

**UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION  
Before the Atomic Safety and Licensing Board**

In the Matter of: )  
The Detroit Edison Company ) Docket No. 52-033-COL  
(Fermi Nuclear Power Plant, Unit 3) ) January 22, 2014  
)

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**INTERVENORS' REFILED PROPOSED FINDINGS  
OF FACT AND CONCLUSIONS OF LAW  
ON CONTENTION 15 (QUALITY ASSURANCE)**

Now come Intervenors Beyond Nuclear, *et al.*<sup>1</sup> (hereinafter “Intervenors”), by and through counsel, and pursuant to 10 C.F.R. § 2.1209 and the oral orders of the Atomic Safety and Licensing Board (“ASLB”) on October 31, 2013, hereby submit their proposed findings of fact and conclusions of law on Contention 15.<sup>2</sup>

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<sup>1</sup>In addition to Beyond Nuclear, the Intervenors include: Citizens for Alternatives to Chemical Contamination, Citizens Environment Alliance of Southwestern Ontario, Don’t Waste Michigan, Sierra Club (Michigan Chapter), Keith Gunter, Edward McArdle, Henry Newnan, Derek Coronado, Sandra Bihn, Harold L. Stokes, Michael J. Keegan, Richard Coronado, George Steinman, Marilyn R. Timmer, Leonard Mandeville, Frank Mantei, Marcee Meyers, and Shirley Steinman.

<sup>2</sup>At hearing, the Licensing Board set a filing deadline of January 21, 2014, for proposed findings of fact and conclusions of law. However, federal government offices in Washington DC, including the NRC headquarters, were closed on that date because of snow. Intervenors timely filed their proposed findings a few minutes before midnight, Eastern time on January 21, 2014. However, they filed in Wordperfect format, which is permissible using the EIE system, but as of 9:30 p.m. Eastern time on January 22, 2014, Intervenors have received no automated notice that their January 21 filing has been made of record (they captured a screenshot of the receipt when they filed on January 21, however). Therefore, according to the provisions of 10 C.F.R. § 2.306(a), Intervenors are refiled, this time in .pdf format, the findings and conclusions, on the first business day following the NRC closure.

## **FINDINGS OF FACT**

### **I. Background of Contention 15**

1. On November 6, 2009, the Intervenors filed a Supplemental Petition for Admission of a Newly Discovered Contention (Supplemental Petition), which included a quality assurance (QA) contention numbered as Contention 15.

2. On June 15, 2010, in its “Order (Ruling on Proposed Contentions 15 and 16)”, LBP-10-09 pp. 17-18, the Board admitted this reformulated version of the Contention for adjudication: Contention 15 (including subparts A and B)

Detroit Edison (DTE) failed to comply with Appendix B to 10 C.F.R. Part 50 to establish and implement its own quality assurance (QA) program when it entered into a contract with Black and Veatch (B&V) for the conduct of safety-related combined license (COL) application activities and to retain overall control of safety-related activities performed by B&V. This violation began in March 2007 and continued through at least February 2008. Further, DTE failed to complete internal audits of QA programmatic areas implemented for the Fermi 3 COL Application, and DTE also has failed to document trending of corrective actions to identify recurring conditions adverse to quality since the beginning of the Fermi Unit 3 project in March 2007.

Contention 15A:

These deficiencies adversely impact the quality of the safety related design information in the FSAR that is based on B&V’s tests, investigations, or other safety-related activities. Because the NRC may base its licensing decision on safety-related design information in the FSAR only if it has reasonable assurance of the quality of that information, it may not lawfully issue the COL until the deficiencies have been adequately corrected by the Applicant, or until the Applicant demonstrates that the deficiencies do not affect the quality of safety-related design information in the FSAR.

Contention 15B:

Although DTE claims that in February 2008 it adopted a QA program that conforms to Appendix B, DTE has failed to implement that program in the manner required to properly oversee the safety-related design activities of B&V. This demonstrates an ongoing lack of commitment on the part of DTE’s management to compliance with NRC QA regulations. The NRC cannot support a finding of reasonable assurance that the plant, as built, can and will be operated without endangering the public

health and safety until DTE provides satisfactory proof of a fully-implemented QA program that will govern the design, construction, and operation of Fermi Unit 3 in conformity with all relevant NRC regulations.

3. Intervenors' filing of Contention 15 was based upon a Staff inspection in August 2009 that resulted in a Notice of Violation (NOV) issued in October 2009 ("2009 NOV"). In the 2009 NOV, the Nuclear Regulatory Commission Staff ("NRC Staff") accused DTE of having failed in several respects to comply with the quality assurance ("QA") requirements of 10 C.F.R. Part 50, Appendix B. The alleged violations included: (A) failing to establish and implement a Fermi Unit 3 QA program between March 2007 (when DTE initially contracted with B&V for the conduct of COLA activities for Fermi Unit 3) and February 2008 and failing to retain overall control of contracted COLA activities as required under Criterion II, "Quality Assurance Program" of Appendix B, resulting in inadequate control of procurement documents and ineffective control of contract services performed by B&V for COLA activities; (B) failing to perform internal audits of QA programmatic areas implemented for Fermi Unit 3 COLA activities; and (C) failing to document trending of DTE's corrective action reports.

4. DTE denied that any violation occurred before September 18, 2008, because it was not then a COL applicant and thus was not subject to Appendix B requirements.<sup>3</sup> The NRC Staff later agreed with DTE that it could not issue a NOV for actions or omissions before the date on which DTE submitted the Fermi 3 COLA to the NRC, and withdrew the original Violation A and substituted a revised Violation A in its revised NOV (the April 2010 NOV).<sup>4</sup> But the Staff also

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<sup>3</sup>Exh. DTE000035-00-BD01, "Detroit Edison Reply to Notice of Violation 05200033/2009-201-01, 02, and 03, dated November 9, 2009 (ADAMS Accession No. ML093160318).

<sup>4</sup>Exh. DTE000086-00-BD01, "NRC Response to Detroit Edison Reply to Notice of Violation 05200033/2009-201-01, 02, and 03 and Revised Notice of Violation to Detroit Edison Company," dated

stated that DTE “must demonstrate compliance with Appendix B in order to receive a COL” from the NRC. Thus, the NRC Staff made clear that DTE’s compliance with Appendix B requirements between March 2007 and February 2008, and afterwards, remained relevant to the issuance by the NRC of a Combined Operating License (“COL”).

5. DTE’s reply also disputed Violations B and C of the 2009 NOV. The Staff determined, however, that those violations remained valid.<sup>5</sup> In its April 2010 NOV, the Staff reformulated those two violations into one new violation (revised Violation B). The Staff’s reply also stated that DTE’s response to Violations B and C was responsive to the October 2009 NOV, and DTE was not required to respond further concerning those violations or revised Violation B.

6. In March 2010, the NRC Staff issued a Request for Additional Information No. 26 (“RAI 26”) concerning DTE’s QA activities prior to submittal of the application in September 2008.<sup>6</sup> It stated in part, “[s]ufficient detail has not been provided in the Fermi 3 FSAR to enable the Staff to reach a final conclusion on whether all Fermi 3 project safety-related activities completed prior to the COL application date were consistent with the requirements of Appendix B to 10 CFR Part 50.”

7. DTE responded in May 2010 to RAI 26,<sup>7</sup> describing how, in its view, all Fermi 3 safety-related activities completed or in process prior to September 18, 2008, were consistent

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April 27, 2010.

<sup>5</sup>*Id.*

<sup>6</sup>Letter, “Request For Additional Information Letter No. 26 Related To SRP Sections 12.2.2, 13.6.1, 14.3.2, 14.3.12, and 17.5 for the Fermi 3 COL Application,” ADAMS No. ML100770169.

<sup>7</sup>Exh. DTE000054-00-BD01, “Detroit Edison Company Response to NRC Request for Additional Information Letter No. 26, Related to SRP Section 17.5,” dated May 10, 2010, ADAMS No. ML101320254.

with the requirements of Appendix B, and identifying all safety-related activities performed prior to that date that were related to the Application.

8. On April 17, 2012, DTE moved for summary disposition of Contention 15 and subparts 15A and 15B, which Intervenors opposed. On November 9, 2012, the ASLB ruled to deny summary disposition. LBP-12-23 p. 35. The Board found, “In our view, the adequacy of the QA program both before and after submission by DTE of the COLA is a disputed issue of material fact that must be resolved through the evidentiary hearing process.” *Id.*

9. The record hearing adjudication of Contention 15 took place on October 30-31, 2013.

## **II. Adjudicated Facts**

10. The Quality Assurance issue before this NRC Atomic Safety and Licensing Board (“ASLB”) is unique and unprecedented. Throughout the history of NRC licensing proceedings, and in more than 250 previous license applications (Part 50 or Part 52), each applicant was responsible to implement a fully functional QA program prior to filing its license application. The NRC Staff confirmed this fact in sworn testimony at the adjudication of this matter.<sup>8</sup>

(Question from Judge Baratta to NRC witnesses: (Transcript (“Tr.”) p. 622, lines 17-25)

17 JUDGE BARATTA: Do you know of any other  
18 instance in which a nuclear power plant that has begun  
19 the NRC application process toward a commercial power  
20 operating license has informed the NRC that they were  
21 not actually an applicant until the very day their  
22 completed application was turned into the NRC in final  
23 form?

24 MS. RIVERA-VERONA: I'm not aware.

25 MR. LIPSCOMB: I'm not aware either.

11. Evidence at adjudication established conclusively that DTE Energy had no Quality

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<sup>8</sup>ASLBP No. 09-880-05-COL-BD01, Transcript (“Tr.”) p. 622, lines 17 to 25.

Assurance Program compliant with 10 C.F.R. Part 50, Appendix B from February 2007 through September 2008:

(Tr. p. 683, line 10 - p. 684, line 8)

10 JUDGE BARATTA: I say it's your position  
11 that they retained responsibility as required by  
12 Appendix B even though they did not have a formal  
13 full-blown QA Program at the time in question, which  
14 is I guess prior to 2008?

15 MS. CARPENTIER: That's correct. It was  
16 a limited set of activities. They had not yet staffed  
17 their QA positions, so their own senior management was  
18 doing that sort of oversight.

