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

In the matter of		
The Detroit Edison Company	)	April 30, 2013
Fermi Nuclear Power Plant Unit 3	)	Docket No. 52-033
Combined License Application	)	

TESTIMONY OF ARNOLD GUNDERSEN SUPPORTING OF INTERVENORS CONTENTION 15: DTE COLA LACKS STATUTORILY REQUIRED COHESIVE QA PROGRAM

WITNESS BACKGROUND

Q1. Please state your name.

A. Arnold Gundersen

Q2. Please state your residential address.

A. 125 Northshore Drive, Burlington, VT 05408

Q3. What is the purpose of your testimony?

A. The Petitioners Beyond Nuclear, Citizens for Alternatives to Chemical Contamination, Citizens Environment Alliance of Southwestern Ontario, Don't Waste Michigan, and the Michigan Chapter of the Sierra Club have retained Fairewinds Associates, Inc to determine the root cause of Quality Assurance (QA) problems that the NRC has recently identified on the Fermi 3 COL application, and to provide amplification to the previously accepted Quality Assurance Contention #15.

Q4. Please summarize your educational and professional experience.

A. I earned my Bachelor Degree in Nuclear Engineering from Rensselaer Polytechnic Institute (RPI) cum laude. I earned my Master Degree in Nuclear Engineering from RPI via an Atomic Energy Commission Fellowship. Cooling tower operation and cooling tower plume theory were my area of study for my Master Degree.

I began my career as a reactor operator and instructor in 1971 and progressed to the position of Senior Vice President for a nuclear licensee prior to becoming a nuclear engineering consultant and expert witness. An updated Curriculum Vitae appears among the trial exhibits as INTS 066.

I have testified as a nuclear engineering expert witness before the Nuclear Regulatory Commission (NRC) Atomic Safety and Licensing Board (ASLB) and Advisory Committee on Reactor Safeguards (ACRS), in Federal Court, the State of Vermont Public Service Board, the State of Vermont Environmental Court, and the Florida Public Service Commission.

I am an author of the first edition of the Department of Energy (DOE) Decommissioning Handbook.

As an appointee of Vermont State Legislature for two years, I was charged with serving in an oversight role of Entergy Nuclear Vermont Yankee and an advisory role on nuclear reliability issues to the Vermont State Legislature.

I have more than 40-years of professional nuclear experience *including and not limited to*: Nuclear Power Operations, Nuclear Safety Assessments, Nuclear Power Management, Nuclear Quality Assurance, Archival Storage and Document Control, NRC Regulations and Enforcement, Licensing, Engineering Management, Contract Administration, Reliability Engineering, In-service Inspection, Thermohydraulics, Criticality Analysis, Radioactive Waste Processes, Decommissioning, Waste Disposal, Cooling Tower Operation, Cooling Tower Plumes, Consumptive Water Use, Source Term Reconstruction, Dose Assessment, Technical Patents, Structural Engineering Assessments, Nuclear Fuel Rack Design and Manufacturing, Nuclear Equipment Design and Manufacturing, Public Relations, Prudency Defense, Employee Awareness Programs, and Whistleblower Protection.

INTRODUCTION

Q5. Before we get into the specifics of your report, would you please explain how your report is organized and why?

A. Yes. The analysis of quality assurance problems on the Fermi 3 Licensing Project prepared by Fairewinds Associates, Inc is divided into two parts. The first part uses publicly available information while the second part relies on material Detroit Edison has alleged to be "proprietary". The conclusions Fairewinds has reached are based on non-proprietary information. The proprietary portion of this report, which is appended at the end, merely provides additional source materials that amplify the conclusions Fairewinds drew from publically available data. No propriety material or terms are mentioned in this declaration expect for the final

Addendum specifically labeled as *Proprietary*.

Q6. Did you review Detroit Edison's claimed proprietary material?

Fairewinds had great difficulty accessing the alleged "proprietary" material provided by DTE. When the CDs would not open on our computers, Margaret Gundersen, president of Fairewinds Associates, Inc and a paralegal, used four different computers, both mac and pc, nine different computer programs, and sought the advice of three different computer users and three technical computer experts. After a considerable loss of time and a significant use of funds, Fairewinds was belatedly able to open the alleged proprietary material once new CDs were sent. The original CD's contained an installed *mini program* that was incompatible with our computers.

Q7. Do you have any concerns about the material you did review?

A. Yes, after reviewing much of the material that DTE had labeled proprietary, Fairewinds has found no basis for Detroit Edison to designate these documents as proprietary, other than to avoid embarrassment if its own mistakes were shared with the public. In Fairewinds Associates, Inc's opinion, Detroit Edison's labeling non-proprietary material as proprietary is an abuse of the public's right to know how mismanaged the "Fermi 3 Licensing Project" is. Nevertheless, Fairewinds has respected the "proprietary" designation and has written two expert reports. The first report is wholly based upon non-proprietary data that was available from the NRC or other public filings. The second report is attached as an addendum to the first, and uses the alleged proprietary documents to

substantiate the issues already determined and substantiated publicly.

Historical Overview of the Quality Assurance Issues on the Fermi 3 Licensing Project

Q8. Would you please delineate the protocol and basic timeline for a nuclear industry COLA license application?

A. 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 serves as a reference when filing a new license application under the federal statute: 10CFR52.

- When an applicant chooses to use the agreed upon content of this template, the licensing process is shortened because the NRC has already accepted (by reference) the approach of the COLA applicant.
- While the applicant is not required to use this previously approved approach, **if the applicant deviates from the agreed upon content and format of the NRC/NEI template, the applicant is responsible to notify the NRC of any deviations**.
- By choosing to delegate the Quality Assurance function to a subcontractor during its COLA development of the *Fermi 3 Licensing Project*, Detroit Edison implemented a different approach to quality assurance than the

mutually agreed upon the by the NRC and NEI when the aforementioned industry-wide COLA template was created.

- While Detroit Edison had the right to change its approach to quality assurance, it also had the obligation to notify the NRC that portions of the Quality Assurance portion of the COLA had to be modified.

Q9. In your previous declarations regarding the Fermi 3 Licensing Project, what issues have you found and what concerns have you raised?

A. In an earlier Fairewinds ASLB Declaration on the "Fermi 3 Licensing Project" dated December 8, 2009, Fairewinds 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].

Q10. What were the details of the NRC NOV regarding Fermi QA?

A. On October 5, 2009, the NRC Staff issued an Inspection Report and Notice of Violation in which it described the results of its August 2009 inspection. In the NOV, the NRC Staff cited Detroit Edison for:

> (1) Failing to establish and implement a Fermi Unit 3 QA program between March 2007 (when Detroit Edison 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;

(2) Failing to perform internal audits of QA programmatic areas implemented for Fermi Unit 3 COLA activities; and (3) failing to document trending of Detroit Edison's corrective action reports ("CARs").

