalf of the ANWR, much less that such a water right would require 1,242,500 acft/yr from the Guadalupe River.<sup>270</sup> Accordingly, the NRC Staff asserts the ER need not consider such remote and speculative issues as the potential environmental impact of the Federal Government’s assertion of an implied water right on behalf of the ANWR.<sup>271</sup> The NRC Staff also argues that TSEP fails to explain how the information TSEP cites in ENV-5 actually supports its claims.<sup>272</sup> Specifically, the NRC Staff notes ENV-5’s reference to the JCHA Report’s discussion of Texas prior appropriation water law doctrine, and to background and case law concerning application of the reserved water rights doctrine.<sup>273</sup> The NRC Staff claims that TSEP has failed to explain how this information indicates a deficiency in the ER for failing to account for the possibility that the Federal Government may invoke an implied water right on behalf of the ANWR.<sup>274</sup> The NRC Staff also argues that TSEP fails to explain how its reference to RG 4.7, an agency regulatory guide pertaining to safety, indicates a deficiency in Exelon’s environmental review portion of its ESP application.<sup>275</sup>

We conclude that ENV-5 is inadmissible. Even assuming, arguendo, that the Federal Government has an implied reservation of water for the ANWR, under the Winters doctrine,

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<sup>269</sup> Id. at 56-57.

<sup>270</sup> NRC Staff Answer at 49 (citing Petition at 51).

<sup>271</sup> Id. at 50.

<sup>272</sup> Id. at 50-52.

<sup>273</sup> Id. at 51 (citing JCHA Report at 12-32, 49-62).

<sup>274</sup> Id.

<sup>275</sup> Id. at 52.

TSEP fails to allege beyond mere speculation that the Federal Government might assert this hypothetical implied water right. In any event, we need not reach the issue of whether a reservation of water is implicit in the Federal Government's reservation of the ANWR in Executive Order No. 7784. The key question for purposes of contention admissibility is whether TSEP has provided any indication that it is reasonably foreseeable to expect the Federal Government to assert such an implied water right, which would obligate Exelon to address this hypothetical scenario in its ER under 10 C.F.R. § 51.45.<sup>276</sup> We agree with the NRC Staff in concluding that TSEP has not made this showing.

TSEP fails to allege facts or supporting information indicating, beyond mere speculation, that the Federal Government will assert an implied federal reserved water right to protect species in the ANWR. Neither ENV-5 nor the JCHA Report provide any indicia of an attempt, plan or intention on behalf of the Federal Government indicating that it will assert this hypothetical water right it has not asserted in the seventy-four years since the 1937 reservation of the ANWR in Executive Order No. 7784.<sup>277</sup>

At the contention admissibility stage, boards merely decide whether a contention satisfies the six pleading criteria of 10 C.F.R. § 2.309(f)(1)(i)-(vi).<sup>278</sup> Accordingly, we must not rule on the merits of ENV-5, i.e., whether it is reasonably foreseeable that the Federal Government will assert a water right implicit in the ANWR reservation.<sup>279</sup> Instead, we must rule on whether TSEP alleges sufficient facts to support its claim in ENV-5 that the Federal Government's assertion of an implied water right on behalf of the ANWR is a scenario that is

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<sup>276</sup> See Petition at 50, 51-52.

<sup>277</sup> See id. (citing JCHA Report at 12-18, 49-62).

<sup>278</sup> 10 C.F.R. § 2.309(f)(1); see Progress Energy Florida, Inc. (Levy County Nuclear Power Plant, Units 1 and 2), LBP-09-10, 70 NRC 51, 86-87 (2009).

<sup>279</sup> See Levy County, LBP-09-10, 70 NRC at 86.

within the realm of reason, such that Exelon must consider it in its ER under 10 C.F.R.

§ 51.45.<sup>280</sup>

Because ENV-5 fails to allege, or otherwise show support for the allegation, that the Federal Government plans, or has any intention, to assert such a water right, ENV-5 is inadmissible. Under the NEPA “rule of reason,” the agency’s environmental analysis need only consider environmental impacts that are reasonably foreseeable, and need not consider remote and speculative scenarios.<sup>281</sup> As such, the issue raised in ENV-5 regarding the Federal Government’s possible, or hypothetical, assertion of an implied reservation of water in the ANWR reservation of 1937 is not material to the findings the NRC must make in this proceeding.

ENV-5 thus fails to satisfy 10 C.F.R. § 2.309(f)(1)(iv) and (v), and is, thus, inadmissible.

f. TSEP-ENV-6: IMPACTS ON WATER AVAILABILITY AND AQUATIC RESOURCES IN LIGHT OF REASONABLY FORESEEABLE CLIMATE CHANGES

CONTENTION: The ER fails to describe or analyze the future changes in water availability in light of the reasonably foreseeable impacts of a changing climate in the Guadalupe and San Antonio River basin.<sup>282</sup>

In environmental contention TSEP-ENV-6 (ENV-6), TSEP claims that Exelon’s ER fails to discuss the reasonably foreseeable impacts of climate change on the future availability of water for the proposed VCS.<sup>283</sup> Based on hydroclimate models reviewed and analyzed by TSEP’s expert, Dr. Ronald L. Sass, TSEP claims that, by the year 2100, reductions in

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<sup>280</sup> See id. at 87.

<sup>281</sup> See Southern Nuclear Operating Co. (Early Site Permit for Vogtle ESP Site), LBP-09-7, 69 NRC 613, 719 (2009) (citing Vermont Yankee Nuclear Power Corp. v. NRDC, Inc., 435 U.S. 519, 515 (1978)).

<sup>282</sup> Petition at 53; see also id. at 53-55; Exelon Answer at 59-62; NRC Staff Answer at 52-56; Reply at 39-45; Tr. at 173-207.

<sup>283</sup> Petition at 53.

precipitation and runoff to the Guadalupe and San Antonio River basin will decrease river flow, and increased evaporation will lead to increased salinity in San Antonio Bay.<sup>284</sup> Considered together, TSEP maintains that these impacts will lead to at least a 270,000 acft/yr freshwater deficit to the Bay by the year 2100. This deficit, continues TSEP, will affect the availability of water for the VCS, and were the proposed VCS to continue to divert water despite this reduced flow, will affect as well the Whooping Crane.<sup>285</sup> TSEP claims that these impacts on long-term water availability and aquatic ecosystems from climate change are reasonably foreseeable and, as such, that Exelon must analyze these impacts in its ER under NEPA and 10 C.F.R.

Part 51.<sup>286</sup>

TSEP alleges that climate change is predicted to cause a 3.5°C (6.3°F) temperature increase and a net decrease in annual precipitation of 15% along the Guadalupe River basin, which will reduce freshwater inflows into San Antonio Bay by the year 2100.<sup>287</sup> TSEP cites to the report of Dr. Ronald L. Sass for these data, which itself relies on published studies and methodologies estimating the effect of climate change on river flows based on precipitation, runoff, and river flow data.<sup>288</sup> Dr. Sass calculates that leading up to the year 2100, there will be an estimated decrease in Guadalupe River flows of 120,000 acft/yr, and in San Antonio River flows of 42,000 acft/yr.<sup>289</sup> According to Dr. Sass, this flow reduction would in turn reduce

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<sup>284</sup> Id. (citing id. Exh. F-1, Grus americana and a Texas River: A Case for Environmental Justice, Ronald Sass, Ph.D. (Nov. 9, 2010) [hereinafter Sass Report]); see also id. Exh. F, Declaration of Ronald L. Sass in Support of Texans for a Sound Energy Policy's Petition to Intervene and Contentions (Jan. 21, 2011); id. Exh. F-2, Curriculum Vitae of Ronald Sass.