19 JUDGE BARATTA: And that's sufficient to  
20 satisfy the responsibility?

21 MS. CARPENTIER: For the scale of  
22 activities that were taken place, yes.

23 JUDGE BARATTA: Yes. And I believe the  
24 interveners say no? Okay.

25 MS. CARPENTIER: Okay. To continue, the  
(Page 684)

1 distinction about how Appendix B applies pre and post  
2 licensing is somewhat distinct from this enforcement  
3 question. What the applicant was required to do on  
4 September 18th, 2008 when they submitted the  
5 application was to explain to the NRC what QA Program  
6 did apply to design work that occurred pre  
7 application. **It didn't have its own program. We know  
8 that. We've discussed that at length.**

[Emphasis added]

12. Intervenors maintain that as a result of improper establishment and implementation of a QA program for the Fermi 3 Licensing Project, safety-related information in the FSAR is unreliable and should not be used to support the licensing decision because it is based in whole or in part on tests, investigations, or other safety-related activities performed by Black & Veatch during the period when DTE had neither established nor implemented its own Appendix B QA

program to govern those activities. “Ruling on Proposed New Contentions 15 and 16,” slip op., LBP-10-09 p. 15.

13. The Nuclear Regulatory Commission and the US nuclear industry, through its trade organization NEI (Nuclear Energy Institute), have worked very closely to develop and agree upon a template for nuclear COLA licensees. This NRC/NEI standard template, on which the Fermi 3 Quality Assurance Program Description (“QAPD”) is based, derives from NEI-06-14A, “Quality Assurance Program Description,” that has been established for use by COL applicants as a means to implement the applicable requirements and industry standards for QA programs. The NEI template, like the Fermi 3 QAPD, is based on the standards of NQA-1-1994. The NRC Staff has endorsed the NEI template.<sup>9</sup>

14. Applicants using the template must address conformance with the NRC’s regulatory guidance by including a commitment to the applicable regulatory guides or by providing an alternative (or exception) which must be reviewed and approved by the NRC Staff.

15. In Arnold Gundersen’s declaration on the “Fermi 3 Licensing Project” dated December 8, 2009, Intervenors’ expert identified that Detroit Edison’s decision to subcontract its Quality Assurance function was a deviation from the NEI template without informing the NRC of this deviation. This deviation from the NEI template was significant, and created significant confusion within the Fermi 3 project organization. Later, when finally identified by the NRC in mid-2009, this problem was memorialized with a Notice of Violation (NOV). INTS 001.

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<sup>9</sup>The NRC-endorsed QAPD template was initially released in May 2008 as NEI-06-14A, Revision 5 (ADAMS Accession No. ML081350560) (Exh. DTE000089). The NRC approved version of NEI-06-14A, Revision 7, was issued by NEI in August 2010 (ADAMS Accession No. ML102370305) (Exh. DTE000091).

16. Detroit Edison responded to the NOV<sup>10</sup> by saying that the firm was not required to have an Appendix B program in place during its COLA development prior to its COLA submittal. Moreover, DTE claimed that it had delegated its QA responsibilities to its consulting contractor Black & Veatch. Furthermore, the QA responsibilities were divided between two different Black & Veatch divisions. The responsibility for the QA program was given to one division of Black & Veatch while DTE delegated all the Fermi 3 Licensing Project Engineering to a separate division within Black & Veatch. DTE gave lip service to the need for maintaining its own QA effort during pre-application work to assure that information used as input for design or construction of future systems, structures, and components important to safety would not adversely impact their ability to perform satisfactorily in service.

17. Detroit Edison submitted its Combined Operating License Application (COLA) on September 18, 2008.

18. This case hinges upon the interpretation of what constitutes an “applicant” for a combined operating license to operate the proposed Fermi 3 nuclear power plant. DTE Energy, the COL applicant, contended in prefiled testimony that:

There are no QA requirements that apply prior to submittal of a COL application - that is, before a company is an ‘applicant.’ Rather, implicitly, the prospective applicant must conduct activities that are important to safety (particularly safety-related site investigation activities) in a manner such that the quality can be demonstrated to support the eventual application.

19. Although DTE argues that it had no QA responsibilities as an “applicant” until it became the “applicant” on September 18, 2008, when the COLA was formally filed, the period during which DTE claims it was not an “applicant” from February 15, 2007 to September 18,

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<sup>10</sup> Response designated as INTS 010.

2008 encompasses many planning activities as well as geological boring for core samples to determine where at the existing Fermi site to locate the foundation for Fermi 3.

20. Intervenors' expert witness Gundersen pointed out that DTE claimed in 2009 to understand what the regulation requires - that, implicitly, the prospective applicant must conduct activities that are important to safety (particularly safety-related site investigation activities) in a manner such that the quality can be demonstrated to support the eventual application. However, Gundersen observed, "DTE is claiming to know what 10 CFR §50 Appendix B implied . . . while claiming a plain language interpretation." Gundersen Rebuttal Testimony, May 29, 2013, INTS 069, p. 5.

21. "Applicant," in NRC parlance, "means a person or an entity *applying for a license*, permit, or other form of Commission permission or approval under this part or part 52 of this chapter." 10 CFR § 50.2 (Emphasis added).

22. DTE inconsistently stated that it recognized the need for QA efforts throughout the pre-application period of 2007-2008. Witness Gundersen concluded that "confusion and lack of organizational control reigned within Detroit Edison for years prior to the COLA submittal and to this day. These early QA problems are the root cause of the current site characterization issues that continue to plague the 'Fermi 3 Licensing Project.'" INTS 068 p. 8. Gundersen further opined that DTE QA efforts from 2007-2009 were "inadequate," "do not follow the statutory authority of the Code of Federal Regulations," and "it is implausible that the Atomic Safety and Licensing Board would be able to assure the public that it has reached the requisite conclusion of 'adequate confidence'" that Fermi 3 will satisfactorily perform its service function." INTS 068 p. 9-10.

23. When the Fermi 3 Licensing Project was commenced in 2007, there was no firm decision as to which reactor type (ABWR or ESBWR) would be built, nor the location of that new reactor at the existing Fermi complex in southeastern Michigan. INTS 068, p. 26. According to witness Gundersen, the apparent object to be accomplished by commencing geological assessment drilling under auspices of Fermi 2 was to avoid quality assurance oversight by Fermi 3 Licensing Project QA staff of B&V. INTS 068, p. 26.

24. In examining records of the April 2007 construction of monitoring wells for hydrology investigation and core boring activities for geotechnical data collection at the proposed Fermi 3 site, Gundersen discovered that applicable programs for the nearby operating Fermi Unit 2 for access, work control, and contractor oversight were followed for site work on Fermi 3. INTS 068 p. 10. This posed a QA problem, because there is no indication that use of the Fermi 2 QA Program was analyzed or approved by any DTE personnel connected with or managing the Fermi 3 project, nor by any personnel connected with or managing the Fermi 3 project via Black & Veatch. This included the Owner's Engineer (OE), which is also a Black & Veatch subsidiary located in a separate city and department of B&V. INTS 068, p. 11.

25. Additionally, Gundersen found that a "combination of a separate unapproved corporate entity (Fermi 2) and two non-nuclear vendors with non-nuclear QA programs were used to attempt to satisfy the nuclear QA commitments required to provide essential seismic and structural information for the licensing process applied to the COLA." INTS 068, p. 12.

26. Gundersen identified considerable correspondence within DTE and between DTE and B&V personnel circa 2007 and 2008 which reveal that DTE understood its primacy in overseeing QA for the Fermi Licensing Project. INTS 068, pp. 29-30. Gundersen also found email evidence

that one goal of the Fermi Licensing Project was to have a “self-executing” QA plan, something disfavored by the NRC. INTS 068, p. 28.

27. DTE’s Quality Assurance Program Description (“QAPD”), published in February 2008, does not appear, as described, on DTE’s contemporaneous organizational chart. INTS 068, pp. 31-34. The organizational chart shows a position for a Nuclear QA Oversight Quality Assurance Program. This title was not addressed in the QAPD, and according to the key in the chart, the entire organization had yet to be hired in 2008. Furthermore, the QAPD states that on a daily basis the Nuclear QA Oversight Quality Assurance Program reports to the Manager of the Nuclear Development Program, whose first responsibility is Project Schedule Development & Coordination. According to the organizational chart, no independent reporting relationship exists between QA and higher levels of DTE management. INTS 068, p. 34. According to witness Gundersen, an email between two DTE managers, Smith and Allen, in January 2008 relayed, “it is clear that DTE planned a self-executing QA program and had no intention of hiring QA professionals.” INTS 068, p. 35.

28. Even after the QAPD was published in February 2008, DTE management still did not understand its organizational responsibilities concerning quality assurance oversight. Pointing to a 2008 DTE email wherein DTE asks B&V what type of reviews DTE needs to perform in order to meet COLA requirements, Gundersen commented that “This is yet another example of DTE’s expectancy of a *self-executing* QA program being driven by B&V. Furthermore, the DTE QA manager’s role should be determined by the QAPD, and not via interviews with B&V personnel.” (Emphasis in original). INTS 068, p. 36.

29. Indeed, evidence from DTE itself proves that the Applicant agreed that its QA

program was poorly managed. In response to the NRC's 2009 Notice of Violation, DTE assembled a powerpoint slide presentation in September 2010 in which DTE recognized that its lack of a QA program had created organizational chaos. The last slide said:

If we could wind the clock back:

- Establish a formal Quality Assurance program much earlier
- Implement a procurement procedure before the first contract is issued
- Do not document procedural requirements until they are already complete.

INTS 037.

30. Detroit Edison became the "applicant" on February 15, 2007,<sup>11</sup> when it wrote to the NRC indicating its intent to file a Combined Operating License Application (COLA) for Fermi 3.

31. The definition of "applicant" which became effective in August 2007<sup>12</sup> is found at 10 CFR § 50.2: "*Applicant* means a person or an entity applying for a license, permit, or other form of Commission permission or approval under this part or part 52 of this chapter."

