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June 1, 2006

Ms. Mary Jo Kunkle
Executive Secretary
Michigan Public Service Commission
PO Box 30221
Lansing, MI 48909-7721

Re: Case No. U-14861 (Paperless)
International Transmission Company
For a Certificate of Public Convenience and Necessity for the Construction of a
Transmission Line Other than a Major Transmission Line, Running Through Genoa
Township, Hartland Township, Oceola Township, Milford Township and Brighton
Township

Dear Ms. Kunkle:

Enclosed please find the Application, Direct Testimony of Thomas W. Vitez (with exhibits), and
Direct Testimony of Dr. Peter A. Valberg filed on behalf of International Transmission
Company.

If there are any questions or comments, do not hesitate to contact me

Very truly yours,

DYKEMA GOSSETT PLLC

Albert Ernst

Digitally signed by Albert Ernst
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o=Dykema Gossett PLLC
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Albert Ernst

cc: Daniel J. Oginsky

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STATE OF MICHIGAN
BEFORE THE MICHIGAN PUBLIC SERVICE COMMISSION

* * * * *

**In the matter of the application of)
International Transmission Company,)
d/b/a ITC *Transmission*, for a certificate)
of public convenience and necessity for)
the construction of a transmission line other)
than a major transmission line, running through)
Genoa Township, Hartland Township, Oceola)
Township, Milford Township, and Brighton)
Township.)**

Case No. U-14861

APPLICATION

Summary of Filing

The Michigan legislature enacted 1995 PA 30, MCL 460.561 *et seq.*, the Electric Transmission Line Certification Act (the Act), “to regulate the location and construction of certain electric transmission lines”.¹ The legislation declared that “[t]ransmission of electricity is an essential service”² and that the Act “shall control in any conflict between this act and any other law of this state”.³ More specifically, the Michigan Public Service Commission (MPSC or Commission) was given authority to issue a certificate of public convenience and necessity (certificate) for transmission lines – and the legislature declared that the Commission’s issuance of a certificate would “take precedence over a [municipality’s] conflicting local ordinance, law,

¹ The Act’s purpose provision.

² The Act, §3(1).

³ The Act, §3(2).

rule, regulation, policy, or practice that prohibits or regulates the location or construction of a transmission line for which the commission has issued a certificate”.⁴

The Act distinguishes between two types of transmission lines, *i.e.*, (i) a “major transmission line” and (ii) a “transmission line”. In simple terms, a “major transmission line” is a line over 5 miles in length of 345 kilovolts (kV) or more;⁵ and a transmission line is a line of 100 kV or more.⁶ The Act *requires* (shall) that a certificate be obtained before beginning construction of a *major* transmission line;⁷ and the Act *allows* (may) a certificate to be obtained before beginning construction of “a transmission line other than a major transmission line”.⁸ The Commission’s issuance of a certificate “takes precedence” over conflicting municipality ordinances, *i.e.*, the Commission’s order would pre-empt the local ordinance.⁹

To meet the increased need for transmission infrastructure in Southeastern Michigan, International Transmission Company d/b/a *ITCTransmission* planned the construction of an overhead 120 kV transmission line running through the following municipalities: Genoa Township, Hartland Township, Oceola Township, Milford Township, and Brighton Township. Since the proposed transmission line was less than 345 kV, *ITCTransmission* was poised to begin the construction in the spring of 2006 without seeking a certificate. However, on March 21, 2006, Hartland Township adopted Ordinance No. 59 purporting to require that “all public

⁴ The Act, §10(1).

⁵ The Act, §2(g).

⁶ The Act, §2(k).

⁷ The Act, §5.

⁸ The Act, §9(1).

⁹ The Act, §10(1).

utilities [facilities] . . . must be constructed underground at their sole cost and expense and at no cost or expense to the Township.” Thus, *absent a Commission issued certificate*, the ordinance would require locating the proposed transmission line underground and (ii) increasing a projected \$15 million capital outlay by 167%, *i.e.*, to approximately \$40 million. Therefore, this filing has become necessary. Attached in support of this application for a certificate of public convenience and necessity (certificate) is the testimony of Mr. Thomas W. Vitez, including exhibits, and the testimony of Dr. Peter A. Valberg.