The NRC Staff characterized all these violations as Severity Level IV violations.

Q11. What did your review of the records show you regarding DTE's response to the NRC NOV?

Q12. Detroit Edison responded to the NOV [INTS 010] 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 and Veatch. Furthermore, the QA responsibilities were divided between two different Black and Veatch divisions.

The responsibility for the QA program was given to one division of Black and Veatch while DTE delegated all the Fermi 3 Licensing Project Engineering to a separate division within Black & Veatch. Incredibly, DTE still claimed that it recognized the need for Quality Assurance 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. Detroit Edison submitted its Combined Operating License Application (COLA) on September 18, 2008.

Q13. What is your expert opinion regarding DTE's response to the NRC's NOV of its QA program?

A. Detroit Edison's response to the NRC's NOV represented that the bifurcated COLA Quality Assurance function on the *Fermi 3 Licensing Project* was a well-oiled team of two companies working in unison. The non-proprietary portion of this current declaration clearly shows that the teamwork claimed by DTE is an illusion. The data Fairewinds reviewed shows 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*.

Q14. Has this review process given you any new concerns?

A. Yes. Incredibly, on April 27, 2010, the NRC Staff accepted DTE's argument that prior to September 18, 2008, DTE was not yet an applicant, and withdrew its Violation A of the NOV.

Q15. What is your expert opinion regarding this NRC decision?

A. The NRC reversal of its position by its staff is flawed. The Code of Federal Regulations (10 C.F.R. Part 50, Appendix B) is the statutory authority regulating the nuclear industry. 10 C.F.R. Part 50, Appendix B ***requires*** that applicants follow these procedures when filing a COLA:

> Every applicant for a combined license under part 52 of this chapter is required by the provisions of § 52.79 of this chapter to include in its final safety analysis report a description of the quality assurance **applied to** the design, and **to be applied to** the fabrication, construction, and testing of the structures, systems, and components of the facility and to the managerial and

> administrative controls to be used to assure safe operation. [Emphasis Added to point out the tense of verbs]

Note that this excerpt directly from the Code of Federal Regulations uses the past tense "**applied**" for the expectancy that *the applicant will have a QA program in place before the COLA is submitted*.

Q16. Looking past the NRC's waiver for DTE of a portion of the issued QA NOV, do you have any other major concerns?

A. Yes, I do. Even assuming that the NRC has currently chosen not to sanction DTE for its failure to demonstrate an operable Quality Assurance program prior to its Fermi 3 September 2008 COLA submission, a Quality Assurance program that springs into effect on the date of an application submission is only as good as its origins and the consistency of its planning and other core efforts that predate the COLA submission. Indeed, 10 C.F.R. § 52.79(a)(25) requires a COLA to:

> …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***. . . ." [Emphasis Added]

After all, Appendix B expects that

> 'quality assurance' comprises all those planned and systematic actions necessary to provide adequate confidence that a structure, system, or component will perform satisfactorily in service.

Q17. What is your expert opinion regarding DTE's preliminary QA efforts?

A. DTE preliminary QA efforts, undertaken from 2007-2009 (the period before and after the September 2008 COLA submission), are inadequate. DTE's preliminary QA efforts do not follow the statutory authority of the Code of Federal Regulations, therefore 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.

Q18. When did problems begin with the DTE Geotechnical program, and what were those problems?

A. Problems with the Geotechnical program began at the onset of the Fermi 3 Licensing Project. According to of the undisputed facts regarding the NOV for the "Geotechnical Site Boring Program – on site and laboratory investigation and testing" a "Nuclear quality assurance program applies." [1]

Furthermore, the undisputed facts regarding the NOV states:

> In late-April 2007, construction of the monitoring wells for hydrology investigation and core boring activities for geotechnical data collection commenced at the Fermi site. The applicable programs for the operating Fermi Unit 2 ("Fermi 2") — for access, work control, and contractor oversight — were followed for site work. Experienced Detroit Edison personnel provided direct oversight for all site work to ensure compliance with the existing Fermi 2 programs and to provide the necessary interface between the COL project and the operating Fermi 2 plant. To maintain oversight, and consistent with Detroit Edison's overall responsibility, the OE staff performed and documented surveillances of onsite activities.[2]

Q19. From your vantage point as an expert in nuclear QA, what problems and inconsistencies did you uncover during your document review?

A. Paragraph 14 of DTE's *Statement Of Material Facts On Which No Genuine Dispute Exists* is an approved vendor listing for geotechnical work [INTS 027],

[1] DTE Letter, STATEMENT OF MATERIAL FACTS ON WHICH NO GENUINE DISPUTE EXISTS-April 17, 2012, Paragraph 12 [INTS 034].
[2] Ibid, Paragraph 17

and there is no reference to *Fermi 2* serving as an approved company retained to perform the services identified in Paragraph 17.

- First, it appears that the Fermi 2 QA program was used as a surrogate program for oversight of the *Fermi 3 Licensing Project*.
- Legally, Fermi 2 is a separate corporate entity with no linkage to Fermi 3.
- 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,
    - any personnel connected with or managing the Fermi 3 project via Black & Veatch,
    - the Owners Engineer (OE) - also a Black &Veatch subsidiary located in a separate city and department.

In my opinion, this extensive breakdown in nuclear Quality Assurance that endangered the geotechnical work in 2007 continues to plague the Fermi 3 Licensing Project today.

Q20. Did you find any other flaws as you conducted your review?

A. Yes, after the geotechnical work had already begun in April 2007, Black & Veatch attempted to backfill the certifications of their non-nuclear contractors. According to the undisputed facts from the NOV:

> In June 2007, B&V Nuclear QA conducted a pre-work surveillance to evaluate GEOVision work activities associated with seismic testing and data collection. The surveillance found that the commercial grade quality and procedural processes for seismic

> testing and data collection at GEOVision were acceptable. B&V Nuclear QA also conducted a pre-work surveillance to evaluate ARM Geophysics work activities associated with geotechnical testing of soil and bedrock. The surveillance found that the commercial grade quality and procedural processes for geotechnical testing of soil and bedrock at ARM Geophysics were acceptable.[3]

Q21. What is the status of Fermi 2 in this process and what is your opinion of the DTE QA process?

A. Fermi 2 is not an approved vendor. It also appears that Black and Veatch never conducted the audit that *may* have enabled Fermi 2 to serve in this geotechnical role. Therefore, Fairewinds concludes that the 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 licensing process applied to the COLA application of the *Fermi 3 Licensing Project*.