<sup>285</sup> Id.

<sup>286</sup> Id. at 53-55.

<sup>287</sup> Id. at 54 (citing Exh. F-1, Sass Report at 22-24).

<sup>288</sup> Id.

<sup>289</sup> Id. (citing Sass Report at 24).

freshwater river inflow to the San Antonio Bay to approximately 162,200 acft/yr. TSEP also alleges that the salinity increase caused by increased temperature and attendant evaporation, will require an additional 108,300 acft/yr of freshwater input to maintain stable salinity.<sup>290</sup>

Exelon argues that ENV-6 raises issues outside the scope of this proceeding and fails to raise a genuine dispute with the application on a material issue of fact.<sup>291</sup> The NRC Staff argues that ENV-6 is inadmissible for failure to provide sufficient support and for failure to show a genuine dispute with the application.<sup>292</sup>

We conclude that ENV-6 is admissible. First, TSEP has provided a specific statement of the issue of law or fact in controversy as required by 10 C.F.R. § 2.309(f)(1)(i) – namely, that the ER fails to address the reasonably foreseeable impacts of climate change on water availability in the Guadalupe and San Antonio river basin, where the proposed VCS would be located. Second, TSEP provides a brief explanation of the basis for ENV-6, by explaining how climate change will alter temperatures, evaporation, precipitation and runoff, which in turn will affect river flow and salinity levels. TSEP further explains that these alterations are insufficiently addressed in Exelon’s ER for the proposed VCS ESP.

Third, TSEP claims in ENV-6 that the ER’s failure to address adequately climate change impacts constitutes a failure to satisfy the Commission’s regulations in 10 C.F.R. § 51.45 regarding the required environmental analyses for ESPs. ENV-6 therefore raises an issue that is within the scope of this ESP proceeding as required by 10 C.F.R. § 2.309(f)(1)(iii). Furthermore, ENV-6 raises an issue that is material to the findings the NRC must make to grant the instant ESP, in that the agency must address all reasonably foreseeable environmental impacts, pursuant to 10 C.F.R. § 51.45.

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<sup>290</sup> Id. at 54-55.

<sup>291</sup> Exelon Answer at 59.

<sup>292</sup> NRC Staff Answer at 53.

For support, TSEP references hydroclimatic modeling of its expert, Dr. Sass, to detail expected environmental impacts of climate change and how this will impact water availability in the Guadalupe and San Antonio River Basin – none of which the ER discusses. ENV-6 cites climate change information that is anchored to the year 2100, which may go beyond the expected life of the proposed ESP in this proceeding.<sup>293</sup> However, more importantly, ENV-6 alleges that this information supports the theory that reasonably foreseeable environmental impacts on water availability relating to climate change will take place leading up to the year 2100 and that these impacts will affect the suitability of the proposed site to accommodate the VCS plant.<sup>294</sup> We are satisfied that these facts and this material meet the 10 C.F.R. § 2.309(f)(1)(v) requirement that TSEP provide alleged facts or expert opinion to support its claims that climate change impacts on water availability are a required subject for evaluation in the ER.

The NRC Staff claims that ENV-6 is inadmissible for failing to challenge the ER discussion of cumulative impacts on future water availability.<sup>295</sup> ENV-6 specifically alleges that climate change impacts on water availability must be addressed and that the ER has failed to discuss them.<sup>296</sup> While Exelon has discussed cumulative impacts and future water availability, TSEP maintains that these discussions do not address how future water availability will be influenced by reasonably foreseeable climate change.<sup>297</sup> Furthermore, while Exelon addresses

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<sup>293</sup> See Petition at 54; Exelon Answer at 61.

<sup>294</sup> See Petition at 55.

<sup>295</sup> NRC Staff Answer at 53-54.

<sup>296</sup> Petition at 55.

<sup>297</sup> The NRC Staff quotes portions of ER §§ 5.2 and 5.11, which discuss future water availability and prospective water availability projects. NRC Staff Answer at 53-55. However, it is not clear from these quotations whether the ER sufficiently considers reasonably foreseeable impacts on water availability resulting from climate changes, as required by 10 C.F.R. Part 51 and NEPA.

expected climate change in its SSAR at Section 2.3.1.7, ENV-6 addresses the lack of similar discussion in the ER.<sup>298</sup> As such, ENV-6 raises a genuine dispute regarding a material issue of law, and is therefore admissible.

g. TSEP-ENV-7 through TSEP-ENV-14

During oral argument on March 17, 2011, TSEP, Exelon, and the NRC Staff announced their unanimous agreement supporting TSEP's withdrawal of environmental contentions TSEP-ENV-7 (ENV-7) through TSEP-ENV-14 (ENV-14)<sup>299</sup> and submission of two contentions to stand in place of withdrawn ENV-7 through ENV-14 – revised TSEP-ENV-7 (TSEP-ENV-7a or ENV-7a) and revised TSEP-ENV-8 (TSEP-ENV-8a or ENV-8a). Like ENV-7 through ENV-14, ENV-7a and ENV-8a relate to the ER's discussion of protection of the endangered Whooping Crane and other species living in the San Antonio Bay. TSEP, Exelon and the NRC Staff also agreed that both ENV-7a and ENV-8a would be admissible.<sup>300</sup> TSEP submitted these revised contentions as follows:

Revised TSEP-ENV-7: KEY INDICATOR SPECIES IN THE BAY

TSEP contends that VCS water use will significantly reduce fresh water flowing into San Antonio Bay estuary,

- a. which in turn will significantly increase the salinity of the water in San Antonio, Espiritu Santo, Carlos, and Mesquite bay systems;
- b. which in turn will have a significant impact on abundance of the Eastern Oyster, White Shrimp, and Blue Crab.

Revised TSEP-ENV-8: WHOOPING CRANE

TSEP contends that VCS water use will have a significant impact on Whooping Cranes in the Aransas National Wildlife Refuge because VCS

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<sup>298</sup> Exelon Answer at 59 (quoting SSAR at 2.3-23).

<sup>299</sup> Petition at 55-92, see Attachment B; see also Exelon Answer at 62-88; NRC Staff Answer at 57-61; Reply at 45-66; Tr. at 207-19.

<sup>300</sup> Tr. at 207-19.



water withdrawals from the Guadalupe River will significantly reduce fresh water flowing into San Antonio Bay estuary,

- a. which in turn will significantly increase the salinity of the water in the Bay;
- b. which in turn will significantly impact sources of drinking water, wolfberries, and blue crabs for Whooping Cranes;
- c. will either reduce appreciably the likelihood of Whooping Crane survival and recovery, or result in adverse modification of their designated critical habitat; and
- d. therefore, result in non-compliance with Section 7(a)(2) of the Endangered Species Act.