Description of ITCTransmission

Pursuant to 1995 PA 30 (the Act), §5, as amended, MCL 460.565, International Transmission Company d/b/a *ITCTransmission* respectfully submits this application to the Michigan Public Service Commission (MPSC) for a certificate for the construction of an overhead transmission line other than a major transmission line running through the following municipalities: Genoa Township, Hartland Township, Oceola Township, Milford Township, and Brighton Township. In support, *ITCTransmission* states as follows:

1. *ITCTransmission* is a Michigan corporation engaged in the Federal Energy Regulatory Commission (FERC) jurisdictional transmission of electricity throughout southeastern Michigan, including the Detroit metropolitan area. The MPSC does not have jurisdiction over *ITCTransmission's* rates or terms and conditions of service, but it has jurisdiction over siting of new transmission lines. *ITCTransmission*, incorporated on December 30, 2002, is the first independently owned and operated electric transmission company in the United States. *ITCTransmission* operates solely in the State of Michigan, and provides open, non-discriminatory access to its transmission facilities.

2. *ITCTransmission* purchased its transmission assets from DTE Energy Company (DTE) on February 28, 2003. The purchase was approved by the FERC on February 20, 2003, in Docket Nos. EC03-40-000 and ER03-343-000. *ITCTransmission* is totally independent of DTE, *e.g.*, there are no common directors between the two entities and all *ITCTransmission* employees and their spouses are prohibited from owning DTE stock.

3. *ITCTransmission's* current system footprint mirrors DTE's retail service territory and is located in an approximately 7,600 square mile area having a population of approximately 4.9 million and consists of the following assets: (i) approximately 2,700 circuit miles of transmission lines operated at 120 kilovolts (kV) to 345 kV, (ii) approximately 16,000 transmission towers and poles, (iii) 30 stations which connect transmission facilities, (iv) other transmission equipment necessary to safely operate the system (*e.g.*, switching stations, breakers and metering equipment), (v) associated land, rights of way and easements, (vi) assets located in *ITCTransmission's* Novi, Michigan corporate office, which consist of a transmission operations control room, furniture, fixtures, office equipment and other associated facilities, and (vii) the Michigan Electric Power Coordination Center which performs control area services for all of the electrical systems of *ITCTransmission* and the Michigan Electric Transmission Company, LLC. (METC).

Purpose of Application

5. *ITCTransmission* intends to construct an overhead transmission line other than a major transmission line to run through the following municipalities: Genoa Township, Hartland Township, Oceola Township, Milford Township, and Brighton Township.

6. This application is respectfully submitted pursuant to §9(1) of the Act which provides that *ITCTransmission* may request a certificate from the Commission prior to beginning construction of a transmission line other than a major transmission line.

Relevant Statutory Requirements and Compliance Therewith

7. An “independent transmission company” is defined in §2(f) of the Act as follows:

Independent transmission company” means a person, partnership, corporation, association, or other legal entity, or its successors or assigns, engaged in this state in the transmission of electricity using facilities it owns that have been divested to the entity by an electric utility that was engaged in the generation, transmission, and distribution of electricity in this state on December 31, 2000, and is independent of an electric utility or an affiliate of the utility, generating or distributing electricity to retail customers in this state.

ITCTransmission is an “independent transmission company” as defined by §2(f) of the Act.

8. A “major transmission line” is defined in §2(g) of the Act as follows:

“Major transmission line” means a transmission line of 5 miles or more in length wholly or partially owned by an electric utility, affiliated transmission company, or independent transmission company through which electricity is transferred at system bulk supply voltage of 345 kilovolts or more.

The transmission line proposed to run through Genoa Township, Hartland Township, Oceola Township, Milford Township, and Brighton Township is not a major transmission line.

9. A “transmission line” is defined in §2(k) of the Act as follows:

“Transmission line” means all structures, equipment, and real property necessary to transfer electricity at system bulk supply voltage of 100 kilovolts or more.