32. Both the NRC Staff and DTE Energy acknowledge that DTE was the "applicant" on May 31, 2007. In a letter from DTE to the NRC Staff, Detroit Edison stated:

DTE Energy is providing information in this letter in response to Regulatory Issue Summary, RIS 2007-08 (Reference 1), regarding DTE support of the NRC's design-centered review approach (DCRA) for Combined License Applications (COLA). The enclosed information applies to DTE Energy's intent to develop a COLA for the Fermi site in Newport, Michigan. The letter provides an overview of DTE Energy's plans, followed by the specific information requested by the RIS.<sup>13</sup>

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<sup>11</sup>February 15, 2007 (ML070600142), Letter from DTE Gipson to NRC Dyer, *Notification for Combined Operation License (COL) Application Schedule*.

<sup>12</sup>Tr. P. 629, line 18.

<sup>13</sup>Exh. DTE000047-00-BD01, "Voluntary Response to RIS 2007-08: Plans for the Submittal of a Combined License Application for the DTE Energy Fermi Site," dated May 31, 2007 (ADAMS Accession No. ML071580347).

32.1. According to the same letter, the NRC Staff asked (p. 3):

“When (month and year) will **applicants** complete the detailed design information to be verified under those inspections, tests, analyses, and acceptance criteria that are directed certification information (design acceptance)? Will this information be completed in a Design Certification amendment application, in the R-COL application, in S-COL application, in post-COL Final Safety Analysis Report updates, or a combination thereof?”

(Emphasis added).

As the *applicant*, DTE responded (p. 3):

Having not yet selected a reactor technology, DTE Energy is not in a position to address this question at this time. DTE Energy intends to conform to the process and schedule established as part of the DCRA for the selected technology.

32.2. The NRC Staff asked (p. 3 ), “Does the **applicant** plan to submit an environmental report or limited work authorization request prior to other portions of the COL application?” (Emphasis added). As the *applicant*, DTE responded (p. 3), “No”.

32.3. The NRC asked (p. 3), “What scope and schedule does the **applicant** project for site characterization activities such as core borings and testing core samples?”

(Emphasis added). As the *applicant*, DTE responded (pp. 3-4):

Site geo-hydrology investigation monitoring well construction began in late April 2007. Monitoring well construction is expected to be complete by mid-June 2007. Core boring activities for the geotechnical data collection plan are expected to follow immediately, beginning sometime between June 12, 2007 and June 30, 2007.

32.4. The NRC asked (p. 4):

What information do the **applicants** have regarding the timing of construction, the ordering of long lead time components, and other commitments to construction? Furthermore, what vendors will be designing, fabricating, and testing safety related components for eventual plant construction?

(Emphasis added). As the *applicant*, DTE responded (p. 4), “The specific responses to these questions will be technology dependent. . . .”

32.5. Questions in the RIS were addressed to the “applicant”; DTE Energy answered unconditionally, without any caveat or qualification to the NRC, as the *applicant*. In fact, DTE Energy concluded (p. 4) “DTE Energy appreciates the opportunity to assist the NRC in planning for this important activity.”

32.6 Intervenor’s expert, Arnold Gundersen, stated, “So, in that document they had the opportunity to say we’re not the applicant until we apply, but they answered affirmatively that in fact they were the applicant.” Tr. p. 391, lines 13-16. Gundersen continued:

I believe the Staff misinterpreted NRC regulations and that you’re an applicant from the time you apply, you notify the - you’re an applicant from the time you notify the NRC you are applying. It’s a dangerous precedent that gets established if that’s not true because all of the deliberate misconduct requires an applicant. Employee protection requires an applicant. Completeness and accuracy requires an applicant. Part 21 requires an applicant. Appendix B requires an applicant.

And if we don’t consider quality assurance necessary until you file your application to me that means that deliberate misconduct, employee protection, completeness and accuracy of information, Part 21 all use those same terms. So the entire fabric of a license application is torn to shreds unless the applicant really is the applicant at the time they notify the NRC of their intent.

33. Both DTE and the NRC are trying to change the regulations and the record in order to move the project forward. The bore hole studies mentioned above were done in early 2007, and both NRC and DTE have declined to revisit the quality of those bore studies, the credentials of the contractors, and/or the supervision or lack of it. DTE’s counsel (Tr. p. 696, lines 7-9) stated that “anyone can go out and drill a bore hole and the NRC doesn’t have anything to do with that,” and NRC’s counsel asserted (Tr. p. 667, lines 20-23) that “the borings themselves are

not a NRC licensed activity. . .” . But these statements are incorrect. The contractors who performed the work on boring were under the B&V quality assurance program. The qualification of these boring vendors was discussed by DTE in its initial response to the NOV.

34. During the October 2013 adjudication, the NRC staff claimed to have no knowledge that DTE had delegated its Quality Assurance responsibilities to the contractor Black & Veatch until after the NOV was written. This statement is contradicted by Detroit Edison’s very first response to the NRC Staff questions regarding DTE’s COLA.<sup>14</sup> In the section entitled, “Plant Construction Requirements Information” (p. 4), the NRC Staff asked:

Who are the vendors and consultants that are assisting in the preparation of the application? The NRC requests that the potential applicants submit a list of entities that are providing input to and are preparing the COL application under a QA Program.

As the *applicant*, DTE responded (p. 4):

Black & Veatch, headquartered in Overland Park, KS have been selected to assist DTE Energy in the preparation of the Fermi COLA. The Black & Veatch Quality Assurance Program, which meets the requirements of 10 CFR 50, Appendix B and ASME NQA-1, is being applied to appropriate aspects of the work scope. **Black & Veatch has overall responsibility** for preparation of the Fermi COLA and B&V and its principal subcontractors will be governed by Black & Veatch QA requirements.”

(Emphasis added).

34.1. The historical record is clear that as early as May 2007, the NRC was aware that DTE had violated its QA responsibilities identified in 10 CFR Part 50, Appendix B by delegating “overall responsibility” to Black & Veatch, a mere contractor.

34.2. But five years later, in closing argument comments made during the October 2013 ASLB hearing, DTE Energy, by counsel, attempted to misstate the historical

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<sup>14</sup>Exh. DTE000047, “Voluntary Response to RIS 2007-08: Plans for the Submittal of a Combined License Application for the DTE Energy Fermi Site.,” *id.*

record in response to questions from Judge Baratta:

(Tr. p. 698, line 5 - p. 699, line 5)

5 JUDGE BARATTA: I'm a little concerned  
6 about the way you're throwing around the word  
7 "responsibility" there, because the Appendix B really  
8 says the applicant may delegate to others such as  
9 contractors, agents or consultants the work of  
10 establishing and executing a Quality Assurance  
11 Program, not the responsibility.

12 MR. TYSON SMITH: I'm sorry, I did  
13 **misspoke**. We delegated the work, not the  
14 responsibility.

15 JUDGE BARATTA: And I'll also refer to  
16 your rebuttal statement position, because you made the  
17 same error there in that you stated that - delegated  
18 to Black and Veatch the responsibility for  
19 establishing and executing a QA Program. And this is  
20 on - I think it's page 10 of your rebuttal statement.  
21 And then go on to say DTE retained overall  
22 responsibility of the program.

23 MR. TYSON SMITH: Well, I have no reason  
24 to doubt that that's what that says, and that's  
25 certainly a **misstatement**. It should be delegated  
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1 the --

2 JUDGE BARATTA: Authority.

3 MR. TYSON SMITH: -- authority to perform  
4 that work, not the responsibility. That's clearly not  
5 what we intended and not what we did.

(Emphasis added).

34.3. Despite DTE's assertions in 2013, it is evident that the Applicant did not "misspeak" or "misstate" in 2007 when it notified the NRC that it had delegated "overall responsibility" for Quality Assurance to Black & Veatch.

34.4. The NRC staff seems to have ignored DTE's announcement that it had delegated overall responsibility to Black & Veatch in 2007. NRC witness George

Lipscomb testified that DTE did maintain that responsibility:

(Tr. p. 594, lines 2 - 15)

2 JUDGE BARATTA: Then how did they maintain  
3 responsibility?

4 MR. LIPSCOMB: How did they maintain their  
5 responsibility?

6 JUDGE BARATTA: To ensure to meet 2.20 of  
7 NQA-1.

8 MR. LIPSCOMB: They contractually had  
9 Black and Veatch do that for them through the Black  
10 and Veatch --

11 JUDGE BARATTA: Can you delegate  
12 responsibility, yes or no, in a QA Program?

13 MR. LIPSCOMB: **They -- they delegated**  
**14 meeting the Appendix B requirements to their**  
**15 contractor. They maintained their responsibility.**

(Emphasis added).

34.5. Later in testimony, Mr. Lipscomb again maintained that DTE had  
retained QA responsibility which it had, in fact, renounced in 2007:

(Tr. P. 611, lines 11-23)

11 JUDGE BARATTA: Okay. And I guess I still  
12 haven't seen in your documents, other than in  
13 reference to the Black and Veatch Michigan office,  
14 which is still not DTE, where they kept this sense of  
15 responsibility which is required under any -- I don't  
16 care how you try to meet QA, but it's required.

17 That's one of the fundamental tenets, if you like.  
18 And I think you agree with you, is that correct, that  
19 it's a basic tenet that whoever is having the work  
20 done has to have responsibility for ensuring the  
21 quality of that work?

22 MR. LIPSCOMB: **DTE had responsibility for**  
**23 ensuring that the requirements were met.**

(Emphasis added).

35. On August 8, 2007 the NRC issued its first audit report of the Fermi 3 project<sup>15</sup> in which it quite clearly determined that DTE was the *applicant*:

Background:

By letter dated February 15, 2007 (ML070600142), DTE Energy informed the NRC staff that it had selected the site of Detroit Edison's Fermi 2 Nuclear Plant to be the subject for a combined license (COL) application, with plans to submit the application in the fourth quarter of 2008. A COL is a combined construction permit and operating license with conditions for a nuclear power facility pursuant to 10 CFR Part 52, Subpart C. Detroit Edison has contracted Black and Veatch as a nuclear services provider to conduct activities necessary to submit a COL application to the NRC, including the geotechnical site studies required for that application. Black and Veatch has contracted with other companies, including Boart Longyear (for drilling); Professional Service Industries, Inc (PSI) (for laboratory testing services); Geomatrix Consultants (for seismic characterization); etc. to complete the contract.