The bases for the contention under 10 C.F.R. § 2.309(f)(1)(ii) include but are not limited to:

- (1) The ER's reliance on the SAGES Report;
- (2) Whooping Crane mortality in 2008-09; and
- (3) The Endangered Species Act that requires the NRC to use the best scientific and commercial data available.<sup>301</sup>

Subsequent to oral argument, TSEP submitted its "Unopposed Motion for Admission of Revised Contentions and for Withdrawal of Certain Contentions."<sup>302</sup> In this motion, TSEP memorializes the agreement that TSEP and Exelon reached during a recess at the oral argument and, jointly with Exelon, moves to withdraw originally submitted contentions ENV-7, 8, 9, 10, 11, 12, 13, and 14, and submit ENV-7a and ENV-8a to supplant original contentions ENV-7 through ENV-14.<sup>303</sup> NRC Staff does not oppose this motion.<sup>304</sup>

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<sup>301</sup> Unopposed Motion for Admission of Revised Contentions and for Withdrawal of Certain Contentions (Mar. 21, 2011) Exh. A at 1 [hereinafter Unopposed Motion]; see also Petition Exh. G, Comments on SAGES Final Report, From: Mr. Tom Stehn, of U.S. Fish and Wildlife Service [hereinafter SAGES Report]; id. Exh. H, Appendix D, Summary of Water Management Strategies; id. Exh. I, International Recovery Plan for the Whooping Crane (Grus americana) (3d Rev.), U.S. Fish & Wildlife Service (March 2007).

<sup>302</sup> Unopposed Motion at 1.

<sup>303</sup> Id.

Given that TSEP, Exelon and the NRC Staff are in agreement regarding these contentions, we grant the motion to admit revised contentions ENV-7a and ENV-8a.

h. TSEP-ENV-15: SOCIOECONOMIC IMPACTS OF PLUGGING WELLS AND OF THE IMPACTS ON MINERAL RIGHTS HOLDERS

CONTENTION: Exelon's ER fails to address the economic impacts of plugging oil and gas wells, and impacts of the VCS on owners of onsite and adjacent mineral rights.<sup>305</sup>

In environmental contention TSEP-ENV-15 (ENV-15), TSEP alleges the ER fails to address the economic impacts on owners of onsite and adjacent mineral rights that would result from plugging oil and gas wells.<sup>306</sup> Specifically, TSEP claims that Exelon must evaluate the costs of locating and properly plugging abandoned oil and gas wells on and around the VCS site, the costs of condemning the minerals within the site boundaries associated with ongoing mineral exploration and extraction activities on the site, and the impacts to owners of onsite and adjacent mineral rights.<sup>307</sup>

Exelon argues that ENV-15 presents an impermissible attack on the Commission's regulations in contravention of 10 C.F.R. § 2.335(a) and that ENV-15 is outside the permissible scope of this proceeding, contrary to 10 C.F.R. § 2.309(f)(1)(iii).<sup>308</sup> The NRC Staff argues that ENV-15 is inadmissible as outside the permissible scope of this proceeding<sup>309</sup> and argues

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<sup>304</sup> Id. at 2.

<sup>305</sup> Petition at 92; see also id. at 92-95; Exelon Answer at 88-90; NRC Staff Answer at 61-64; Reply at 66-67; Tr. at 66-70.

<sup>306</sup> See Petition at 92, 95 (asserting the ER "discusses possible purchase or condemnation of mineral rights as necessary, but does not include any details.").

<sup>307</sup> Id. at 92.

<sup>308</sup> Exelon Answer at 88.

<sup>309</sup> NRC Staff Answer at 62.

further that ENV-15 is inadmissible for failure to state sufficient support and for failure to show a genuine dispute with the application on a material issue of law.<sup>310</sup>

We conclude that ENV-15 is inadmissible. The Commission's regulations at 10 C.F.R. § 51.50(b) establish the requirements for the environmental report section of an early site permit application. Specifically, 10 C.F.R. § 51.50(b)(2) states that "[t]he environmental report need not include an assessment of the economic, technical, or other benefits (for example, need for power) and costs of the proposed action."<sup>311</sup> In addition, 10 C.F.R. § 51.105(b) provides "[t]he presiding officer in an early site permit hearing shall not admit contentions proffered by any party concerning the benefits assessment . . . if those issues were not addressed by the applicant in the early site permit application."<sup>312</sup> Thus, the Commission makes clear that economic cost and benefit issues need not be considered at the ESP stage of a proceeding

ENV-15 specifically references ER section 5.8, where Exelon provides an analysis of socioeconomic impacts.<sup>313</sup> However, ENV-5 alleges an omission, not an inadequacy, in this section of the ER.<sup>314</sup> Given that Exelon need not provide an analysis of costs and benefits in its ER, ENV-15 raises an issue that is outside the scope of this proceeding and that is not material to any finding the NRC must make in this ESP proceeding, in contravention of 10 C.F.R. § 2.309(f)(1)(iii) and (iv).

Accordingly, we conclude that ENV-15 is inadmissible.

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<sup>310</sup> Id. at 63-64.

<sup>311</sup> 10 C.F.R. § 51.50(b)(2) (emphasis added).

<sup>312</sup> See also id. § 52.21 (emphasis added).

<sup>313</sup> Petition at 95 & n.323.

<sup>314</sup> Id. at 92.

i. TSEP-ENV-16: OBVIOUSLY SUPERIOR ALTERNATIVE SITE AT  
MATAGORDA COUNTY

CONTENTION: The Exelon ER does not comply with 10 C.F.R. § 51.50(b)(1) because it fails to rigorously explore and objectively evaluate all alternative sites. A comparison of the Matagorda County site and the Victoria County Station site shows that the Matagorda County site presents an obviously superior site for the construction and operation of a nuclear power plant. The alternative Matagorda County site considered by Exelon does not have the serious problems and large impacts identified at the Victoria site.<sup>315</sup>

In environmental contention TSEP-ENV-16 (ENV-16), TSEP claims that the Matagorda County alternative site is “obviously superior” to the proposed Victoria County site with regard to construction and operation of a nuclear power plant.<sup>316</sup> TSEP argues that Exelon’s evaluation of alternatives is inadequate under 10 C.F.R. § 51.50(b)(1) and that Exelon “arrived at the wrong conclusion with respect to the feasibility of the Victoria Site” as a result of the allegedly inadequate evaluation.<sup>317</sup>

In support of this claim, TSEP quotes 10 C.F.R. § 51.50(b)(1), which states that “[t]he environmental report must include an evaluation of alternative sites to determine whether there is any obviously superior alternative to the site proposed.” TSEP also quotes NRC Regulatory Guide 4.7, which states that

[p]referred sites are those with a minimal likelihood of surface or near-surface deformation and a minimal likelihood of earthquakes on faults in the site vicinity (within a radius of 8 km (5 miles)). Because of the uncertainties and difficulties in mitigating the effects of permanent ground displacement phenomena such as surface faulting or folding, fault creep, subsidence or collapse, the NRC Staff considers it prudent to select an alternative site when the potential for permanent ground displacement exists at the site.<sup>318</sup>

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<sup>315</sup> Id. at 95; see also id. at 95-105; Exelon Answer at 90-97; NRC Staff Answer at 64-70; Reply at 67-76; Tr. at 70-82.