CONTENTION HISTORY

Q22. Before we discuss your current concerns, would you please specifically state your previous concerns regarding Detroit Edison's proposed Economic Simplified Boiling Water Reactor (ESBWR) at its Fermi Nuclear Power Plant (NPP) Unit 3.

A. Yes. My previous declaration specifically addressed Quality Assurance (QA) issues relative to the Combined Operating License Application (COLA) for Detroit Edison's proposed Economic Simplified Boiling Water Reactor (ESBWR)

[3] Ibid, Paragraph 22, INTS 034.

at its Fermi Nuclear Power Plant (NPP) Unit 3.

More specifically, I reviewed the Detroit Edison (DTE) May 10, 2010 Reply Response to Request for Additional Information (RAI) Letter No. 26 regarding Fermi 3 Docket No. 52-033 [INTS 035]. RAI Letter No. 26 and compared it to my earlier expert report: *Declaration Of Arnold Gundersen Supporting Supplemental Petition Of Intervenors Contention 15: DTE COLA Lacks Statutorily Required Cohesive QA Program*. To date, I uncovered five inconsistencies and flaws in DTE's RAI Reply.

In its November 6, 2009 *Supplemental Petition to NRC for Admission of a Newly-Discovered Contention, and for Partial Suspension of NRC's DTE COLA Adjudication*, Intervenors noted that Detroit Edison lacks a complete and cohesive QA program as required by Appendix B to 10 CFR Part 50, so stating:

> "Detroit Edison has failed to comply with Appendix B to 10 CFR Part 50 to establish and maintain a quality assurance (QA) program since March 2007 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. DTE further has failed to complete any internal audits of QA programmatic areas implemented for Fermi 3 COLA activities performed to date. And DTE also has failed to document trending of corrective actions to identify recurring conditions adverse to quality since the beginning of the Fermi 3 project in March 2007."[4]

[4] *Supplemental Petition* of Beyond Nuclear, Citizens for Alternatives to Chemical Contamination, Citizens Environmental Alliance of Southwestern Ontario, Don't Waste Michigan, Sierra Club, Keith Gunter, Edward McArdle, Henry Newman, 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 for Admission *of a Newly-Discovered Contention, and for Partial Suspension of COLA Adjudication*, to US NRC Atomic Safety and Licensing Board (ASLB), Docket No. 52-033, Regarding the Detroit Edison Company Fermi Nuclear Power Plant Unit 3, November 6, 2009, Page 2.

During my 40-year professional career, including my position as a Senior Vice President for a NRC licensee, I have been responsible for personnel who worked at more 70-NPPs throughout United States. Therefore, I am intimately familiar with the nuclear industry's desire to achieve high levels of quality through cohesive Quality Assurance (QA) plans and organizations. Moreover, at least since 1973, the Atomic Safety and Licensing Board (ASLB) itself determined the irrefutable value of properly implemented QA plans. As I stated in my December 9, 2009 *Declaration Of Arnold Gundersen Supporting Supplemental Petition Of Intervenors Contention 15: DTE COLA Lacks Statutorily Required Cohesive QA Program [INTS 007]***,** during my 40-year career, I have never witnessed a nuclear reactor program that did not have a fully operational Quality Assurance Program in place at the onset of its design process. The complete involvement of a QA program and its substantiating design review, document control, and rigorous process must begin several years prior to an application for a NRC license.

Q23. What was the first major concern you presented to the ASLB in your previous testimony?

A. The first major concern that I presented to the ASLB in my previous testimony is the lack of a bona-fide QA program at DTE for the proposed Fermi 2 ESBWR.

1. I searched for the title of "New Plant Oversight Manager" that was submitted in the DTE COLA as the person responsible for QA for the proposed design of Fermi 3, and I was unable to find any references.

2. First, I found it disturbing that the key person identified by DTE as having the

overall responsibility for QA in the Fermi Unit 3 COLA application was not mentioned at all in the RAI reply. Instead, it appears that the RAI introduces a new position that was not discussed in the DTE COLA application. The DTE RAI introduces a new role entitled "Nuclear Development QA Manager" that was not discussed in the Fermi COLA application. The RAI reply stated:

> "In March 2008, a Nuclear Development QA Manager was established and was responsible to develop the Nuclear Development QAPD and to independently plan and perform activities to verify the development and effective implementation of the QAPD to those activities that support the COLA. The Nuclear Development QA Manager was also responsible to evaluate compliance with regulatory requirements and procedures through audits and technical reviews, monitor organization processes to ensure conformance to licensing document requirements, and to ensure that vendors providing quality services to Detroit Edison in support of the COLA are meeting the requirements of 10 CFR 50 Appendix B." *Page 13 DTE Reply* [INTS 035]

3. The newly referred to position of Nuclear Development QA Manager was not discussed in the Detroit Edison COLA Application yet the RAI states that the position existed prior to submittal of the COLA. Rather, in its COLA Detroit Edison claimed that these QA responsibilities were assigned to the "New Plant Oversight Manager" as discussed on page 25 of my earlier expert report:

> "1.4.1 New Plant Oversight Manager
> The new plant oversight manager is responsible for developing and maintaining the Fermi 3 QAPD, evaluating compliance to the programs, and managing QA resources. The new plant oversight manager is responsible for assuring compliance with regulatory requirements and procedures through audits and technical reviews; for monitoring organization processes to ensure conformance to commitments and licensing document requirements; for ensuring that vendors providing quality services, parts and materials to Fermi 3 are meeting the requirements of 10 CFR 50, Appendix B through NUPIC or Fermi 3 vendor audits.

[from INTS 035]

The new plant oversight manager has sufficient independence from other department priorities to bring forward issues affecting safety and quality and makes judgments regarding quality in all areas necessary regarding Fermi 3 nuclear activities. The new plant oversight manager may make recommendations to management regarding improving the quality of work processes. If the new plant oversight manager disagrees with any actions taken by other Fermi 3 organizations and is unable to obtain resolution, the new plant oversight manager shall bring the matter to the attention of the executive in charge of the MEP organization who will determine the final disposition." *(Page 25, December Gundersen Expert Report [INTS 011]*

3.1. In its COLA application, DTE claimed that the New Plant Oversight Manager had the responsibilities it now claims in its RAI response belong to the newly created role of Nuclear Development QA Manager. A comparison of the COLA and the RAI reply is included in Table 1 below.