Overview of Subsurface Investigation Activities Discussed and/or

Observed:

Although the specific reactor technology to be used is currently under corporate review, Detroit Edison plans to use the subsurface investigations described below to provide geotechnical data, including subsurface geology, ground water hydrology, and geotechnical material properties through borings, geophysical borehole logging, borehole hydrologic monitoring, and field and laboratory testing to determine the suitability of the Fermi site for a COL for a new reactor facility. Hydrogeologic investigations included in-situ testing to determine sub-surface hydraulic properties, such as porosity and hydraulic conductivity. Characterization of the area hydrogeology indicated that there is a potential for solution channels in portions of the Salinas formation, which has considerable dolomite, limestone, and breccia among other formation types. There are also some possibilities for fracture-induced secondary porosity. **In addition, the possibility of groundwater flow reversal was identified by the applicant and this will be addressed in subsequent detailed investigations.** Discussions regarding the importance of sufficient site characterization, data collection, analysis, modeling, and development of alternate conceptual models were held with the DTE staff with emphasis on the NRC Standard Review Plan, specifically hydrologic safety reviews. Additional topics of discussion included: the spatial and temporal coverage of the data; alternate conceptual models to establish a framework that properly identifies the physical, hydrologic, hydrogeologic, and geochemical processes which have safety-related implications; models that describe the groundwater flow regime and identify pathways; and impacts

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<sup>15</sup>Exh. DTE000084 4/30/2013, "Audit of Combined License Pre-Application Subsurface Investigation Activities at Fermi (Project No. 757)," August 8, 2007, ADAMS Accession No. ML072190660, p. 2 (p. 5/8 .pdf).

from the previous developments in the area which have the potential to alter the hydrology of the site.

The scope of the planned site characterization activities includes various field and geotechnical laboratory tests. Field exploration methods addressed in the site characterization plan include standard penetration tests, ground water observation wells, seismic downhole velocity measurements (P-S logging), cone penetration tests, and borehole pressuremeter [*sic*] tests.

Proposed geotechnical laboratory tests on soil samples include soil classification, moisture content, direct shear tests, triaxial shear tests, consolidation tests and dynamic tests. Detroit Edison's subsurface investigation activities were being conducted in areas where the proposed cooling towers, yard structures, and reactor and power block had been sited.

(Emphasis added)

35.1. Furthermore, in this audit report of Fermi 3, the NRC Staff indicated that it based its inspection on the NRC Inspection Manual, Chapter 2502, "Construction Inspection Program: Pre-Combined License (Pre-COL) Phase" (issued 6/22/2005) (herein called *Pre-COL Inspection Manual 2502*). As illustrated below, the NRC Staff's use of Chapter 2502 makes it clear that the NRC staff believed that DTE was the *applicant* beginning in February 2007.

35.1.1. According to the *Pre-COL Inspection Manual 2502*,<sup>16</sup> p. 5:

2502-05 DISCUSSION

05.01 General. Figure 1, "COL Application and Review Timeline," graphically depicts the licensing process for an application referencing an ESP and standard design. **This chapter will initially be applied when an applicant announces the intent to apply for a COL**, and will continue to be applied through the review process until the combined licensing decision is made. Initial inspection and assessment activities will support the NRC decision on whether to docket an application, while additional inspections and assessments will support the process for the consideration of the combined license.

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<sup>16</sup>In the "Conclusions of Law" section of these Findings, *infra*, the ASLB takes official notice of the "Pre-COL Inspection Manual."

(Emphasis added)

35.1.2. According to the *Pre-COL Inspection Manual 2502*, p. 5:

This Manual Chapter provides the NRC guidance for inspection and assessment of an **applicant's quality assurance and design engineering programs during design and procurement activities in the preparation of an application for a COL**, and during engineering design activities in preparation for construction of a nuclear power facility.

(Emphasis added)

35.1.3. According to the *Pre-COL Inspection Manual 2502*, p. 5:

05.02 NRC Meetings with the Applicant. **When the NRC receives official notice of an applicant's intent to prepare or submit an application for a COL**, NRR will schedule a public meeting, or series of public meetings, between NRC and the applicant.

(Emphasis added)

35.1.4. According to the *Pre-COL Inspection Manual 2502*, p. 6:

The information exchange should include the following:

... g. The applicant's plans and schedule for site preparation activities and the NRC plans for inspections to assure the acceptable implementation of the QA program and activities to ensure the protection of the environment.

35.1.5. According to the *Pre-COL Inspection Manual 2502*, p. 7:

Pre-Docketing Review.

Until the DIPM review of the COL application is complete, **when conducting inspection activities before the COL application is docketed, any evaluation of the applicant's quality assurance measures for ongoing design and procurement activities shall be against NRC endorsed QA guidance based on 10 CFR Part 50, Appendix B**, requirements related to those activities. The applicant may describe an alternative to NRC QA guidance, as long as it meets the requirements of 10 CFR Part 50, Appendix B.

(Emphasis added)

36. As evidenced by the discussions below, and in thorough disregard of the requirements of *Pre-COL Inspection Manual 2502*, the NRC Staff witnesses and the DTE witnesses repeatedly asserted to the ASLB that in fact DTE was not required to implement a QA program prior to DTE's submission of its COLA.

36.1. For instance, NRC Staff witness Lipscomb testified as follows:

(Tr. p. 605, lines 14 - 18)

14 CHAIRMAN SPRITZER: So the applicant must  
15 retain responsibility during the pre-application  
16 phase?

17 MR. LIPSCOMB: **But the applicant is not an  
18 applicant until they apply.**

(Tr. p. 591, lines 3 - 15)

3 CHAIRMAN SPRITZER: By what are they  
4 required to do that under your interpretation? Can't  
5 be Appendix B because under your interpretation  
6 Appendix B doesn't apply. So there must be some other  
7 regulatory requirement that -- that requires what you  
8 just said. What is it?

9 MR. LIPSCOMB: Well, if I said -- if I  
10 said Appendix B didn't apply, I misspoke. Appendix B  
11 does apply. **I said that they -- Detroit Edison is not  
12 required to have a Quality Assurance Program in place  
13 prior to the date of their application.**

14 JUDGE BARATTA: I really find your  
15 position to be very, very troubling.

(Tr. p. 593, lines 5 - 9)

5 JUDGE BARATTA: So you're saying there was  
6 no requirement for them to have in place anything  
7 prior to September 18th, 2008?

8 MR. LIPSCOMB: **They were -- they were not  
9 required to have a Quality Assurance Program in place.**

(Tr. p. 604, lines 1 - 6)

(Lipscomb)

1 . . . **What I'm saying is the -- the umbrella**  
2 **of the Appendix B Program doesn't have to be in place**  
3 **prior to that application.** They need to ensure all  
4 the activities still meet Appendix B, but the  
5 individual DTE Program in this case does not have to  
6 be complete.

(Emphasis added)

36.2. But later, NRC Staff witness Lipscomb reversed himself and contradicted his own testimony when he testified, "Well, Appendix B applies pre- and post-application." Tr. p. 606, lines 3-4.

36.3. Furthermore, at Tr. p. 610, NRC staff witness Lipscomb testified,

15 MR. LIPSCOMB: Well, I think it's  
16 important to -- to understand the distinctions between  
17 a QA Program and making sure that all the safety  
18 related activities met regulatory requirements. **And**  
19 **if the -- Detroit Edison is -- is not required to have**  
20 **a Quality Assurance Program in place prior to the date**  
21 **of their application...**

(Emphasis added)

36.4. Finally, at Tr. p. 598, NRC Staff witness Lipscomb was asked by the ASLB to provide a citation to the Code of Federal Regulations that supports the NRC's and DTE's positions that an applicant is not required to have an Appendix B QA program until the application is filed:

1 CHAIRMAN SPRITZER: Well, as I read  
2 Appendix B, it requires an applicant. That seems to  
3 be the staff's position. Am I wrong about that?  
4 MR. LIPSCOMB: **They don't have to have the**  
5 **full -- the Quality Assurance Program until they're an**  
6 **applicant,** but it doesn't relieve them of the  
7 responsibility as -- applying for a license as a part

8 of that licensing review, making sure that all the  
9 safety-related activities, whether they occur prior to  
10 application or after application, still met the  
11 requirements of Appendix B.  
12 CHAIRMAN SPRITZER: **Right. What I would**  
13 **like you to provide me is a citation to whatever you**  
14 **say in the Code of Federal Regulations says what you**  
15 **just said.** Maybe if you can't do that here today your  
16 counsel may be able to do it in closing argument.  
17 JUDGE BARATTA: Well, I think we're going  
18 to have to have a little discussion with counsel on  
19 this, because I think this is -- **I find it an**  
20 **appalling interpretation by the staff and I'm very**  
21 **troubled by it.**

(Emphasis added)

36.5. The NRC Staff, by counsel, insisted on a position contrary to the express requirements delineated in the *Pre-COL Inspection Manual 2502* which the Staff provided as a supporting document in evidence:

(Tr. pp. 679, line 21 - 680, line 12)

21 JUDGE BARATTA: Okay. I think, you know,  
22 Appendix B clearly allows the delegation of the  
23 authority for creation and running of a QA Program to  
24 a vendor. Okay? But it does of course require the  
25 applicant to retain the responsibility for that  
(p. 680)

1 Quality Assurance Program. And what is your  
2 interpretation of the word "responsibility" as it  
3 relates to the regulations? A legal question.

4 MS. CARPENTIER: Ultimately they have to  
5 be able to present this information under oath and  
6 affirmation to the NRC and stand behind it. How they  
7 get there, how they assure themselves that they can do  
8 that and how we evaluate it afterwards, that can take  
9 many forms. **Again, that's not in the regulations or**  
10 **guidance anywhere prescriptively,** but using a  
11 contractor that's doing the work and also has a, you  
12 know, well-audited program in place is the first step.

(Emphasis added)

37. Beginning in June 2009 with the series of NRC staff email exchanges detailed by Arnold Gundersen in his declaration,<sup>17</sup> the NRC identified that DTE was the applicant and did not have a Quality Assurance Program as required by 10 CFR § 52.79 (a)(25). It is understandable that the NRC staff would expect DTE to maintain responsibility for an Appendix B program as both the NRC and DTE have identified in 2007 that DTE was indeed an applicant (as delineated above), and that “Black & Veatch had been selected to **assist** DTE”. (Emphasis added). After all, DTE never informed the NRC that it had abrogated its statutorily required responsibility for Quality Assurance and delegated it, without oversight, to Black & Veatch.