<sup>316</sup> Petition at 95.

<sup>317</sup> Id. at 96.

<sup>318</sup> Id. at 96-97 (quoting RG 4.7 at 11).

TSEP claims that there are several negative impacts associated with the VCS site that make the Matagorda County site obviously superior for constructing and operating a nuclear power plant. TSEP argues that Exelon's alternatives analysis is based on inadequate information, as set forth in other contentions in TSEP's petition.<sup>319</sup> More specifically, TSEP alleges that the Matagorda site is obviously superior to the proposed VCS site with regard to water availability,<sup>320</sup> downstream impacts (including impacts on endangered species),<sup>321</sup> growth faults,<sup>322</sup> oil and gas wells,<sup>323</sup> oil and gas pipelines,<sup>324</sup> and power transmission lines.<sup>325</sup>

With regard to projected construction and operational impacts among the sites Exelon considered, TSEP challenges Exelon's conclusion that there is no significant difference in environmental impact among the five candidate sites.<sup>326</sup> TSEP thus disputes Exelon's conclusion that no alternative site is "environmentally preferable" to the proposed VCS site.<sup>327</sup> TSEP further disputes Exelon's conclusion that the impacts of construction and operation at the VCS site on water use, endangered species, and health and safety would be "SMALL."<sup>328</sup> TSEP also claims that the presence of growth faults and hundreds of oil and gas wells at the

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<sup>319</sup> Id. at 97.

<sup>320</sup> Id.

<sup>321</sup> Id. at 98.

<sup>322</sup> Id. at 99.

<sup>323</sup> Id. at 100.

<sup>324</sup> Id. at 101.

<sup>325</sup> Id.

<sup>326</sup> Id. at 102 (citing ER at 9.3-12, 9.3-86).

<sup>327</sup> Id. (citing ER at 9.3-12, 9.3-86).

<sup>328</sup> Id. at 103 (citing ER at 9.3-92 to -93, tbls. 9.3-2 & 9.3-3).

VCS site present unprecedented health and safety concerns for construction and operation of a nuclear power plant.<sup>329</sup>

According to TSEP, if one of these impacts were elevated from “SMALL” to “MODERATE,” the Matagorda County site would have a more favorable score than the VCS site.<sup>330</sup> TSEP asserts that because the foundational data for the VCS site were flawed, the alternatives analysis based on these data was necessarily flawed.<sup>331</sup> TSEP alleges that, had Exelon conducted the alternatives analysis properly, the Matagorda County site would be scored as obviously superior to that in Victoria County.<sup>332</sup>

Exelon and the NRC Staff both argue that ENV-16 is inadmissible for failure to show a genuine dispute with the application on a material issue of law or fact. We conclude that ENV-16 is admissible in part, limited to its allegations regarding inadequate consideration of environmental issues in the site alternatives analysis portion of Exelon’s ER.

First, we conclude that ENV-16 raises a specific statement of the issue of law or fact to be raised or controverted, as required under 10 C.F.R. § 2.309(f)(1)(i). Specifically, TSEP disputes Exelon’s conclusion in the ER’s alternatives analysis that there is no environmentally preferable site among the five sites considered and that the Matagorda County site is “obviously superior” to the VCS site.

Second, TSEP provides a brief explanation of the basis for its claims in ENV-16. It explains that Exelon’s assessment of alternatives in its ER is flawed because it is based on inadequate data. TSEP further explains that the Matagorda County site would be recognized as “obviously superior” to the VCS site, were proper consideration given to the environmental

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<sup>329</sup> Id.

<sup>330</sup> Id.

<sup>331</sup> Id.

<sup>332</sup> Id.

impacts relating to oil and gas wells and pipelines, power transmission lines, endangered species and water availability.

Third, ENV-16 is within the scope of this proceeding, as required by 10 C.F.R. § 2.309(f)(1)(iii), in that it challenges Exelon's ER, which is a required portion of Exelon's ESP Application.<sup>333</sup> Furthermore, the alternatives analysis is the "heart" of the environmental impacts analysis.<sup>334</sup>

Fourth, TSEP raises a material issue of law in ENV-16 by alleging that the ER's site alternatives analysis fails to satisfy 10 C.F.R. § 51.50(b)(1), which requires Exelon to evaluate "alternative sites to determine whether there is any obviously superior alternative to the site proposed." TSEP claims that had Exelon conducted its alternatives analysis for the VCS ESP by giving appropriate consideration to comparative environmental impacts, the proper conclusion would be that the Matagorda County alternative site is obviously superior to TSEP.

Fifth, TSEP has provided sufficient support for ENV-16, as required by 10 C.F.R. § 2.309(f)(1)(v). TSEP alleges that with a proper assessment of impacts relating to water availability, threatened and endangered species, downstream ecological impacts, and transmission line impacts, the Matagorda County alternative site is obviously superior to the VCS site. In support of this claim, TSEP references the analysis and reports of its experts, Dr. Sass and John C. Halepaska and Associates, Inc., and cites specifically to the alternatives analysis at Section 9.3 of the ER.<sup>335</sup> We are thus satisfied that TSEP has provided sufficient support for ENV-16, to the extent it alleges inadequate assessment of environmental impacts.

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<sup>333</sup> See 10 C.F.R. § 51.50(b).

<sup>334</sup> Id. Part 51, app. A, § 5.

<sup>335</sup> Petition at 97-102 (citing JCHA Report at 44, 72-74, 76, 77, 89, 90, 92-94; Sass Report at 21-25).

Finally, ENV-16 raises a genuine dispute with the application on a material issue of law or fact, as required by 10 C.F.R. § 2.309(f)(1)(vi). It challenges the ER's alternatives analysis, providing specific references to ER Sections 9.3, 5.2, 5.11, and 2.3 in support of its claim of inadequacy.<sup>336</sup> While we do not admit ENV-16 to the extent it alleges improper assessment of 10 C.F.R. Part 100 safety analysis issues, there is clearly a dispute regarding the adequacy of the environmental report alternatives analysis. TSEP has raised other environmental contentions alleging various inadequacies in Exelon's ER. We note, however, that insofar as TSEP's other environmental contentions allege various inadequacies in Exelon's ER, ENV-16 does not "bootstrap" its claims in ENV-16 on those contentions.

We conclude that ENV-16 includes independent allegations that go toward the alternatives analysis, not the impacts analysis, of Exelon's ER, which satisfy all six of the 10 C.F.R. § 2.309(f)(1) criteria. We therefore admit ENV-16, to the extent it alleges inadequacies under 10 C.F.R. Part 51 relating to the alternatives analysis in the environmental report.

j. TSEP-ENV-17: ER LACKS BASIS FOR RELIANCE ON WASTE  
CONFIDENCE RULE

CONTENTION: In Section 5.7.1.6 of the ER, Exelon relies on the Waste Confidence Decision for its assertion that a repository can and likely will be developed at some site that will comply with radiation dose limits imposed by the U.S. Environmental Protection Agency. *Id.* at 5.7-7. Because the assertion is not supported by an EIS, however, the ER is inadequate to comply with NEPA.<sup>337</sup>

Environmental contention TSEP-ENV-17 (ENV-17) is based on TSEP's comments to the 2008 revisions to the Waste Confidence Rule. ENV-17 alleges that the ER, in Section 5.7.1.6, improperly relies on the Waste Confidence Decision in stating that a high-level waste ("HLW")

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<sup>336</sup> E.g., id. at 97 nn.325-26, 98 nn.330, 334.