Table 1 Comparison DTE COLA and RAI Reply

COLA	RAI Reply
The COLA stated that the position entitled New Plant Oversight Manager is: *"responsible for assuring compliance with regulatory requirements"*	The RAI reply states that the Nuclear Development QA Manager is: *"responsible to evaluate compliance with regulatory requirements"*
The COLA stated that the position entitled New Plant Oversight Manager is responsible for: *"monitoring organization processes to ensure conformance to*	The RAI reply states that the Nuclear Development QA Manager is responsible to: *"monitor organization processes to ensure conformance to licensing*

commitments and licensing document requirements"	*document requirements."*
The COLA stated that the position entitled New Plant Oversight Manager is responsible *"for ensuring that vendors providing quality services, parts and materials to Fermi 3 are meeting the requirements of 10 CFR 50, Appendix B".*	The RAI reply states that the Nuclear Development QA Manager is responsible *"to ensure that vendors providing quality services to Detroit Edison in support of the COLA are meeting the requirements of 10 CFR 50 Appendix B".*

3.2. It appears that there is confusion within Detroit Edison over the conflicting roles of these two positions. DTE's RAI Reply said that the Nuclear Development QA Manager held that position in March of 2008 yet the COLA makes no reference to that role. The RAI and the COLA do not portray the same organizational philosophy for the role of Quality Assurance on the Fermi 3 Project. This confusion of the importance of QA in the early phases of the Fermi 3 Project may be a contributing factor to the confusion within DTE and the NRC that I discussed in my earlier expert report and may be contributing to the QA problems that Fermi 3 has already encountered.

4. On Page 3 to Attachment 2 to the RAI reply [INTS 035] Detroit Edison stated:

> "Nuclear Development QA Manager, March 2008 - April 2009. An engineer with twenty plus years of nuclear experience including four years experience as lead auditor was responsible to maintain the Nuclear Development QAPD and to independently plan and perform activities to verify the development and effective implementation of the QAPD for those activities that support the

> COLA. The Nuclear Development QA Manager was also responsible to evaluate compliance with regulatory requirements and procedures through audits and technical reviews, to monitor organizational processes to ensure conformance to licensing document requirements, and to ensure that vendors providing quality services to Detroit Edison in support of the COLA are meeting the requirements of 10 CFR 50 Appendix B. [Full time]
>
> In June 2009, the QA function was transitioned from reporting to the Director, Nuclear Development to the Sr. Vice President, Major Enterprise Projects."
> *Page 3, Attachment 2 RAI Reply (RAI question No. 17.5-17, eRAI No. 4410)*

Q24. Was this your only concern or did you have additional concerns that you previously presented to the ASLB?

A. There are five additional major concerns with the Detroit Edison (DTE) May 10, 2010 Reply Response to Request for Additional Information (RAI) Letter No. 26 [INTS 035] that I previously presented to the ASLB.

1. My first major additional concern with the DTE May 10, 2010 Reply Response is that there is a three-month long gap from April 2009 through June 2009 during which Detroit Edison admits that it had no personnel in charge of Quality Assurance. The lack of any Detroit Edison personnel assigned to the Fermi Unit 3 design and engineering process, makes any and all quality assurance work performed during this three-month period suspect as well as not in compliance with federal law.

2. My second additional concern is that according to DTE May 10, 2010 Reply Response, the Nuclear Development QA Manager reported to the Director of Nuclear Development between March of 2008 and April of 2009. In the DTE

May 10, 2010 Reply Response, DTE said that after June 2009, the Nuclear Development QA Manager reported to the Sr. Vice President, Major Enterprise Projects. However, according to Fermi's COLA, the New Plant Oversight Manager's reporting relationship is:

> "The new plant oversight manager has sufficient independence from other department priorities to bring forward issues affecting safety and quality and makes judgments regarding quality in all areas necessary regarding Fermi 3 nuclear activities. The new plant oversight manager may make recommendations to management regarding improving the quality of work processes. If the new plant oversight manager disagrees with any actions taken by other Fermi 3 organizations and is unable to obtain resolution, the new plant oversight manager shall bring the matter to the attention of the executive in charge of the MEP[5] organization who will determine the final disposition." [Emphasis Added]

Whatever the official title may be for the person in charge of QA at Fermi 3, it is clear that DTE's new description of reporting relationships for the Nuclear Development QA Manager as defined in the DTE May 10, 2010 Reply Response does not provide the Quality Assurance mission with adequate functional separation. It is critical in nuclear QA that there be complete separation and independence between QA and other line functions, and this separation that is a hallmark of nuclear safety in nuclear power plant construction does not seem to exist within the Fermi 3 organization.

Moreover, in its DTE May 10, 2010 Reply Response, DTE acknowledged that for a 13-month period between March of 2008 and April of 2009 the Quality Assurance Department actually reported directly to the Director of Nuclear

[5] MEP organization – MEP is the acronym for Major Enterprise Projects, which is a business development arm of DTE, not a QA or Engineering division.

Development, and from April 2009 to June 2009 QA reported to no one in any chain of command.

It appears that NEI criteria are violated when the QA function reports to the Director of Nuclear Projects as suggested in the RAI reply. This reporting relationship does not provide the Quality Assurance function with adequate functional separation to assure the clear separation and independence between QA and other line functions within the Fermi 3 organization. As I stated in Paragraph 57 of my original expert testimony [INTS 007]:

> "Specifically, NEI and the industry have highlighted the role of the QA Project Manager as a key contributor to the successful implementation of a valid and operational QA Program. In its QA Program Description, NEI further elaborates on the necessity of an operational QA Program directed by a Quality Assurance Program Manager prior to COLA submission. In Paragraph 1.5.2.1.1 of its *Quality Assurance Program Description* NEI describes the role of the QA manager thus:
> "***1.5.2.1.1 [Nuclear Development] Quality Assurance Project Manager***
> *The [Nuclear Development] Quality Assurance Project Manager (QAPM) reports administratively to the [CA] QA Manager and functionally to the Senior Nuclear Development Officer, and is responsible for the development and verification of implementation of the QAPD described in this document. The QAPM is responsible for assuring compliance with regulatory requirements and procedures through audits and technical reviews; ensuring that vendors providing quality services, parts and materials to [CA] are meeting the requirements of 10 CFR 50, Appendix B through NUPIC or [CA] vendor audits. The QAPM has sufficient independence from other [Nuclear Development] priorities to bring forward issues affecting safety and quality and makes judgments regarding quality in all areas necessary regarding [CA]'s [Nuclear Development] activities. The QAPM may make recommendations to the [Nuclear Development]management regarding improving the quality of work processes. If the QAPM disagrees with any actions taken by the [ND] organization and is unable to obtain resolution, the QAPM*

> *shall inform the QA Manager and bring the matter to the attention of the Senior Nuclear Development Officer] who will determine the final disposition.*"

In its RAI, Detroit Edison said that between March of 2008 and April of 2009, Fermi's QA function for the entire project reported only to the Director of Nuclear Development. Such an organizational chain of command clearly violates the NEI approved reporting relationships as defined above, and as I previously identified in my earlier declaration.