38. Neither the NRC Staff nor DTE Energy could establish the legal basis under which the NRC could authorize Black & Veatch to develop and implement the alleged QA program for Fermi 3:

(Tr. pp. 623, line 1 - 624, line 25)

1 JUDGE BARATTA: Because Black and Veatch  
2 was not and is not today to my knowledge an applicant  
3 for a license from the NRC for a nuclear power plant,  
4 under what legal authority is the NRC able to approve  
5 Black and Veatch's authority to develop and implement  
6 the alleged QA Program for Fermi Unit 3?  
7 MR. LIPSCOMB: **Well, we don't approve the**  
8 **Black and Veatch Program. They were contracted with**  
9 **to create that for the Detroit Edison project. We**  
10 **don't approve them to do any work.** That's a  
11 contractual agreement that they have with in this case  
12 Detroit Edison.  
13 CHAIRMAN SPRITZER: So if I understand what  
14 you just told me correctly, the NRC never approved the

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<sup>17</sup>“Declaration of Arnold Gundersen Supporting Supplemental Petition Of Intervenors’  
Contention 15: DTE COLA Lacks Statutorily Required Cohesive QA Program,” pp. 7 -16 (December 8,  
2009).

15 Black and Veatch QA Program for use at Fermi 3?  
16 MR. LIPSCOMB: **Well, Black and Veatch is**  
17 **a vendor, so we do not approve the QA Programs for**  
18 **vendors.** There are some circumstances, for instance  
19 like General Electric-Hitachi, which is a vendor and  
20 also an applicant, which might be a -- a separate  
21 issue. But Black and Veatch being a vendor, we do not  
22 approve their Quality Assurance Programs. We -- we  
23 review and approve as part of a licensing decision the  
24 applicant's program, in which case Detroit Edison. **We**  
25 **do not approve Black and Veatch as a vendor.**

(Page 624)

1 CHAIRMAN SPRITZER: All right. If I'm  
2 understanding your testimony and system again  
3 correctly, there seems to be another distinction then  
4 between the pre-application and post-application  
5 period, at least if it's done the way it was done  
6 here. During the pre-application process, as I  
7 understand your testimony, for safety-related work it  
8 would not be done under a QA Program actually approved  
9 by the NRC, if it's done by a contractor such as Black  
10 and Veatch operating under their own program.

11 MR. LIPSCOMB: **That's correct.** So  
12 activities prior to application were done under the  
13 Black and Veatch Program, which is not specifically  
14 approved by the NRC, but is audited by other agencies  
15 to meet Appendix B requirements. And in -- in our  
16 review of the application material that was submitted,  
17 we found that the safety-related activities that  
18 occurred prior to Detroit Edison submitting their  
19 application were done under the Black and Veatch  
20 Program.

21 CHAIRMAN SPRITZER: No, all I was talking  
22 about was the fact that that program itself wasn't --  
23 the Black and Veatch Program was not actually approved  
24 by eh [sic] NRC.

25 MR. LIPSCOMB: **That is correct.**

(Emphasis added)

39. In both 2007 and 2008 both the NRC and DTE neglected to perform the required QA audits of Black & Veatch. Thus there is no independently verifiable assessment that this critical

safety-related work product has been correctly implemented. Other COL applicants with fully-functional Appendix B programs have audited B&V in the past and uncovered issues that required resolution. Without a fully-functional Appendix B program at DTE nor an audit of B&V's efforts throughout the important 2007-2008 benchmarking period, there is absolutely no assurance that the Fermi 3 work meets necessarily-stringent nuclear quality assurance criteria.

### **III. Conclusions of Law**

40. Before the Licensing Board can address the merits of Contention 15, there are several matters related to evidence and proofs which must be decided.

#### **A. Evidentiary Matters**

##### **1. Determination that Intervenors' Witness Gunderson Is an Expert**

41. Technical analyses offered in evidence must be sponsored by an expert who can be examined on the reliability of the factual assertions and soundness of the scientific opinions found in the documents. *Southern Cal. Edison Co.* (San Onofre Nuclear Generating Station, Units 2 & 3), ALAB-717, 17 NRC 346, 367 (1983), citing *Duke Power Co.* (William B. McGuire Nuclear Station, Units 1 & 2), ALAB-669, 15 NRC 453, 477 (1982).

42. We questioned Arnold Gunderson, the expert witness proffered by Intervenors, at the hearing about his qualifications,<sup>18</sup> to discharge the Board's inherent responsibility to ascertain the reliability of evidence and testimony produced at hearing. We found that Mr. Gunderson had supervisory oversight in the creation of quality assurance standards, the coordination of QA efforts with design and construction projects, and that he further was personally familiar with engineering guidance respecting quality assurance expectations.

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<sup>18</sup>See generally, Transcript of adjudication, October 30, 2013, pp. 398-402.

43. The Board further closely scrutinized Mr. Gundersen's *curriculum vitae*, noting that his experience as a nuclear engineer spans portions of five (5) decades. From his CV, the Board found that the following represent instances in which Mr. Gundersen presented expert testimony in adversarial and administrative settings regarding nuclear engineering, safety, and decommissioning issues:

- San Onofre Nuclear Generating Station, Atomic Safety and Licensing Board, U.S. Nuclear Regulatory Commission (January 2013) – written testimony as an expert witness.
- Indian Point Nuclear Power Plant, New York State Department of Environmental Conservation (November 2011) – written and oral testimony as an expert witness, and subjected to cross-examination.
- North Anna 3 Nuclear Power Plant, Atomic Safety and Licensing Board, U.S. Nuclear Regulatory Commission (October 2010) – written reports as an expert witness.
- Vogtle 3 and 4 Nuclear Power Plant, Atomic Safety and Licensing Board, U.S. Nuclear Regulatory Commission (August 2010) – written testimony as an expert witness.
- Bellefonte Nuclear Power Plant, Atomic Safety and Licensing Board, U.S. Nuclear Regulatory Commission (2009) written testimony as an expert witness.
- Pilgrim Nuclear Power Plant, Atomic Safety and Licensing Board, U.S. Nuclear Regulatory Commission, (April 2008) – written report and oral testimony as an expert witness
- Vermont Yankee Nuclear Power Plant, State of Vermont Supreme Court, (March 2006) written report as an expert witness.
- Vermont Yankee Nuclear Power Plant, State of Vermont Environmental Court, (April 2007) written reports and deposition as an expert witness.
- Levy County 1 and 2 Nuclear Power Plant, Florida Public Service Commission, (September 2009) (Progress Energy questioned credentials under cross examination and in deposition, testimony accepted by FL Public Service Commission) – written and oral testimony as an expert witness.
- Vermont Yankee Nuclear Power Plant, State of Vermont Public Service Board, (2003-2004) written and oral testimony as an expert witness; testimony admitted into evidence.
- Penn Central (NRC licensee Nuclear Energy Services), United States Nuclear Regulatory Commission Inspector General.
- Testimony led to two NRC Inspector General reports and two Congressional Hearings about corruption within the Nuclear Regulatory Commission.
- Publicly recognized by NRC Chairman Ivan Selin, in May 1993, before U.S. Senate Government Oversight Committee chaired by Senator John Glenn.
- Three Mile Island Litigation (TMI) (1994-1997) – written and oral testimony as an expert witness.

44. Neither the NRC Staff nor DTE Energy entered any objection to Mr. Gundersen's

proffers of prefiled, written testimony, nor to his provision of expert conclusions at any point before and during the adjudicatory hearing in this case.

45. A witness is qualified as an expert by knowledge, skill, experience, training, or education. *Philadelphia Elec. Co.* (Limerick Generating Station, Units 1 & 2), ALAB-819, 22 NRC 681, 732 n.67 (1985), citing Fed. R. Evid. 702. See *Pac. Gas & Elec. Co.* (Diablo Canyon Nuclear Power Plant, Units 1 & 2), LBP-78-36, 8 NRC 567, 570 (1978) (the qualifications of the expert should be established by showing either academic training or relevant experience or some combination of the two); *Carolina Power & Light Co.* (Shearon Harris Nuclear Power Plant), LBP-01-9, 53 NRC 239, 250 (2001). The opinions of an expert witness which are based on scientific principles, acquired through training or experience, and data derived from analyses or by perception are admissible as evidence. *Philadelphia Elec. Co.* (Limerick Generating Station, Units 1 & 2), ALAB-819, 22 NRC 681, 720 & n.52 (1985). See Fed. R. Evid. 702.

46. Mr. Gundersen demonstrated academic training, relevant experience, and a sufficient understanding of engineering and scientific principles, all of which he applied to the data he derived related to quality assurance matters, and quality assurance management issues, associated with the Fermi 3 project.

47. Based upon the resume of Mr. Gundersen's practical experience as a significant engineering manager, coupled with his involvement in many adjudicatory events and investigations, and further upon the consistency of his preparation, analysis and presentation in the instant matter, the Atomic Safety and Licensing Board concludes that Arnold Gundersen properly testified as a fully-qualified expert on the subject of quality assurance conditions, processes and management of same at Fermi 3, and that his testimony assisted the Board in arriving at its

conclusions respecting Contention 15.

2. Admission of Intervenors' Trial Exhibits

48. Intervenors timely moved, orally at closing argument on October 31, 2013, for the Board to reconsider admitting certain previously-excluded exhibits into the trial record. Tr. 10/30/2013 p. 299, Tr. 10/31/2013 p. 649. The disputed items are Exhibits INTS 034, INTS 035, INTS 037 through INTS 049, and INTS 064.

49. We vacate our earlier rulings which excluded these exhibits, and now admit them to the adjudicatory record. The exhibits are relevant and comprise a material foundation for the testimony of Arnold Gundersen. They reveal much about the corporate culture of DTE Energy, which is important information concerning the integrity of the Applicant. DTE Energy's integrity is a significant factor for consideration by the Board in qualifying Applicant as qualified to undertake the Fermi 3 project if a Combined Operating License is issued by the NRC.