The transmission line proposed to run through Genoa Township, Hartland Township, Oceola Township, Milford Township, and Brighton Township is a transmission line that is not a major transmission line.

10. §9 of the Act authorizes an independent transmission company to file an application for a certificate for a proposed transmission line other than a major transmission line:

(1) An . . . independent transmission company may file an application with the commission for a certificate for a proposed transmission line other than a major transmission line. If an . . . independent transmission company applies for a certificate under this section, the . . . independent transmission company shall not begin construction of the proposed transmission line until the commission issues a certificate for that transmission line.

(2) The commission shall proceed on an application in the same manner as provided in section 8. Except as otherwise provided in subsection (3), the provisions of this act that apply to applications and certificates for major transmission lines apply in the same manner to applications and certificates issued under this section.

(3) Section 4 does not apply to a transmission line for which a certificate is sought under this section.

11. A “municipality” is defined by §2(h) of the Act as follows:

“Municipality” means a city, township, or village.

Each of the municipalities listed in paragraph 4 of this application are a “municipality” as defined by §2(h) of the Act.

12. Pursuant to §3(1) of the Act, the “[t]ransmission of electricity is an essential service.”

13 Pursuant to §3(2) of the Act, “[t]his Act shall control in any conflict between this act and any other law of this state.”

14. Pursuant to §10 of the Act, issuance of a certificate by this Commission would take precedence over any conflicting local ordinances, laws, rules, regulations, policies or practices that would prohibit or regulate the construction of a transmission line:

(1) If the commission grants a certificate under this act, that certificate shall take precedence over a conflicting local ordinance,

law, rule, regulation, policy, or practice that prohibits or regulates the location or construction of a transmission line for which the commission has issued a certificate.

(2) A zoning ordinance or limitation imposed after an . . . independent transmission company files for a certificate shall not limit or impair the transmission line's construction, operation, or maintenance.

(3) In an eminent domain or other related proceeding arising out of or related to a transmission line for which a certificate is issued, a certificate issued under this act is conclusive and binding as to the public convenience and necessity for that transmission line and its compatibility with the public health and safety or any zoning or land use requirements in effect when the application was filed.

15. Although not required in this instance, pursuant to §6(1) of the Act, public meetings were held with respect to each affected municipality. Additionally, on April 7, 2006, ITCTransmission offered in writing to meet with the chief elected official of each affected municipality or his or her designee.

16. §7(2) of the Act sets forth the requirements for a certificate as follows:

(2) An application for a certificate shall contain all of the following:

(a) The planned date for beginning construction.

(b) A detailed description of the proposed . . . transmission line, its route, and its expected configuration and use.

(c) A description and evaluation of 1 or more alternate . . . transmission line routes and a statement of why the proposed route was selected.

(d) If a zoning ordinance prohibits or regulates the location or development of any portion of a proposed route, a description of the location and manner in which that zoning ordinance prohibits or regulates the location or construction of the proposed route.

(e) The estimated overall cost of the proposed . . . transmission line.

- (f) Information supporting the need for the proposed . . . transmission line, including identification of known future wholesale users of the proposed transmission line.
- (g) Estimated quantifiable and nonquantifiable public benefits of the proposed . . . transmission line.
- (h) Estimated private benefits of the proposed . . . transmission line to the applicant or any legal entity that is affiliated with the applicant.
- (i) Information addressing potential effects of the proposed . . . transmission line on public health and safety.
- (j) A summary of all comments received at each public meeting and the applicant's response to those comments.
- (k) Information indicating that the proposed . . . transmission line will comply with all applicable state and federal environmental standards, laws, and rules.
- (l) Other information reasonably required by the commission pursuant to rule.

This application and the testimony being submitted herewith comply with the requirements of §7 of the Act. *ITCTransmission's* counsel has been advised that the Commission has issued no rules requiring other information under §7(2)(l) of the Act.