<sup>337</sup> Petition at 105; see also id. at 105-08; Exelon Answer at 97-100; NRC Staff Answer at 70-75; Reply at 76-77; Tr. at 82-85.



repository will be built.<sup>338</sup> TSEP claims that the ER cannot properly rely on the Waste Confidence Rule because the Commission has refused to submit a generic EIS for the Waste Confidence Rule. As a consequence, TSEP claims the assertions contained in the Waste Confidence Rule must be analyzed in a site specific EIS for this individual licensing proceeding.<sup>339</sup> Specifically, TSEP states that before an ESP is issued for the Victoria County Station site, an EIS must be prepared that

examines the cumulative impacts and costs of the entire amount of radioactive waste that will be generated [by] new reactors, . . . weigh[s] the relative costs and benefits of licensing individual nuclear power plants . . . against the costs and benefits of other alternatives that would not involve the creation of that waste . . . [, and] address[es] the uncertainty that attends those predictions.<sup>340</sup>

Exelon and the NRC Staff both argue that ENV-17 is inadmissible because it impermissibly challenges the Commission's Waste Confidence Rule at 10 C.F.R. § 51.23, in contravention of 10 C.F.R. § 2.335(a).<sup>341</sup> Exelon and the NRC Staff also argue that ENV-17 is inadmissible because it raises an issue that is outside the scope of this proceeding.<sup>342</sup>

The Board agrees with Exelon and the NRC Staff, and concludes that ENV-17 is inadmissible. ENV-17 constitutes an impermissible attack on the Commission's Waste Confidence Rule, in violation of 10 C.F.R. § 2.335(a). Although TSEP does not explicitly state that it is challenging the Commission's Waste Confidence Rule, it does so implicitly by citing to both the Waste Confidence Decision<sup>343</sup> and its comments on the 2008 revisions to the Waste

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<sup>338</sup> Petition at 105. This contention is based on and incorporates by reference TSEP's comments, submitted in 2009, on the revisions to the Waste Confidence Rule that was published by the NRC in 2008. Id. at 105-06.

<sup>339</sup> See id. at 107.

<sup>340</sup> Id. at 106.

<sup>341</sup> Exelon Answer at 97; NRC Staff Answer at 71-72.

<sup>342</sup> Exelon Answer at 97; NRC Staff Answer at 71.

<sup>343</sup> Petition at 105-08.

Confidence Rule,<sup>344</sup> and by stating that “[t]he contention is . . . within the scope of the hearing because the Commission recently refused to prepare an EIS to support its waste confidence findings.”<sup>345</sup> In its Reply, TSEP also strongly suggests that it is challenging the Commission’s Waste Confidence Rule when it states that it submitted ENV-17 (along with environmental contention TSEP-ENV-18) for the purpose of “preserving claims that it made in comments on the NRC’s proposed Waste Confidence Update and Temporary Spent Fuel Storage rule regarding the inadequacy of the NRC’s generic analysis of spent fuel disposal impacts to support the issuance of an ESP for the Victoria site.”<sup>346</sup> At oral argument, TSEP even conceded this might be an impermissible challenge to the Commission’s Waste Confidence Rule and that this contention therefore might not be admitted.<sup>347</sup>

According to the Waste Confidence Rule, the “Commission believes there is reasonable assurance that . . . sufficient repository capacity will be available within 30 years beyond the licensed life for operation of any reactor to dispose of the commercial high-level waste and spent fuel originating in such reactor and generated up to that time.”<sup>348</sup> In its Waste Confidence Decision, the Commission squarely rejected the claim that an EIS must be prepared for the

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<sup>344</sup> Id. at 105-06, 108.

<sup>345</sup> Id. at 107. TSEP also strongly implies that it is challenging the Commission’s Waste Confidence Rule when it states: “Having failed to obtain a full environmental analysis of the environmental impacts of spent fuel disposal, TSEP therefore seeks such an analysis in this individual licensing case.” Id.

<sup>346</sup> Reply at 77.

<sup>347</sup> See Tr. at 83-85 (during which TSEP’s counsel urged the Board “to rule against the admission of [this] contention, and that way we can carry it forward as something on record, that we filed it, [if] that ever comes up in the future.”).

<sup>348</sup> 10 C.F.R. § 51.23(a).

Waste Confidence Rule to assess the cumulative impacts and costs from the disposal of radioactive waste.<sup>349</sup> In addition, the Waste Confidence Rule itself states that

no discussion of any environmental impact of spent fuel storage in reactor facility storage pools or independent spent fuel storage installations (ISFSIs) for the period following the term of the reactor operating license or amendment, reactor combined license or amendment, or initial ISFSI license or amendment for which application is made, is required in any environmental report, environmental impact statement, environmental assessment, or other analysis.<sup>350</sup>

Under 10 C.F.R. § 2.335(a), contentions challenging NRC rules and regulations are impermissible and may not be admitted absent a waiver or exception as required by 10 C.F.R. § 2.335(b).<sup>351</sup> In this contention, TSEP challenges the Waste Confidence Rule, but has neither requested a waiver nor addressed the criteria upon which a waiver might be based. Even had TSEP requested a waiver, its request for a waiver could not be granted because ENV-17 challenges the ubiquitous issue concerning impacts of a HLW disposal facility, which clearly applies to a “large class of people or facilities” and thus is ineligible for a waiver according to the Commission’s decision in Bellefonte.<sup>352</sup>

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<sup>349</sup> See Waste Confidence Decision Update, 75 Fed. Reg. 81,037, 81,041 (Dec. 23, 2010) (“Individual licensees and applicants, or in the case of a HLW repository, DOE, will have to apply for and meet all of the NRC’s safety and environmental requirements before the NRC will issue a license for storage or disposal.”).

<sup>350</sup> 10 C.F.R. § 51.23(b).

<sup>351</sup> The Commission requires, under 10 C.F.R. § 2.335(b), that any request for a waiver or exception “be accompanied by an affidavit that identifies . . . the subject matter of the proceeding as to which the application of the . . . regulation . . . would not serve the purposes for which the . . . regulation was adopted” and that the affidavit “state with particularity the special circumstances alleged to justify the waiver or exception requested.” 10 C.F.R. § 2.335(b). This regulation further declares that “[t]he sole ground for petition of waiver or exception is that special circumstances with respect to the subject matter of the particular proceeding are such that application of the rule or regulation . . . would not serve the purposes for which the rule or regulation was adopted.” *Id.* In addition, waivers are not granted where “the circumstances on which the waiver’s proponent relies are common to ‘a large class of applicants or facilities.’” Tennessee Valley Authority (Bellefonte Nuclear Power Plant, Units 3 and 4), CLI-09-3, 69 NRC 68, 75 n.38 (2009) (citing Public Service Co. of New Hampshire (Seabrook Station, Units 1 and 2), CLI-88-10, 28 NRC 573, 596-97 (1988)).

<sup>352</sup> See Bellefonte, CLI-09-3, 69 NRC at 75 n.38.