50. The exhibits, and the references to them which are woven through Gundersen's expert reports, bespeak a lack of an adequate quality assurance program and a deficient corporate culture as to maintaining quality standards, for many months. This span of months coincided with the critical outset of the Fermi 3 Licensing Project. The cited exhibits, besides constituting some of the evidence of this void, also tend to prove the unreliability or unwillingness of DTE Energy to adhere to the strict requirements for new plant development - or to cut cost corners on quality.

51. The integrity or character of a licensee's management personnel bears on the Commission's ability to find reasonable assurance that a facility can be safely operated. Lack of either technical competence or character qualifications on the part of a licensee or applicant is

sufficient grounds for the revocation of a license or the denial of a license application. In making determinations about character, the Commission may consider evidence bearing upon the licensee's candor, truthfulness, willingness to abide by regulatory requirements, and acceptance of responsibility to protect public health and safety. The issue of character is a proper matter for inquiry in a licensing proceeding. *Ga. Power Co.* (Vogle Electric Generating Plant, Units 1 & 2), CLI-93-16, 38 NRC 25 (1993). *See also Piping Specialists, Inc.* (Apollo, Pennsylvania Fuel Fabrication Facility), LBP-92-24, 36 NRC 156, 163, n.5 (1992); *Commonwealth Edison Co.* (Zion Nuclear Power Station, Units 1 & 2), CLI-99-4, 49 NRC 185, 189 (1999). The Commission may consider evidence of licensee behavior having a rational connection to safe operation of the facility and some reasonable relationship to a licensee's candor, truthfulness, and willingness to abide by regulatory requirements and accept responsibility to protect public health and safety. *Metro. Edison Co.* (Three Mile Island Nuclear Station, Unit 1), CLI-85-9, 21 NRC 1118, 1136-37 (1985). By these measures, the exhibits are relevant. They back up, collectively and individually, Gundersen's expert conclusions that a finding of confidence in DTE's ability to proceed with construction and operation of Fermi 3 is not presently warranted.

52. Evidence is admissible if it is relevant, material, reliable and not repetitious. 10 C.F.R. §§ 2.337(a), 2.711(e). Because Intervenors' exhibits are relevant and material (and not repetitious) to critical determinations the ASLB must make, and further because their existence and the context of their usage were presented months before trial as explicit citations within the prefiled testimony of witness Gundersen, they hereby are admitted for all purposes.

### 3. Official Notice of NRC Inspection Manual, Chapter 2502

53. We further take official notice of the NRC Inspection Manual, Chapter 2502, Adams

No. ML043070008, which is referenced in DTE's Exhibits 35<sup>19</sup>, 84<sup>20</sup>, and 86<sup>21</sup>, and about which there was considerable testimony and controversy. The Inspection Manual is a document maintained by the NRC Staff, is available in ADAMS, and its existence and contents are not disputed. Under 10 C.F.R. § 2.337(f), official notice may be taken of any fact of which U.S. courts may take judicial notice. In addition, Licensing Boards may take official notice of any scientific or technical fact within the knowledge of the NRC as an expert body. *Yankee Atomic Elec. Co.* (Yankee Nuclear Power Station), CLI-96-7, 43 NRC 235 (1996). The Commission may take official notice of a matter which is beyond reasonable controversy and which is capable of immediate and accurate determination by resort to easily accessible sources of indisputable accuracy. *Long Island Lighting Co.* (Shoreham Nuclear Power Station, Unit 1), CLI-91-2, 33 NRC 61, 74-75 (1991), citing *Gov't of Virgin Islands v. Gereau*, 523 F.2d 140, 147 (3rd Cir. 1975), *cert. denied*, 424 U.S. 917 (1976), *reconsid. denied on other grounds*, CLI-91-8, 33 NRC 461 (1991).

54. The Board presiding over this adjudication added two documents to the record, *sua sponte*, on the eve of trial because they were referenced in other admissible exhibits. "Order

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<sup>19</sup>Exh. DTE000035-00-BD01, "Detroit Edison Reply to Notice of Violation 05200033/2009-201-01, 02, and 03, dated November 9, 2009 (ADAMS Accession No. ML093160318).

<sup>20</sup>Exh. DTE000084, "Audit of Combined License Pre-Application Subsurface Investigation Activities at Fermi (Project No. 757)," August 8, 2007, ADAMS Accession No. ML072190660, p. 2 (p. 5/8 .pdf).

<sup>21</sup>Exh. DTE000086-00-BD01, "NRC Response to Detroit Edison Reply to Notice of Violation 05200033/2009-201-01, 02, and 03 and Revised Notice of Violation to Detroit Edison Company," dated April 27, 2010.

(Notice of Admitting Board Exhibits 001 and 002),” October 25, 2013.<sup>22</sup> We added those to the record in order to have as complete an evidentiary picture as possible, and we bring into the record these parts of the *NRC Inspection Manual* in furtherance of that goal.

## **B. Legal Standards Pertaining to Trial Findings**

### 1. Burden of Proof

55. An applicant generally bears the ultimate burden of proof. *Metropolitan Edison Co.* (Three Mile Island Nuclear Station, Unit 1), ALAB-697, 16 NRC 1265, 1271 (1982), but intervenors must give some basis for further inquiry. *Three Mile Island, supra*, 16 NRC at 1271, citing *Pennsylvania Power and Light Co. and Alleghany Electric Cooperative, Inc.* (Susquehanna Steam Electric Station, Units 1 & 2), ALAB-613, 12 NRC 317, 340 (1980).

56. Once a party has introduced sufficient evidence to establish a *prima facie* case, the burden then shifts to the applicant, which must provide a sufficient rebuttal to satisfy the Board that it should reject the contention as a basis for denial of the permit or license. *La. Power & Light Co.* (Waterford Steam Electric Station, Unit 3), ALAB-732, 17 NRC 1076, 1093 (1983), citing *Consumers Power Co.* (Midland Plant, Units 1 & 2), ALAB-123, 6 AEC 331, 345 (1973); *La. Power & Light Co.* (Waterford Steam Electric Station, Unit 3), ALAB-812, 22 NRC 5, 56 (1985).

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<sup>22</sup>In that Order, we said: “The Board notifies the parties that it intends to admit, as a Board exhibit and labeled as BRD-001, the document identified as the American Society of Mechanical Engineers (ASME) NQA-1–1994, ‘Quality Assurance Requirements for Nuclear Facility Applications.’ This document is referenced in the record, but, as far as the Board has been able to determine, has not itself been made an exhibit.

The Board also intends to admit, as a Board exhibit and labeled as BRD-002, the document identified as the American Society of Mechanical Engineers (ASME) NQA-2–1989 ‘Quality Assurance Requirements for Nuclear Facility Applications.’ The document is referenced in NUREG-0800, which is an exhibit, but there appears to be no date given for NQA-2 in NUREG-0800.”

57. Respecting the adjudication of quality assurance violations, we earlier in this case articulated the requirements and which party must carry the respective burdens of evidence (LBP-10-09 at pp. 29-30):

The effect of a pattern of QA violations is not necessarily to show that particular safety-related information is false, but, as the Appeal Board stated in the Diablo Canyon licensing proceeding, to erode the confidence the NRC can reasonably have in, and create substantial uncertainty about the quality of, the work that is tainted by the alleged QA violations. [Citing *Pac. Gas & Elec. Co.* (Diablo Canyon Nuclear Power Plant, Units 1 and 2), ALAB-763, 19 NRC 571, 576 (1984) (quoting that Board's Scheduling Order)]:

[P]erfection in plant construction and the facility construction quality assurance program is not a precondition for a license under either the Atomic Energy Act or the Commission's regulations. What is required instead is reasonable assurance that the plant, as built, can and will be operated without endangering the public health and safety. To be sure, this does not lead inexorably to the conclusion that the work must be rejected or the application denied. [Citing *Diablo Canyon*, ALAB-756, 18 NRC at 1345 (citing 42 U.S.C. §§ 2133(d), 2232(a); 10 C.F.R. § 50.57(a)(3)(i); *Power Reactor Dev. Co. v. Int'l Union*, 367 U.S. 396, 407 (1961); *Maine Yankee Atomic Power Co.* (Maine Yankee Atomic Power Station), ALAB-161, 6 AEC 1003, 1004 (1973), *aff'd sub nom.*, *Citizens for Safe Power v. NRC*, 524 F.2d 1291 (D.C. Cir. 1975)). *See also Union Elec. Co.* (Callaway Plant, Unit 1), ALAB-740, 18 NRC 343, 346 (1983)]

Similarly, in the *Callaway* licensing proceeding, the Appeal Board stated:

In any project even remotely approaching in magnitude and complexity the erection of a nuclear power plant, there inevitably will be some construction defects tied to quality assurance lapses. It would therefore be totally unreasonable to hinge the grant of an NRC operating license upon a demonstration of error-free construction. Nor is such a result mandated by either the Atomic Energy Act of 1954, as amended, or the Commission's implementing regulations. What they require is simply a finding of reasonable assurance that, as built, the facility can and will be operated without endangering the public health and safety. 42 U.S.C. §§ 2133(d), 2232(a); 10 C.F.R. § 50.57(a)(3)(I).

Thus, in examining claims of quality assurance deficiencies, one must look to the implication of those deficiencies in terms of safe plant operation. [Citing *Callaway*, ALAB-740, 18 NRC at 346].

58. As discussed below, *infra*, we find that Intervenors met their burden. They

demonstrated, *prima facie*, that there was a substantial, 1.5-year void from 2007 through September 18, 2008 during which time DTE had no functioning quality assurance program, and during much of which DTE had, in complete contravention of regulation, delegated QA responsibilities to Black & Veatch.

59. The rebuttal proffered by DTE and supported, retrospectively, by the NRC Staff, that DTE was not bound by NRC regulations on quality assurance until September 18, 2008, is not worthy of credence. And so we advance to the next stage of analysis, to determine whether the evidence is ultimately persuasive that there is more than a technical QA violation - and more than a “tempest in a teapot” - here.

## 2. Shifting Evidentiary Burden and ‘Reasonable Assurance’

60. Once a pattern of QA violations has been shown, the burden shifts to the license applicant to show that the license may be granted notwithstanding the violations. LBP-10-09 at pp. 29-30.