3. My third major concern previously presented to the ALSB regards Detroit Edison's original filing for its original COLA for Fermi Unit 3, in which it should have alerted the NRC that it had taken exception to the NEI approved reporting relationship for its QA function. DTE did not notify the NRC in its original COLA filing for Fermi 3, that it had arbitrarily chosen to modify the NEI approved reporting relationship approved by NRC for this new generation of reactors.

4. My fourth additional concern is that DTE has said that as of March 2008, the Nuclear Development QA Manager was assigned to the Fermi 3 project, however, during my review of Revision 0 of DTE Energy's "Quality Assurance Program Description" (EF3 QAPD Rev0)[6], I am unable to find any reference to a Nuclear Development QA Manager anywhere throughout the entire text of this document regarding DTE's Fermi 3 QA Program. The EF3 QAPD Rev 0 is dated September 2008 and DTE's RAI reply said that the

[6] DTE Energy's "Quality Assurance Program Description" (EF3 QAPD Rev0) was submitted as part of the Combined License Application, Part 2 Final Safety Analysis Report dated September 2008.

Nuclear Development QA Manager role was put in place in March 2008.

5. My fifth additional major concern is that DTE's COLA is not adequately thought through prior to its submission to the NRC. In his former position as the Chairman of the U.S. Regulatory Commission, The Honorable Gregory B. Jaczko, said,

> "The NRC is a regulatory agency. We license and regulate the commercial use of nuclear materials to ensure adequate protection of public health and safety, promote the common defense and security, and protect the environment. With that as our mission, the NRC does not develop or promote reactor designs, nor participate in the selection of one reactor design over another. That is the responsibility of other organizations. We are focused on safety and security of the public and environment. **One licensing process lesson that we can learn, from the ongoing new reactor design certification and combined license reviews, is that timely and effective licensing reviews not only require the regulator to be ready, but it also requires the applicant to be ready**. Prospective applicants, whether they are seeking a design certification, a design approval, or a combined license, need to ensure that their design is sufficiently complete to support a licensing review. **The application needs to be complete when it is initially submitted to the NRC**. I know that the staff plans to address this subject sometime during the next day and a half. The SMR community should give careful consideration to their advice on the importance of sufficiently completing the design and any testing needed to support the application prior to the submittal of an application." *Moving Safety and Security to the Front Edge of Design* Prepared Remarks for The Honorable Gregory B. Jaczko Chairman U.S. Regulatory Commission at the Workshop on Small- and Medium-Sized Nuclear Reactors October 8, 2009, Document No. S-09-28. *[Emphasis Added]*
>
> *[INTS 036]*

The original COLA omitted the key position of Nuclear Development QA Manager. Either the original COLA was filed with a major inaccuracy or the current RAI reply is wrong. In either even this major incongruity speaks to

the overall quality of DTE's entire application.

Not only do NRC regulations require a fully functional QA program be in place and be the responsibility of the applicant prior to developing a license application, but the best practices within the nuclear industry also support the same conclusion.

As I stated in my original December 2009 declaration [INTS 007], "It is an incontrovertible fact that the entire nuclear industry, through its trade organization, the Nuclear Energy Institute (NEI), so undeniably recognizes and emphasizes the need to implement a Quality Assurance Program before applying to the NRC for a license that NEI has developed its own *Quality Assurance Program Description.* Moreover, NEI has written a boilerplate template for license applicants, like DTE Fermi Unit 3, in a simplified fill-in-the-blanks format so that a COLA is almost assuredly guaranteed if each step in the COLA process is followed as NEI has outlined."

As the evidentiary trail of emails, delineated in my December 2009 Declaration, has proven, a thorough reading of the DTE Fermi Unit 3 COLA makes it clear that DTE knew and acknowledged its QA responsibilities, and now having been caught without implementation of GDC Criterion 1, the corporation is attempting to obfuscate the entire process rather than go back to the beginning and start over with a valid QA Program in place.

CURRENT ASSESSMENT

Q25. In addition to the material you reviewed for earlier submittals to this ASLB, what have you determined as a result of reviewing additional information for this testimony?

A. DTE expected a *self-executing* QA program to be provided by its vendor Black &Veatch (B&V). DTE knowingly and deliberately minimized its corporate commitment to its own quality oversight of the Fermi 3 Licensing Project.

Q26. Why do you refer to this project as the Fermi Licensing Project?

A. The Fermi 3 Licensing Project was initiated in September 2006 at the height of the nuclear renaissance. It is important to note that DTE called this project the "Fermi 3 licensing project" and that according to the DTE-00915[7], *the project strategy was to complete licensing actions on a power plant but not to construct the power plant.* According to DTE-00915, the decision on whether or not to actually construct the power plant would be decided at a later date.

Q27. Would you please provide a brief chronology of the Licensing Project as determined by the evidence you reviewed?

A. Yes, the Fermi 3 Licensing Project was initiated in September 2006 at the height of the nuclear renaissance. Here is the rest of the **Chronology/Timeline:**

- Six months later, in March 2007, DTE chose B&V to prepare the COLA, at the same time DTE invoked the B&V QA program as the *self-executing* QA program for its licensing effort.

[7] DTE-00915, PowerPoint 1/19/10 Detroit Edison-Fermi 3, INTS 037.

- In 2/2008, one year after the choice of B&V as the COLA QA developer, DTE established the Fermi 3 licensing staff and began implementation of its own QA program.
- In 9/2008, two years after the project was initiated, Rev 0 of the Fermi COLA was submitted to the NRC. Six months later in 3/2009 Rev 1 of the COLA was submitted to the NRC.

Q28. At the time DTE chose Black &Veatch (B&V), had the type of nuclear reactor and its location been determined?

A. No, in March of 2007 when the Fermi 3 Licensing Project was begun, DTE had not yet even determined what type of nuclear reactor it would attempt to license. In DTE-00837[8], an email between B&V personnel said,

> "Peter indicated in a discussion today they are leaning toward having us do the ABWR investigation first and the ESBWR second, reversing the schedule. The proposal was based on the ESBWR with ABWR as an optional add. We need to clarify this information with Peter to ensure we are progressing on engineering in the correct sequence and that our costing strategy is correct. I am to meet with Peter, Steve P, site work control manager and others to discuss how we will control work on site. I need the general location of drilling activities to show the proximity to existing SSC. Also, I asked John Caldwell to forward samples of work plans and drilling logs from River Bend. It is better for us to put forth a solution to the question of how to control the work, rather than have a fail open resolution provided to us by the Ops dept and work control."

Q29. In your opinion, why was DTE developing this process?

A. The above referenced email memo also discussed that the goal of this process is to avoid QA oversight, adding:

[8] DTE-00837, Email, Gustafson (BV) to Thomas, 3/22/07, INTS 038.