ENV-17 thus constitutes an impermissible challenge to the Commission's Waste Confidence Rule, in violation of 10 C.F.R. § 2.335(a). Accordingly, ENV-17 is inadmissible.

k. TSEP-ENV-18: ER LACKS BASIS FOR RELIANCE ON TABLE S-3

CONTENTION: The ER lacks an adequate legal or factual basis to rely on Table S-3 for its assessment of the environmental impacts of the uranium fuel cycle because the assumptions on which Table S-3 is based are grossly outdated.<sup>353</sup>

Like ENV-17, environmental contention TSEP-ENV-18 (ENV-18) is based on and incorporates by reference comments that TSEP made in 2009 regarding revisions to the Waste Confidence Rule the NRC published in 2008.<sup>354</sup> In the Waste Confidence Decision Update, the Commission declined to reconsider Table S-3,<sup>355</sup> a regulation that the Commission promulgated in 10 C.F.R. § 51.51(b). The Commission concluded that reconsideration of Table S-3 is unnecessary, as long as the Commission continues to have a basis for confidence in the technical feasibility of a mined geologic repository.<sup>356</sup> TSEP, however, questions the basis of the Commission's confidence on this matter and argues that an EIS should be prepared to fully examine the environmental impacts of the Waste Confidence Rule.<sup>357</sup> As a result of the Commission's refusal to revisit Table S-3 on a generic basis in the Waste Confidence Decision Update, TSEP filed ENV-18 (along with ENV-17) for the purpose of "preserving claims that it made in its comments on the NRC's proposed Waste Confidence Update and Temporary Spent

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<sup>353</sup> Petition at 108; see also id. at 108-10; Exelon Answer at 101-02; NRC Staff Answer at 76-78; Reply at 76-77; Tr. at 82-85.

<sup>354</sup> Petition at 108.

<sup>355</sup> 75 Fed. Reg. at 81,044.

<sup>356</sup> Id. at 81,043-44.

<sup>357</sup> See Petition at 109.

Fuel Storage rule regarding the inadequacy of the NRC's generic analysis of spent fuel disposal impacts to support the issuance of an ESP for the Victoria site."<sup>358</sup>

Exelon and the NRC Staff both argue that ENV-18 is inadmissible because it presents an impermissible attack on the adequacy of Table S-3.<sup>359</sup> It also argues that ENV-18 is inadmissible because it fails to raise an issue that is within the scope of this proceeding.<sup>360</sup>

We conclude that ENV-18 is inadmissible because it involves an impermissible attack on agency regulations, specifically Table S-3 of 10 C.F.R. § 51.51. In this contention, much as in ENV-17, TSEP impermissibly attacks NRC regulations. In fact, 10 C.F.R. § 51.51(a) requires, in pertinent part, that every ER for an ESP use Table S-3 as the basis for its discussion of the uranium fuel cycle.<sup>361</sup> Pursuant to this regulation, ER Section 5.7.1.6 relies on Table S-3 in reaching its conclusion that the environmental impacts of radioactive waste disposal for the Victoria County Station ESP site will be "SMALL."<sup>362</sup> Therefore, because it challenges an NRC regulation (Table S-3) without in any way attempting to request a waiver or exception to that regulation, ENV-18 is inadmissible.

For this reason, ENV-18 is inadmissible.

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<sup>358</sup> Reply at 77; see also Petition at 109.

<sup>359</sup> Exelon Answer at 101; NRC Staff Answer at 76-77.

<sup>360</sup> Exelon Answer at 101; NRC Staff Answer at 78.

<sup>361</sup> 10 C.F.R. § 51.51(a).

<sup>362</sup> ER at 5.7-7 to 5.7-8.

#### 4. Miscellaneous Contention

##### TSEP-MISC-1 – COASTAL ZONE MANAGEMENT ACT CONSISTENCY DETERMINATION

CONTENTION: The Exelon application does not satisfy the requirements of the Coastal Zone Management Act (“CZMA”), 16 U.S.C. § 1456(c)(3)(A), because it does not include the required determination that the proposed activity is consistent with the Texas Coastal Management Program.<sup>363</sup>

In miscellaneous contention TSEP-MISC-1 (MISC-1), TSEP maintains that the CZMA requires an applicant to submit its certification from the relevant state of jurisdiction, indicating that the project in question will comply with the CZMA.<sup>364</sup> From this CZMA certification, the

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<sup>363</sup> Petition at 110; see also id. at 110-14; Exelon Answer at 102-04; NRC Staff Answer at 79-81; Reply at 78; Tr. at 85-88.

<sup>364</sup> Petition at 110. The CZMA requires, in pertinent part, that:

After final approval by the Secretary of a state’s management program, any applicant for required Federal license or permit to conduct an activity, in or outside of the coastal zone, affecting any land or water use or natural resource of the coastal zone of that state shall provide in the application to the licensing or permitting agency a certification that the proposed activity complies with the enforceable policies of the state’s approved program and that such activity will be conducted in a manner consistent with the program. At the same time, the applicant shall furnish to the state or its designated agency a copy of the certification, with all necessary information and data.

16 U.S.C. § 1456(c)(3)(A). These requirements are also reflected in the regulations implementing the National Oceanic and Atmospheric Agency. See 15 C.F.R. § 930.57(a) (“Following appropriate coordination and cooperation with the State agency, all applicants for required federal licenses or permits subject to State agency review shall provide in the application to the federal licensing or permitting agency a certification that the proposed activity complies with and will be conducted in a manner consistent with the management program. At the same time, the applicant shall furnish to the State agency a copy of the certification and necessary data and information.”). Further, NRC regulations require that an ER identify and discuss the status of all permits, licenses, and other approvals that are required from federal, state, and local agencies. 10 C.F.R. § 51.45(d).

reviewing state will then issue its consistency determination, which is the ultimate decision on the applicant's CZMA certification.<sup>365</sup>

TSEP filed its petition, which includes MISC-1, on January 24, 2011.<sup>366</sup> MISC-1 alleges that the Exelon's ESP application violates the CZMA because it does not include any certification to the Texas General Land Office (TGLO) stating that the proposed activity is consistent with the Texas Coastal Management Program (TCMP).<sup>367</sup> As such, MISC-1 is a contention of omission, alleging that the ER is in violation of the CZMA because it "does not include any certification" of compliance with TCMP.<sup>368</sup>

On January 25, 2011, one day after TSEP filed its Petition containing MISC-1, Exelon submitted a certification of consistency with TCMP, including necessary information and data, to

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<sup>365</sup> See 15 C.F.R. § 930.60(a) ("The State agency's six-month review period . . . of an applicant's consistency certification begins on the date the State agency receives the consistency certification . . .").

<sup>366</sup> Petition at 115.

<sup>367</sup> Id. at 112. In addition, as NRC Staff point out, TSEP also seems to confuse an applicant's CZMA certification with a state's final consistency decision when it implies in Miscellaneous Contention I that the ER is in violation of the CZMA because the ER neglects to include a final consistency determination from the Texas Coastal Coordination Council ("TCCC"). See id. at 113; NRC Staff Answer at 79-81. As NRC Staff correctly note, TSEP fails to point to any regulation indicating that an applicant's ER must include a final consistency determination by the relevant state, and the regulations clearly state that only a consistency certification must be submitted, not a final consistency determination as well. See 16 U.S.C. § 1456(c)(3)(A); NRC Staff Answer at 80. Thus, to the extent that TSEP bases MISC-1 on Exelon's failure to include a final consistency determination, MISC-1 is inadmissible because it fails to present a genuine dispute of material law or fact. See 10 C.F.R. § 2.309(f)(1)(iv).