61. NRC regulations at 10 C.F.R. § 52.79(a)(25) require:

A description of the quality assurance program, applied to the design, and to be applied to the fabrication, construction, and testing, of the structures, systems, and components of the facility. Appendix B to 10 CFR part 50 sets forth the requirements for quality assurance programs for nuclear power plants. The description of the quality assurance program for a nuclear power plant must include a discussion of how the applicable requirements of appendix B to 10 CFR part 50 have been and will be satisfied, including a discussion of how the quality assurance program will be implemented. . . .

62. DTE has the burden of proving, prior to the issuance of a full-power license, that there is “reasonable assurance” that adequate protective measures can and will be taken in an emergency. *Philadelphia Elec. Co.* (Limerick Generating Station, Units 1 & 2), ALAB-836, 23 NRC 479, 518 (1986), citing 10 C.F.R. § 50.47(a)(1).

63. Although the phrase “reasonable assurance” appears in many areas of the Commission case law and regulations, it is not specifically defined in either the Atomic Energy Act or the Commission’s regulations. Case law defines the “reasonable assurance” standard by what it is - and by what it is not. Although “reasonable assurance” is not equal to “beyond a reasonable doubt,” *North Anna Envtl. Coal. v. NRC*, 533 F.2d 655, 667-68 (D.C. Cir. 1976), whether an applicant meets the reasonable assurance standard nonetheless should be evaluated based on “sound technical judgment applied on a case-by-case basis” and “compliance with Commission regulations.” *Amergen Energy Co., LLC* (Oyster Creek Nuclear Generating Station), LBP-07-17, 66 N.R.C. 327, 340 (2007); citing *Union of Concern Scientists v. NRC*, 880 F.2d 552, 558 (D.C. Cir. 1989); *Maine Yankee Atomic Power Co.* (Maine Yankee Atomic Power Station), ALAB-161, 6 A.E.C. 1003, 1009 (1973). The “‘reasonable assurance’ standard of 10 C.F.R. § 54.29(a) is not susceptible to formalistic quantification or mechanistic application.” *Oyster Creek*, LBP-07-17, 66 N.R.C. at 340, citing *Union of Concerned Scientists*, 880 F.2d at 558. The “touchstone” of reasonable assurance of adequate protection of public health and safety is “compliance with the Commission’s regulations.” *Oyster Creek*, LBP-07-17, 66 NRC 327, 340 (2007), *Maine Yankee Atomic Power Co.* (Maine Yankee Atomic Power Station), ALAB-161, 6 AEC 1003, 1009 (1973).

64. Whether the reasonable assurance standard is met “is based upon sound technical judgment applied on a case-by-case basis.” *Id.*, *aff’d*, CLI-09-07, 69 NRC 235, 263 (2009). If there is evidence “sufficient to raise legitimate doubt as to whether the plant can be operated safely,” a ruling in favor of the applicant may be denied. *Pacific Gas & Electric Co.* (Diablo Canyon Nuclear Power Plant, Units 1 & 2), ALAB-756, 18 NRC 1340, 1344-1345 (1983) (ruling

on motion to reopen the record), citing *Union Electric Co.* (Callaway Plant, Unit 1), ALAB-740, 18 NRC 343, 346 (1983); *Louisiana Power & Light Co.* (Waterford Steam Electric Station, Unit 3), ALAB-812, 22 NRC 5, 15 (1985). This standard has been expressly applied to an applicant's design quality assurance program. *Pacific Gas & Electric Co.* (Diablo Canyon Nuclear Power Plant, Units 1 & 2), ALAB-775, 19 NRC 1361, 1366 (1984), *aff'd sub. nom. San Luis Obispo Mothers for Peace v. NRC*, 751 F.2d 1287 (D.C. Cir. 1984), *aff'd on reh'g en banc*, 789 F.2d 26, 29 (1986) (2,000,000 expert engineering hours expended on remediating quality assurance deficiencies at Diablo Canyon nuclear power plant to provide "adequate confidence" the plant could withstand a serious earthquake following discovery that blueprints had been reversed during reactor design and construction).

65. Turning to the specific facts and circumstances here, while DTE as the applicant "may delegate to others, such as contractors, agents, or consultants, the work of establishing and executing the quality assurance program, or any part thereof," in the end DTE must "retain responsibility for the quality assurance program." 10 C.F.R. Part 50, App. B(I) and "[t]he authority and duties of persons and organizations performing activities affecting the safety-related functions of structures, systems, and components shall be clearly established and delineated in writing." *Id.* In addition,

The persons and organizations performing quality assurance functions shall have sufficient authority and organizational freedom to identify quality problems; to initiate, recommend, or provide solutions; and to verify implementation of solutions. The persons and organizations performing quality assurance functions shall report to a management level so that the required authority and organizational freedom, including sufficient independence from cost and schedule when opposed to safety considerations, are provided.

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Irrespective of the organizational structure, the individual(s) assigned the

responsibility for assuring effective execution of any portion of the quality assurance program at any location where activities subject to this appendix are being performed, shall have direct access to the levels of management necessary to perform this function.

*Id.*, ¶ I.

66. Since the purpose of quality assurance activities is to make certain that low-grade parts or materials, inferior work, improper construction or implementation procedures, and the like are noticed and resolved, QA professionals must have access to levels of corporate management with the power inside the organization to require mistakes to be corrected:

[C]onditions adverse to quality, such as failures, malfunctions, deficiencies, deviations, defective material and equipment, and nonconformances are [to be] promptly identified and corrected. In the case of significant conditions adverse to quality, the measures shall assure that the cause of the condition is determined and corrective action taken to preclude repetition.

*Id.*, ¶ XVI.

67. DTE Energy and its ally, the NRC Staff, would have us conclude that DTE may properly rely on the Black & Veatch QA program. In other words, DTE wants the ASLB to trust their trust of their contractor, since DTE delegated its QA function, wholesale, to B&V during the 2007-2008 time period. It is noteworthy that at certain points in those months, there were *no staff quality assurance professionals whatsoever at DTE*. For DTE and the NRC Staff to argue that there were no egregious errors in the COLA itself (so far as anyone presently knows or speculates), so that it is acceptable to move forward, is legally specious. The claim is completely unsupported because of the absence of any responsible oversight by any QA professionals at DTE, and because the NRC Staff has no regulatory control over quality assurance of DTE's contractors, but only over DTE itself.

68. We find and conclude, categorically, that when it comes to matters of quality assur-

ance in the preparations for, and construction of, a commercial nuclear power plant, there can be no such thing as a mere “tempest in a teapot.” Quality assurance is the currency of planning and construction activities which are riven with the Atomic Energy Act’s mandate to first, protect public health and safety.

69. QA is the *sine qua non*, the conceptual glue, which of necessity connects all planned and executed actions in the construction and operation of a nuclear power plant. We believe in the regularity and reliability of various material and abstract parts of a power plant construction project because the presence of a competently-run QA program is the source of that credence. We are too far along the troubled road of nuclear power to ignore the reality that fealty to the highest standard of quality assurance is wholly obligatory.

70. In this light, the notion of whether DTE offers “reasonable assurance” of the adequacy of quality assurance thus far in the planning for Fermi 3 must be viewed in the context of what is “reasonable” now, before the first yard of concrete has been poured.

71. Several aspects of witness Gundersen’s testimony were of special concern to us. He said:

I believe that the most critical work on this project was done in the 2007 time frame to get the boring data right. . . .

And the determination of where you can put such a heavy weight as a nuclear plant is all driven by the work that was done in 2007. And I believe that not only did B&V need a program but also they needed adequate oversight by DTE as well.

Tr. pp. 407-408. On one of the most fundamental responsibilities of nuclear power plant development - determination of sufficiency of the physical foundation - DTE was found wanting.

72. We read this troubling information alongside another concept expressed by Mr. Gundersen:

I think this whole debate revolves around that one word, “applicant.” And I don't think the staff made the right decision.

I go back to the definition in Part 50.2 which says the applicant is someone who is applying for a license, not someone who has applied. So I think the staff misinterpreted that. *But they had a right to misinterpret because 3 months later in May DTE wrote to the NRC in a voluntary response to the RIS and the question said does the applicant do this or that or the other thing. And DTE never took exception to the NRC's question. They basically said that DTE has contracted B&V to run the program and I'm okay with that.*

But they also led the NRC to believe in May of 2007 that they were the applicant. So that didn't ever get addressed until the NOV at sort of the third or fourth quarter of 2009.

And it's specifically addressed in the NRC emails in mid-2009 where the NRC recognized that an applicant must have quality assurance oversight of its contractors which didn't exist. *So, I think that the NRC believed until the NOV response that an applicant was somebody who was in the process of applying.* And I don't know why the NRC reversed itself in 2009 and basically ignored the Part 50.2 definition.

(Emphasis added). Tr. pp. 408-409.

73. Reading these two items *in pari materia*, we conclude as a matter of law that the defense to the NOV proffered by DTE Energy was *ad hoc* and merely calculated to get past a tough spot. We believe that the redefinition of “applicant” in this case, was improper and unwarranted.

74. Another salient point that witness Gundersen repeated over and over at hearing bears further elucidation. He pointed out that major protective statutes, such as criminal sanctions to ensure legal compliance with NRC standards and regulations, would undergo gravely diminished effect were we to endorse and enshrine in a formal determination the redefinition of “applicant” advanced by DTE and the NRC Staff. *See* Tr. pp. 421, 427, 428, 429, 431, 436, 445, 446, 463.

75. And the Board concurs. We have identified the following non-exhaustive list of regulations and statutes which potentially being undermined in their intent and effects by the NRC's reinterpretation of the meaning of “applicant.”

76. A regulation, 10 C.F.R. § 21.21, provides for criminal punishment (via 10 C.F.R. §

21.62, which invokes the sanctions section, § 223 of the Atomic Energy Act) of individuals or business entities which fail to notify the NRC of the noncompliance or existence of “deviations and failures to comply to identify defects and failures to comply associated with substantial safety hazards” within different time windows, depending on the type of problem identified. The defects may be to components or in the manufacture, construction or operation of a facility subject to NRC licensing. The limiting problem is that by § 21.21(a), “[e]ach individual, corporation, partnership, dedicating entity, or other entity *subject to the regulations in this part*” is required to comply. The NRC’s troubling new interpretation removes the chance of criminal sanction from quality manufacture, construction or operation of regulated activities until there is a formal “applicant.”