> "**Peter thinks he can sidestep the QA audit as we have NUPIC audits, ASME audits and other utility audits** he can use in helping his QA dept comfort level. We will need to use our QA plan. Is Ron Z engaged in preparing it?" [Emphasis Added]

Q30. Would you please continue to elaborate on the chronology you have observed leading to the choice and location of the Fermi 3 nuclear reactor?

A. Even at the initial kickoff meeting between DTE and B&V, the type of reactor that DTE was planning to license was unknown.

> "Discussion if geotechnical drilling sequence will be changed. DTE requested B&V to investigate the cost and schedule impacts of drilling for ABWR first. Subsequent to the meeting DTE requested that holes common to the ESBWR and ABWR be drilled first, followed by ABWR specific holes and then the ESBWR specific holes. B&V has action to assess this alternative." [9]

Not only was the type of reactor unknown, but also the location of the Fermi 3 reactor was unknown on the Fermi site according to notes from the DTE Kickoff Meeting

> "DTE requested that B&V evaluate how long DTE can potentially delay the final decision for location of the new unit. DTE is in process of decommissioning Fermi I and there is some desire to move the new unit closer to the current location of Fermi I."[10]

According to a DTE Email from Miller in October 2007 it is evident that DTE still was unsure what location would be chosen for the proposed reactor design.

> "Work includes: Development of site optimization plan: This involves working with DTEs Owner Engineer and DTE representatives to identify the best location for buildings, fencing, roads, etc." [11]

[9] DTE-00677: Detroit Edison Combined Operating License Application Kickoff Meeting 3/28/07, Notes written 4/4/07, INTS 039.
[10] DTE-00677: Detroit Edison Combined Operating License Application Kickoff Meeting 3/28/07, Notes written 4/4/07, INTS 039.
[11] DTE-00637, Email From Miller 10/10/07, INTS 040.

Furthermore, this same email shows that in November 2007 DTE had still not developed or designed a Quality Assurance Program.

> "Development of the quality assurance program. This involves drafting a QA program that is submitted for review and comment."

Q31. Without a QA program, is it possible to have a QA manager?

A. Although DTE admitted to not having a QA program in place in October 2007 in response to the NRC NOV, a DTE employee named Ashworth announced in an email[12] that he was the 'DTE OE Quality Manager'. Ashworth announced that he would conduct a quality surveillance of the B&V Nuclear DTE COLA activities in late September 2007. One wonders how that might happen considering that DTE has stated it did not even have a QA program in place as late as October 2007.

> "As the DTE OE Project Quality Manager I am planning to conduct a quality surveillance of the B&V Nuclear DTE COLA activities September 24 thru 26 at the Overland Park, KS office. If you have any questions or concerns please contact me. I have listed my contact numbers below.at support new nuclear plant generation." [13]

Q32. Would you please provide a chronology toward the development of a *self-executing* DTE QA plan?

A. According to an early October 2007 email, work had apparently begun in finalizing the DTE QA program:

> "Here is the deal. I will work with B&V to establish the QA program for the COLA phase. This program will include implementing procedures that are subject to QA audit, and other guidance for activities that can generally be viewed as not affecting Nuclear Quality. I will need to review the existing guidance to ensure compliance but that would be the intent.

[12] DTE-01005, Email, Ashworth to Crandall et al, 9/18/07, Subject: Surveillance of the B&V Nuclear DTE COLA activities September 24, 2007, INTS 041.
[13] Ibid.

> We may also need to sanction these other documents by acknowledging their existence in the QAPD. Hopefully that will alleviate any concerns that you may have. Please advise either way."[14]

Q33. In contrast to DTE's response to the NRC's Notice of Violation, what does the evidence you reviewed suggest about DTE's view of its QA role in the COLA process?

A. The DTE Fermi 3 Quality Assurance Program Description (QAPD) November 2007, Revision A1 was issued by Craig Ashworth, DTE Fermi 3 Quality Assurance Project Manager. It is clear based on the paragraphs detailed below that in 2007 DTE believed that it had organizational responsibility to oversee the COLA process.

> "Page 64 Part 1 Introduction; Section 1 General
> Detroit Edison Company (DTE) DTE Fermi 3 Quality Assurance Program Description (QAPD) is the top-level policy document that establishes the quality assurance policy and assigns major functional responsibilities for COL oversight activities conducted by or for DTE.
> Page 4
> 1.1 Scope / Applicability
> This QAPD applies to COL oversight activities affecting the quality and performance of safety- related structures, systems, and components, including, but not limited to: …. Licensing
>
> 1.5.2 Quality Assurance The DTE Quality Assurance Organization is responsible for independently planning and performing activities to verify the development and effective implementation of the DTE QAPDs including but not limited to DTE Fermi 3, engineering, licensing, document control, corrective action program and procurement
>
> Page 36
> 18.1 Performance of Audits Internal audits of selected aspects of licensing, design, construction phase and operating activities are performed with a frequency commensurate with safety significance and in a manner which assures that audits of safety-related activities are completed. During the early portions of DTE Fermi 3 activities, audits will focus on areas

[14] DTE-00636, Email Miller (DT) to Smith (DT) 10/7/07, INTS 042.

including, but not limited to, site investigation, procurement, and corrective action"[15]

Q34. Did DTE review its decision concerning QA during the COLA process?

A. In DTE's document, Nuclear Development Decision Document 12/17/07, DTE stated that schedule pressures were a significant factor in implementing QA in the COLA process. Based on these schedule pressures, DTE chose to continue its *self-executing* QA program.

"Regulations require: 1. that DTE as Owner retain the responsibility for complying with the specific requirements (relative to COLA submittal) to achieve quality results. Work delegated to others shall be evaluated by the Owner. This decision document documents a way for the Owner (DTE) to assure quality in the COLA submittal prepared for DTE by Black and Veatch Kansas City

Alternatives include: 1. Do nothing. Could be viewed as insufficient to assure quality. 2. Perform audit and surveillance of B&V Kansas City COLA preparation to ensure quality. Audits and surveillances are effective means to ensuring quality however these activities alone may not be sufficient to support the oath or affirmation that is required to be part of the DTE COLA submittal.

Quality is assured by reviewing COLA content prepared by Black and Veatch Kansas City for attributes that will: … . Pass the NRC acceptance test by ensuring completeness Support the Complete and Accurate information affirmation by DTE as a prerequisite to COLA submittal.

Risks: □ DTE does not pass the NRC acceptance test by ensuring completeness. Subsequently, DTE is challenged with questions relative to the oath or affirmation.
Constraints □ Schedule. Schedule to complete this work is aggressive. This challenge can be managed by primarily focusing on COLA sections and chapters that contain site specific characteristics (vs. those that incorporate the DCD by reference).