<sup>368</sup> See Petition at 112; see also Exelon Answer at 103.

the TGLO.<sup>369</sup> Additionally, Exelon provided a copy of this submission to the NRC Staff for inclusion in Appendix A of its ESP application.<sup>370</sup>

In doing so, Exelon has supplied the allegedly omitted information at issue in MISC-1. The Commission, along with numerous Licensing Boards, has made clear that “[w]here a contention alleges the omission of particular information or an issue from an application, and the information is later supplied by the applicant . . . the contention is moot.”<sup>371</sup> Thus, because Exelon has submitted a certificate of consistency with TCMP and provided the NRC Staff with a copy of this submission to be included in Exelon’s ESP application, MISC-1 is now rendered moot.<sup>372</sup> As such, MISC-1 is inadmissible, because it fails to present a genuine dispute of material fact or law as required by 10 C.F.R. § 2.309(f)(1)(vi).

### III. PROCEDURAL MATTERS

#### A. Selection of Hearing Procedures

In accordance with 10 C.F.R. § 2.310, upon admission of a contention, a board must identify the specific hearing procedure to be used in the adjudication of the admitted contentions. The NRC regulations provide in 10 C.F.R. § 2.310(a) that the hearing procedures

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<sup>369</sup> Exelon Answer at 103 (citing id., attach. 2, encl. 1, Letter from Marilyn C. Kray, Vice President, Nuclear Project Development, Exelon Generation, to Document Control Desk, U.S. Nuclear Regulatory Commission, to Kate Zultner, Coastal Resources Division, Texas General Land Office (Jan. 25, 2011)).

<sup>370</sup> See id. att. 2, encl. 1, Letter from Marilyn C. Kray, Vice President, Nuclear Project Development, Exelon Generation, to Document Control Desk, U.S. Nuclear Regulatory Commission, to Kate Zultner, Coastal Resources Division, Texas General Land Office (Jan. 25, 2011); NRC Answer at 80.

<sup>371</sup> Duke Energy Corp. (McGuire Nuclear Station, Units 1 and 2; Catawba Nuclear Station, Units 1 and 2), CLI-02-28, 56 NRC 373, 383 (2002).

<sup>372</sup> TSEP acknowledges that the deficiency alleged in MISC-1 has now been cured and that the contention is therefore moot: “On January 25, Exelon cured the deficiency that TSEP identified and submitted documents to the appropriate state agency. TSEP agrees that the contention is now moot.” Reply at 78. TSEP does note, however, that it “is reviewing the new Exelon documents and will take further action as necessary.” Id.



in Subpart L of 10 C.F.R. Part 2 may be used in proceedings for the “grant, renewal, licensee-initiated amendment, or termination of licenses or permits.”<sup>373</sup> Pursuant to 10 C.F.R. § 2.310(d), the hearing for resolution of a contention must be conducted under Subpart G of 10 C.F.R. Part 2 in the event the contested matter in that contention necessitates resolution of a material issue of fact relating to a past activity “where the credibility of an eyewitness may reasonably be expected to be at issue, and/or issues of motive or intent of the party or eyewitness material to the resolution of the contested matter.”<sup>374</sup> Under 10 C.F.R. § 2.309(g), a petitioner may “address the selection of hearing procedures, taking into account the provisions of 10 C.F.R. § 2.310.”<sup>375</sup>

In its petition, TSEP does not address these regulations or argue for either Subpart L or Subpart G hearing procedures for contested issues admitted for litigation in this proceeding. Exelon argues Subpart L hearing procedures should be applied.<sup>376</sup> At oral argument, neither TSEP, Exelon, nor the NRC Staff objected to the use of adjudicatory procedures described in Subpart L for adjudication of admitted contentions in this proceeding.<sup>377</sup> Based on the foregoing, the hearing on the contentions we have admitted in this proceeding shall be conducted in accordance with the informal adjudicatory procedures described in Subpart L of 10 C.F.R. Part 2.

B. Matters Regarding Scheduling

The Board will issue a subsequent order establishing a date and time for a scheduling teleconference in which to address matters pursuant to 10 C.F.R. § 2.332.

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<sup>373</sup> 10 C.F.R. § 2.310(a).

<sup>374</sup> Id. § 2.310(d).

<sup>375</sup> Id. § 2.309(g).

<sup>376</sup> Exelon Answer at 104-05.

<sup>377</sup> See Tr. at 250-51.

#### IV. CONCLUSION AND ORDER

For the reasons set forth above, we find that Petitioner, Texans for a Sound Energy Policy, has established its standing to intervene, and has properly pleaded eight (8) admissible contentions for litigation. TSEP is thus entitled to party status in this proceeding. The text of the admitted contentions is set forth in Attachment A to this decision.

For the foregoing reasons, it is this 30th day of June 2011, ORDERED that:

1. Relative to the contentions admitted herein, TSEP's petition and hearing request is granted and TSEP is admitted as a party to this proceeding.

2. The following eight TSEP contentions are admitted for litigation in this proceeding: TSEP-SAFETY-1; TSEP-SAFETY-2; TSEP-SAFETY-3 (in part); TSEP-ENV-1; TSEP-ENV-6; revised TSEP-ENV-7a; revised TSEP-ENV-8a; and TSEP-ENV-16.<sup>378</sup>

3. The following TSEP contentions are rejected as inadmissible for litigation in this proceeding: TSEP-SAFETY-4; TSEP-ENV-2; TSEP-ENV-3; TSEP-ENV-4; TSEP-ENV-5; TSEP-ENV-15; TSEP-ENV-17; TSEP-ENV-18; and TSEP-MISC-1.

4. TSEP's Unopposed Motion for Admission of Revised Contentions and for Withdrawal of Certain Contentions is granted. Pursuant to this motion, environmental contentions revised TSEP-ENV-7a (ENV-7a) and revised TSEP-ENV-8a (ENV-8a) are admitted for litigation in this proceeding, and the following environmental contentions are withdrawn: TSEP-ENV-7; TSEP-ENV-8; TSEP-ENV-9; TSEP-ENV-10; TSEP-ENV-11; TSEP-ENV-12; TSEP-ENV-13; and TSEP-ENV-14.

5. As the Board rules herein upon an intervention petition, any appeal to the Commission from this Memorandum and Order meeting the requirements of 10 C.F.R. § 2.311, must be taken within ten (10) days after service of this Memorandum and Order. Any Petitions for

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<sup>378</sup> See Attachment A.



## ATTACHMENT A

### ADMITTED CONTENTIONS:

#### TSEP-SAFETY-1: INADEQUATE IDENTIFICATION OF GROWTH FAULTS

The Exelon application does not satisfy the requirements of 10 C.F.R. § 100.23(d)(2) because it does not provide sufficient geological data regarding growth faults or present an adequate evaluation of the potential for subsurface deformation. As result [sic], Exelon underestimates the risk of surface deformation.