77. Related to this, 10 C.F.R. § 52.4( c)(1) and (2) states that any person who “knowingly provides to any licensee, any applicant for a license, standard design certification or standard design approval, or a contractor, or subcontractor of a person or entity subject to this section, any components, equipment, materials, or other goods or services that relate to a licensee’s or applicant’s activities under this part, may not. . . [e]ngage in deliberate misconduct that causes or would have caused, if not detected, a licensee, holder of a standard design approval, or applicant to be in violation of any rule, regulation, or order; or any term, condition, or limitation of any license issued by the Commission, any standard design approval, or standard design certification;” or “[d]eliberately submit to the NRC; a licensee, an applicant for a license, standard design certification or standard design approval; or a licensee's, standard design approval holder's, or applicant's contractor or subcontractor, information that the person submitting the information knows to be incomplete or inaccurate in some respect material to the NRC.” Besides

the possibility of civil enforcement against wrongdoers (10 C.F.R. § 52.301), this provision also carries criminal punishments via 10 C.F.R. § 52.303, which are enumerated in § 223 of the Atomic Energy Act. Coverage of this regulation is limited to, among others, an “applicant for a license or permit,” 10 C.F.R. § 52.4(a)(4), so the NRC Staff’s new delimitation of meaning of “applicant” to mean solely an entity which has formally submitted an application to the NRC unmistakably removes criminal liability from the undertaking of a plethora of pre-application activities which were formerly within the span of enforcement.

78. Likewise, 18 U.S.C. § 1001(a)(2) imposes criminal penalties for making “materially false, fictitious, or fraudulent statement[s] or representation[s]” in matters within the NRC’s jurisdiction. A crime of falsifying, concealing, coverup, making of false/fictitious/fraudulent statements, representations or writings, however, must be committed by someone on a “matter within the jurisdiction of the executive, legislative, or judicial branch of the Government of the United States.” 18 U.S.C. § 1001(a). The deregulation of quality assurance matters up to the moment that a company files an application for an NRC license removes the prospect of criminal penalties for sloppy or shoddy work or documentation, not to mention intentional violations, which may have occurred throughout years of preliminary planning and investigative activities.

79. Finally, the whistleblower law which governs NRC, § 211 of the Energy Reorganization Act of 1978 (ERA), protects employees who raise concerns about nuclear safety. Under the ERA, employees who experience retaliation as a result of disclosing violations of NRC rules or issues implicating nuclear safety can file a complaint with the Occupational Safety and Health Administration (OSHA) within 180 days of the date on which the discriminatory decision has been made and communicated to the employee. The statute, codified at 48 U.S.C. §5851 (a),

prohibits “employers” from discharging or otherwise discriminating against any employee as to compensation, terms, conditions, or privileges of employment because the employee (or person acting pursuant to a request of the employee) has notified the employer of an alleged violation of ERA or of the Atomic Energy Act of 1954 (42 U.S.C. 2011); has “refused to engage in any practice made unlawful by this Act or the Atomic Energy Act of 1954, if the employee has identified the alleged illegality to the employer;” has “testified before Congress or at any Federal or State proceeding regarding any provision (or proposed provision)” of the ERA or AEA; “commenced, caused to be commenced, or is about to commence or cause to be commenced a proceeding under” ERA or AEA, or “for the administration or enforcement of any requirement imposed under” ERA or AEA; has “testified or is about to testify in any such proceeding;” or has “assisted or participated or is about to assist or participate in any manner in such a proceeding or in any other manner in such a proceeding or in any other action to carry out the purposes of” ERA or the AEA. 48 U.S.C. §5851 (a)(1)(A) through (F). The problem is, 48 U.S.C. §5851 (a)(2) limits the meaning of “employer” to an actual licensee, “applicant for a license from the Commission” (or an agreement State), or a “contractor or subcontractor of such a licensee or applicant,” among others. 48 U.S.C. §5851 (a)(2) (A), (B) and ( C). The drastic revision of the meaning of “applicant” would undeniably reduce the scope of protection for conscientious employees working on plans for a new Fermi 3, pre-September 18, 2008.

80. The whistleblower statute is implemented within NRC regulations at 10 C.F.R. § 52.5(a), which prohibits a “Commission licensee, holder of a standard design approval, an applicant for a license, standard design certification, or standard design approval, a contractor or subcontractor of a Commission licensee, holder of a standard design approval, applicant for a

license, standard design certification, or standard design approval” from retaliation. The new NRC definition of “applicant” clearly has the effect of cutting off protection for alleged wrongdoers with claims of wrongdoing arising in the period before an application is actually filed.

81. But even if we were to accept the redefinition of “applicant,” it does not suffice to solve the “reasonable assurance” problem. This Board is bound to adjudicate *facts*. We are obliged to render findings based upon *evidence*. The Intervenor has exposed a major quality assurance failure by DTE. The NRC Staff’s counsel conceded Intervenor’s evidence when she explicitly admitted in closing argument that “What the applicant was required to do on September 18th, 2008 when they submitted the application was to explain to the NRC what QA Program did apply to design work that occurred preapplication. It didn't have its own program. We know that. We've discussed that at length.” Tr. p. 684. That admission was cumulatively established from several different witnesses, not just Intervenor’s, by the time of closing argument.

82. For example, the NRC Staff’s lead witness, Lipscombe, compounded the evidence of the QA failure by testifying to this panel that “Well, we don't approve the Black and Veatch program. . . . We don't approve them to do any work. . . . Black and Veatch is a vendor, so we do not approve the QA Programs for vendors.” Tr. p. 623. Hence any reliance by DTE - or this Licensing Board - on a vendor’s QA effort to substitute for DTE’s own required quality assurance activity - a vendor’s QA program which not only does not meet NRC standards, but for which there are no NRC standards to meet - is folly. And it is contrary to law and regulation.

83. DTE is obliged to prove to us that we should have confidence to determine that there, nonetheless, is “reasonable assurance” that historic quality matters related to Fermi 3 have been

adequately remediated. But we have been presented no evidence of remediation. We have, instead, been provided mere representations that B&V's quality assurance efforts should be allowed to substitute for DTE's. This proposed acquiescence by the ASLB to substitute a contractor's QA program for DTE's own is not a credible excuse, nor is it worthy of consideration.

84. Admiral Hyman Rickover, the legendary founder of the nuclear Navy, was a fierce advocate of nuclear safety and quality assurance. He held that the notion of "responsibility" is conceptually unique:

Responsibility is a unique concept. . . . You may share it with others, but your portion is not diminished. You may delegate it, but it is still with you. . . . If responsibility is rightfully yours, no evasion, or ignorance or passing the blame can shift the burden to someone else. Unless you can point your finger at the man who is responsible when something goes wrong, then you have never had anyone really responsible.<sup>23</sup>

DTE's and the NRC Staff's presentations are notably short on placement and acceptance of responsibility. We have, instead, the representations of counsel, that in the QA world of Fermi 3, things are fine. The evidence, on the other hand, shows that the quality assurance arrangements for proposed Fermi 3 were fatally flawed from the outset, and that those failings have current implications, in the form of quality concerns for the physical foundation of this planned power plant. As Intervenors have explained, 10 C.F.R. § 52.79(a)(25) requires a description of a genuine quality assurance program, applied to the design, and to be applied to the fabrication, construction, and testing, of the structures, systems, and components of the facility. NRC regulations require a QA program which genuinely applies the requirements of Appendix B to 10

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<sup>23</sup><http://www.goodreads.com/quotes/337667-responsibility-is-a-unique-concept-you-may-share-it-with>

CFR Part 50, and shows how they have been and will be satisfied, as well as a discussion of how the quality assurance program will be implemented.

85. As a matter of law, we must find in favor of Intervenors and remand this matter to the NRC Staff for further proceedings.

86. While we may not be in a position to dictate to the Staff what might comprise appropriate remediation, we bring to the parties' attention the recommended conclusion of Arnold Gundersen as a possible touchstone for regulatory compliance:

The solution to the current problems with the COLA Licensing Project application is to stop work and begin the entire process from the beginning. Detroit Edison has always had the authority to issue a stop work on this project, but has lacked the organizational will to do so in light of the commercial pressures it faced to maintain its place in the nuclear renaissance lineup.

Detroit Edison exclusively created these problems within the DTE Fermi 3 Licensing Project COLA when the corporation chose to make commercial shortcuts in order to speed up the licensing process. Rather than exercising proper control of the site characterization data required to safely construct and operate a nuclear power plant, DTE chose a short cut at the expense of the entire project.

INTS 068, p. 37.

87. Intervenors' evidence is "sufficient to raise legitimate doubt as to whether the plant can be operated safely," and consequently, a ruling in their favor is warranted. *Pacific Gas & Electric Co.* (Diablo Canyon Nuclear Power Plant, Units 1 & 2), ALAB-756, 18 NRC 1340, 1344-1345 (1983) . There being no "reasonable assurance" that ongoing quality assurance efforts for Fermi 3 are anything but hopelessly tainted by the Fermi 3 Licensing Project's process, it is incumbent upon the Licensing Board to deny the combined operating license.

**IT IS THEREFORE ORDERED, ADJUDGED AND DECREED** that the ASLB finds for Intervenors and against DTE Energy and the NRC Staff on Contention 15. **IT IS FURTHER ORDERED** that the matter of compilation and execution of a DTE Energy quality assurance

program which meets the requirements of regulation is remanded to the NRC Staff for further proceedings.

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**UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION  
Before the Atomic Safety and Licensing Board**

In the Matter of	)	Docket No. 52-033
The Detroit Edison Company	)	January 22, 2014
(Fermi Nuclear Power Plant, Unit 3)	)	
	)	

\* \* \* \* \*

**CERTIFICATE OF SERVICE**

I hereby certify that copies of the foregoing “INTERVENORS’ PROPOSED FINDINGS OF FACT AND CONCLUSIONS OF LAW ON CONTENTION 15” have been served by me upon the following persons via Electronic Information Exchange this 22nd day of January, 2014:

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