Quality Assurance

[15] DTE-00756, DTE Fermi 3 Quality Assurance Program Description (QAPD), November 2007, Revision A1, Prepared by Craig Ashworth, DTE Fermi 3 Quality Assurance Project Manager, INTS 043.

• B&V led a discussion of how quality assurance will be implemented for the project.
• Work will be performed under the B&V QA Plan.
• B&V to provide DTE with copy of audit report from Entergy QA audit of B&V."[16]

Q35. The hallmark of a nuclear QA program is clear lines of authority. What does the evidence show regarding DTE's appropriate reporting relationships?

A. In a DTE Email dated January 2008, not only were clear lines of authority missing, but also it is clear that any organizational knowledge of the existence of a quality program is also lacking.

"EMAIL, Victor to Crandall et al, 1/30/08 Subject: DTE QA Covering COLA Activities: However, my question is what DTE QA program is the Fermi 3 COLA being enveloped under? Is it the Fermi 2 QA Plan, or is there a corporate QA Program?"[17]

Q36. When was the DTE Nuclear Development Quality Assurance Program Description first issued?

A. The first DTE approved QAPD was issued in February 2008.

"Detroit Edison Nuclear Development Quality Assurance Program Description (QAPD) February 2008
Page 3
1.2.1.2 Quality Assurance The DECo Quality Assurance Organization is responsible for independently planning and performing activities to verify the development and effective implementation of the QAPDs activities that support COLA activities.

1.2.1.2.1 ND Quality Assurance Manager The ND Quality Assurance Manager (QAM) reports to the Director and Project Manager Nuclear Development for the COLA activities and is responsible for developing and maintaining the DECo Nuclear

[16] DTE-00652, Nuclear Development Decision Document12/17/07, INTS 031.
[17] DTE- 00813 EMAIL, Victor to Crandall et al, 1/30/08, INTS 044.

Development QAPDs, evaluating compliance to the programs and managing the QA resources.

The Nuclear QA Oversight Quality Assurance function reports administratively to the Director & Project Manager Nuclear Development. This ensures that the personnel performing QA oversight functions are not subject to line influence. This also ensures that quality assurance personnel are provided direct access to senior management that is independent of the line functions for reporting QA concerns.

Day to day work direction is provided from the Manager Nuclear Development Program Office.

The QAM is responsible for assuring compliance with regulatory requirements and procedures through audits and technical reviews; for monitoring organization processes to ensure conformance to licensing document requirements; for ensuring that vendors providing quality services to DECo are meeting the requirements of 10 CFR 50, Appendix B through vendor audits. The QAM has sufficient independence from other DECo Nuclear Development priorities to bring forward issues affecting safety and quality and makes judgments regarding quality in all areas necessary regarding DECo COLA activities. The QAM may make recommendations to the DECo Nuclear Development management regarding improving the quality of work processes. If the QAM disagrees with any actions taken by the Nuclear Development organization and is unable to obtain resolution, the QAM shall bring the matter to the attention of the Senior Vice President DTE Energy who will determine the final disposition."[18]

Q37. Did any other DTE material support the QAPD?

A. Yes, a detailed organizational plan and chart were released simultaneously in February 2008 entitled: Nuclear Development Project Organization NDP-NP- 1.1 Revision 0.

"Nuclear Development Quality Assurance Manager
Page 2 of 9

[18] DTE – 00913.0001, Detroit Edison Nuclear Development Quality Assurance Program Description (QAPD) February 2008, INTS 049.

Titles in text do not match titles on Org. Chart… No one assigned in QA function

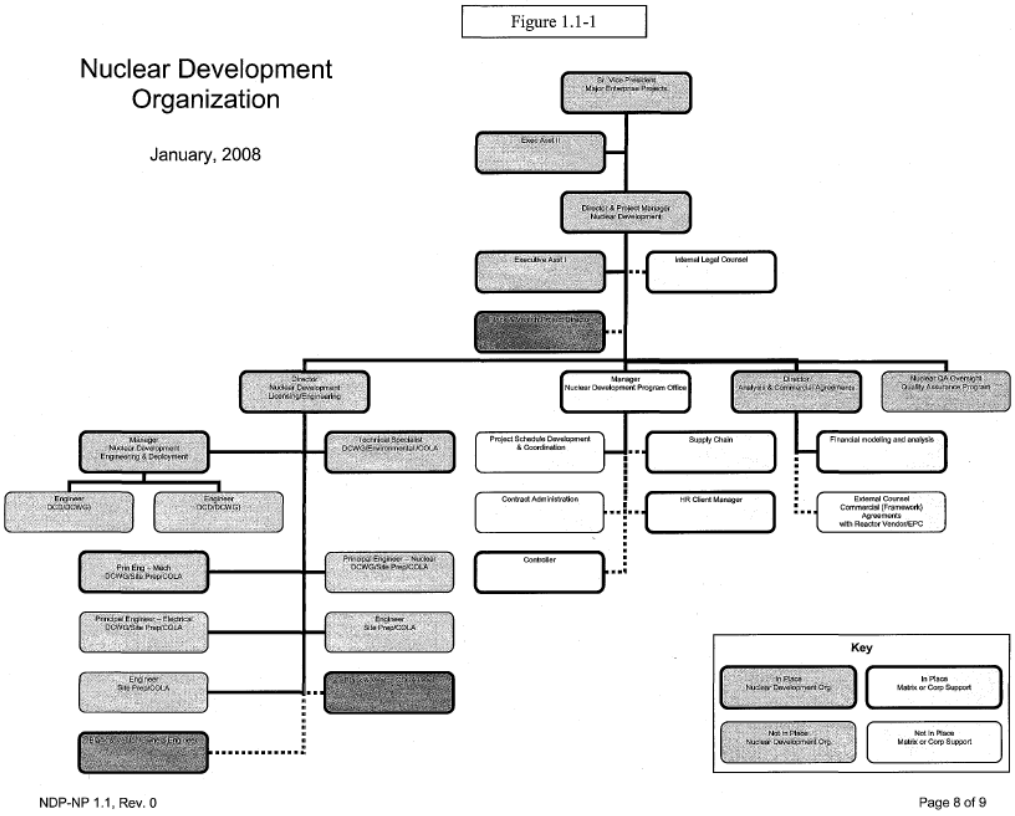
PAGE 1
6.1 General
The Nuclear Development Project organization charts are shown on Figure 1.1-1

PAGE 2/3
Nuclear Development (ND) Quality Assurance Manager shall be responsible for verifying implementation of the applicable quality assurance program for the Nuclear Development Project, qualifying suppliers for nuclear safety-related procurements, maintaining an Approved Suppliers List (ASL), processing nonconforming items, and other responsibilities as identified in the Nuclear Development Project procedures. The Nuclear QA Oversight Quality Assurance function reports administratively to the Director & Project Manager Nuclear Development. This ensures that the personnel performing QA oversight functions are not subject to line influence. This also ensures that quality assurance personnel are provided direct access to senior management that is independent of the line functions for reporting QA concerns. Day to day work direction is provided from the Manager Nuclear Development Program Office.