#### TSEP-SAFETY-2: RATE OF RECENT SURFACE MOVEMENT AT GROWTH FAULTS

Exelon fails to satisfy 10 C.F.R. § 100.23(d)(2) because the SSAR greatly understates the rate of recent surface movement of the growth faults, as established by field studies showing rates of movement 1000 to 10,000 times greater than Exelon estimates.

#### TSEP-SAFETY-3: DANGERS FROM OIL AND GAS WELLS AND BORINGS

Exelon's SSAR fails to provide adequate data regarding active and abandoned oil and gas wells and borings on and near the VCS site, contrary to the requirements of 10 C.F.R. Part 100.

#### TSEP-ENV-1: IMPACTS FROM ENHANCED COOLING BASIN SEEPAGE

The ER fails to satisfy 10 C.F.R. § 51.45 because it understates and does not rigorously evaluate the environmental impacts of enhanced seepage of fluids and contaminants out of the cooling pond into oil and gas wells and borings beneath the VCS site. Exelon's ER does not identify how it will prevent or mitigate this impact by identifying and plugging the wells and borings.

#### TSEP-ENV-6: IMPACTS ON WATER AVAILABILITY AND AQUATIC RESOURCES IN LIGHT OF REASONABLY FORESEEABLE CLIMATE CHANGES

The ER fails to describe or analyze the future changes in water availability in light of the reasonably foreseeable impacts of a changing climate in the Guadalupe and San Antonio River basin.

#### Revised TSEP-ENV-7a: KEY INDICATOR SPECIES IN THE BAY

TSEP contends that VCS water use will significantly reduce fresh water flowing into San Antonio Bay estuary,

- a. Which in turn will significantly increase the salinity of the water in San Antonio, Espiritu Santo, Carlos, and Mesquite bay systems;
- b. which in turn will have a significant impact on abundance of the Eastern Oyster, White Shrimp, and Blue Crab.

Revised TSEP-ENV-8a:        WHOOPING CRANE

TSEP contends that VCS water use will have a significant impact on Whooping Cranes in the Aransas National Wildlife Refuge because VCS water withdrawals from the Guadalupe River will significantly reduce fresh water flowing into San Antonio Bay estuary—

- a. which in turn will significantly increase the salinity of the water in the Bay;
- b. which in turn will significantly impact sources of drinking water, wolfberries, and blue crabs for Whooping Cranes;
- c. will either reduce appreciably the likelihood of Whooping Crane survival and recovery, or result in adverse modification of their designated critical habitat; and
- d. therefore result in non-compliance with Section 7(a)(2) of the Endangered Species Act,

The bases for the contention under 10 C.F.R. 2.309(f)(1)(ii) include but are not limited to:

- (1) The ER's reliance on the SAGES Report;
- (2) Whooping Crane mortality in 2008-09; and
- (3) The Endangered Species Act that requires the NRC to use the best scientific and commercial data available.

TSEP-ENV-16:        OBVIOUSLY SUPERIOR ALTERNATIVE SITE AT MATAGORDA COUNTY

The Exelon ER does not comply with 10 C.F.R. § 51.50(b)(1) because it fails to rigorously explore and objectively evaluate all alternative sites. A comparison of the Matagorda County site and the Victoria County Station site shows that the Matagorda County site presents an obviously superior site for the construction and operation of a nuclear power plant. The alternative Matagorda County site considered by Exelon does not have the serious problems and large impacts identified at the Victoria site.

## ATTACHMENT B

### WITHDRAWN CONTENTIONS:

TSEP-ENV-7: CATASTROPHIC IMPACTS TO THE ENDANGERED WHOOPING CRANE

The Exelon ER is inadequate because it fails to rigorously explore and objectively evaluate the potential for catastrophic impacts of VCS water use on the endangered Whooping Crane—impacts that threaten the survival of the species.

TSEP-ENV-8: WHOOPING CRANE MORTALITY IN 2008-2009

Exelon's ER fails to rigorously explore and objectively evaluate the unprecedented 2008-2009 mortality event of Whooping Cranes at the Aransas National Wildlife Refuge. In the ER, Exelon attempts to undermine the official reports of a federal agency and urges the NRC to rely instead on biologically unsound rationales.

TSEP-ENV-9: THE FLAWED SAGES REPORT

The ER fails to rigorously explore and objectively evaluate the impact of VCS water use on food resources and energetics of Whooping Cranes. Exelon relies heavily upon the SAGES report, despite the fact that it was universally criticized by experts in the field as flawed. Experts agreed it contained false assumptions, and was inconsistent and contrary to published science.

TSEP-ENV-10: REDUCED SEDIMENT AND NUTRIENT INFLOW INTO SAN ANTONIO BAY

The ER fails to explore and evaluate the impacts that the diversion and consumption of water from the Guadalupe River will have upon the San Antonio Bay due to the reduced sediment and nutrient inflows.

TSEP-ENV-11: TREMENDOUS AQUATIC IMPACTS TO SAN ANTONIO BAY AND ITS IMPORTANT ECOSYSTEMS

The water used by VCS will have tremendous aquatic impacts; it will result in more severe, more frequent, and longer lasting "man-made" high salinity drought conditions in the San Antonio Bay system. It will also significantly impact the bay's ecosystems.

TSEP-ENV-12: ADVERSE MODIFICATION OF WHOOPING CRANE DESIGNATED CRITICAL HABITAT

The water used by VCS will have tremendous aquatic impacts; it will result in more severe, more frequent, and longer lasting "man-made" high salinity drought conditions in the San Antonio Bay system. It will significantly impact the bay's ecosystems and will adversely modify designated critical habitat for an endangered species.

TSEP-ENV-13: MONITORING IMPACTS TO WHOOPING CRANE DESIGNATED  
CRITICAL HABITAT

Exelon fails to satisfy 10 C.F.R. § 51.50(b)(4) because Exelon has not identified the procedures to protect the endangered Whooping Cranes' environment, specifically the designated critical habitat at the Aransas National Wildlife Refuge.

TSEP-ENV-14: COMPLIANCE WITH THE ENDANGERED SPECIES ACT

The Exelon application does not include sufficient or accurate information to enable the NRC to comply with the requirements of the federal Endangered Species Act, 16 U.S.C. § 1531 et seq., because Exelon has not rigorously explored or objectively evaluated the impacts of the proposed VCS plant on listed Whooping Cranes.

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

In the Matter of )  
)  
EXELON NUCLEAR TEXAS HOLDINGS, LLC ) Docket No. 52-042-ESP  
(Victoria County Station) )  
)  
)  
)  
(Early Site Permit) )

CERTIFICATE OF SERVICE

I hereby certify that copies of the foregoing LB MEMORANDUM AND ORDER (RULINGS ON STANDING, CONTENTION ADMISSIBILITY, AND SELECTION OF HEARING PROCEDURES) (LBP-11-16) have been served upon the following persons by Electronic Information Exchange.

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Docket No. 52-042-ESP  
LB MEMORANDUM AND ORDER (RULINGS ON STANDING, CONTENTION ADMISSIBILITY,  
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[Original signed by R. Giitter \_\_\_\_\_]  
Office of the Secretary of the Commission

Dated at Rockville, Maryland  
this 30<sup>th</sup> day of June 2011