PAGE 3 B&V Organization
6.3.1 Nuclear Development Project Responsibilities and Authority
Director Nuclear Development Licensing shall coordinate nuclear development licensing activities with and report to the Director & Project Manager Nuclear Development. The Director Nuclear Development Licensing shall be assigned responsibility and authority for the following activities: • Technical Direction and Oversight of COLA and vendor activities including activities performed by the Owners Engineer. • The Detroit Edison Company's (DECo's) review and acceptance of the COLA vendor products • • • Providing technical support for the financial team Coordination of the Detroit Edison Company (DECo) and Fermi COLA support activities Interface with NRC and Industry entities related to COLA development, technical, and licensing activities

Manager Nuclear Development Program Office shall coordinate program office activities with and report to the Director & Project Manager Nuclear Development. The Manager Nuclear Development Program Office shall be assigned responsibility and authority for the following activities:
• Quality Assurance”[19]

[19] DTE-00627.0001, Nuclear Development Project Organization, NDP-NP- 1.1 Revision 0, 2/4/08, INTS 045.



Q38. Does the organization chart above agree with the QAPD?

A. No, they do not agree. The organizational chart below shows a position for a Nuclear QA Oversight Quality Assurance Program. This title is not addressed in the QAPD, and according to the key in the chart, the entire organization has yet to be hired. 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.

Q39. Is the omission of Quality Assurance in the organizational chart a simple printing error?

A. No, in an email between Smith and Allen at DTE in January 2008, it is clear that DTE planned a *self-executing* QA program and had no intention of hiring QA professionals.

> "I think at the time that Bing put the QA plan together we had not envisioned hiring a DECO QA professional. Conventionally, the QA plan needs to be owned by DECO, and the QA professional (ie QA manager role) needs to have a reporting relationship at a level that is independent of the line functions (e.g. COLA preparation) to which the program applies. This is so personnel performing QA oversight functions are not subject to line influence."[20]

Q40. After the issuance of the QAPD did DTE have a clear understanding of its organizational responsibilities?

A. No. According to an Email from Werner (DTE) to Thomas (BV), DTE's QA manager had no understanding of what types of QA reviews were in his jurisdiction. Incredibly, DTE asks B&V what type of reviews DTE needs to perform in order to meet COLA requirements. 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.

> "I am still trying to get a good handle on what type's of QA reviews I need to be doing. I would like to come down to KC very soon to look at your QA program, talk to a few folks, and get a better understanding of my role, along with an improved understanding of the overall project. I also

[20] DTE-00659, EMAIL:1/14/08 SMITH TO ALLEN (BOTH DTE), INTS 046.

> would like to get a copy of your schedule for any upcoming QA Audits, Surveillance or any other type of reviews your QA group is involved with that directly or indirectly impacts our DTE COLA preparation. I would also very much like to be on an Audit Team, with your QA group sometime in the near future if we can arrange it. Please advise and thanks. Jim Werner-Fermi 3 QAM" [21]

Q41. Do others share your opinion that the QA Program at DTE was poorly managed?

A. Yes, DTE itself agrees with my opinion. In the midst of the organizational turmoil already discussed in this testimony, DTE filed Rev. 0 of the Fermi 3 COLA, and in March 2009 DTE filed Fermi 3 COLA Rev. 1. In response to the NRC's Notice of Violation, DTE responded with a PowerPoint in September 2010 in which DTE recognized that its lack of a QA program had created organizational chaos. The last slide of the PowerPoint 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."[22]

Q42. What did the management of DTE believe its Quality Assurance duties and responsibilities entailed?

A. During the summer of 2009, the NRC issued a series of Emails noting considerable problems with the QA Program at DTE Fermi 3. As these NRC questions were being generated, DTE developed a PowerPoint in August 2009 entitled Quality Assurance Overview. At the same time the NRC identified that

[21] DTE- 00817 (April 08), Email, Werner (DTE) to Thomas (BV), INTS 047.
[22] DTE-00915, PowerPoint 1/19/10, NRC Notice of Violation Detroit Edison-Fermi 3 Quality Assurance Program, INTS 037.

Fermi 3 did not have a viable QA program, the August 4, 2009 PowerPoint prepared by DTE clearly identifies that DTE firmly believed that its QA organization had authority and responsibility in the COLA process. For example, the Fermi 3 QA Program Description states in Part II: 1.6 Authority to Stop Work:

> "The QA organization and inspection personnel have the authority, and the responsibility, to stop work in progress, which is not being done in accordance with approved procedures or where safety or SSC integrity may be jeopardized. This extends to off-site work performed by suppliers furnishing safety-related materials and services to Fermi 3.[23]

Q43. Is it possible to wind the clock backwards and rebuild a Quality Assurance Program from this point in the COLA Licensing Process?

A. No, it is not possible to wind the clock backwards. The problems that Detroit Edison is currently experiencing with its faulty foundation analysis are directly attributable to the decisions it made to emasculate the Fermi 3 QA program at the beginning of its COLA Licensing Application in 2007.

To quote the NRC Atomic Safety and Licensing Board during the Consumer Power Midland Station public licensing hearings in March 1973,

> "No quality assurance program is self-executing. Thus, irrespective of how comprehensive it may appear on paper, the program will be essentially without value unless it is timely, improved and properly implemented."[24]

[23] DTE-01022, PowerPoint 8/4/09, Quality Assurance Overview, Slide 5,6 Entitled Current Applicability to ND GrouP, INTS 048.
[24] ASLB at Consumer Power Midland Station public licensing hearings, March 1973

CONCLUSION

Q44. Mr. Gundersen, after reviewing all the evidence available in the public arena, what is your conclusion regarding Detroit Edison's Licensing Project COLA?

A. My conclusion is that the current site characterization problems are rooted in the minimal role DTE chose for Quality Assurance and cannot be resolved by continuing to move forward. As early as 2007, senior management at Detroit Edison made imprudent strategic decisions about the role of Quality Assurance on the Fermi 3 Licensing Project that have created the problems the COLA is encountering today.

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.

The Detroit Edison Fermi 3 Licensing Project for COLA is totally flawed and incapable of repair. Legendary Hall of Fame basketball player/coach John Wooden said, **"If You Don't Have Time to Do It Right, When Will You Have Time to Do It Over?"**

End