17. §8 of the Act requires publication of a notice of an opportunity to comment on the application:

Upon applying for a certificate, the . . . independent transmission company shall give public notice in the manner and form the commission prescribes of an opportunity to comment on the application. Notice shall be published in a newspaper of general circulation in the area to be affected within a reasonable time period after an application is provided to the commission and shall be sent to each affected municipality and each affected landowner on whose property a portion of the proposed . . . transmission line will be constructed. The notice shall be written in plain, nontechnical, and easily understood terms and shall contain a title that includes the name of the electric utility, affiliated transmission company, or independent transmission company and the words

“NOTICE OF INTENT TO CONSTRUCT A TRANSMISSION
LINE”.

ITCTransmission is in the process of complying with the above excerpted notice requirement and has provided the Commission’s Executive Secretary with the proposed format for the requisite notice.

Representations and Requests for Relief

18. *ITCTransmission* submits that the Commission should expeditiously grant the requested certificate.

19. *ITCTransmission* submits that the Commission’s Capacity Needs Forum, currently being addressed in Case No. U-14231, clearly focuses on the need to upgrade the State of Michigan’s transmission infrastructure.

20. *ITCTransmission* submits that the quantifiable and nonquantifiable public benefits of the proposed transmission line justify its construction.

21. *ITCTransmission* submits that the proposed route is feasible, reasonable and superior to alternative routes.

22. *ITCTransmission* submits that the proposed transmission line does not present an unreasonable threat to public health or safety.

23. The Commission has jurisdiction over this matter pursuant to the Act.

WHEREFORE, *ITCTransmission* respectfully requests that the Commission expeditiously take the following actions:

A. Accept this filing as being in compliance with the laws of the State of Michigan and in specific compliance with the Act.

B. Schedule and conclude the requisite contested case hearings required by §8(2) of the Act.

C. Read the evidentiary record to avoid the need for a proposal for decision, exceptions and replies to exceptions otherwise required by §81 of the Administrative Procedures Act of 1969, 1969 PA 306, §81.

D. Expeditiously issue the requested certificate of public convenience and necessity authorizing the construction of the overhead transmission line.

E. Such further and additional relief as the Commission may deem appropriate.

Respectfully submitted,

DYKEMA GOSSETT

Attorneys for

International Transmission Company d/b/a
ITCTransmission

Dated: June 1, 2006

By Albert Ernst

Digitally signed by Albert Ernst
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Date: 2006.06.01 16:07:14 -0400

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STATE OF MICHIGAN
BEFORE THE MICHIGAN PUBLIC SERVICE COMMISSION

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In the matter of the application of)
International Transmission Company,)
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Genoa Township, Hartland Township, Oceola)
Township, Milford Township, and Brighton)
Township.)
_____)

Case No. U-14861

DIRECT TESTIMONY

OF

THOMAS W. VITEZ

ON BEHALF OF

ITCTRANSMISSION

STATE OF MICHIGAN
BEFORE THE MICHIGAN PUBLIC SERVICE COMMISSION

* * * * *

**In the matter of the application of)
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Case No. U-14861

DIRECT TESTIMONY OF THOMAS W. VITEZ

1 **Q₁ PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

2 A₁ My name is Thomas W. Vitez. My business address is ITCTransmission, 39500 Orchard
3 Hill Place, Suite 200, Novi, Michigan 48375.

4 **Q₂ BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?**

5 A₂ I am employed by International Transmission Company d/b/a ITCTransmission as its
6 Director – Reliability Planning.

7 **Q₃ PLEASE SUMMARIZE YOUR QUALIFICATIONS.**

8 A₃ I earned a Bachelor of Science Degree in Electrical Engineering from the University of
9 Cincinnati in 1986; and a Master of Business Administration Degree from the University
10 of Michigan in 1992.

1 I have been involved with the utility industry for the past 25 years. I began my career in
2 1981 as a co-op at the Cleveland Electric Illuminating Company (now a subsidiary of
3 FirstEnergy). In 1986 (upon receiving my undergraduate degree), I became an
4 Underground Engineer responsible for residential development of distribution systems.
5 In 1992 (upon receiving my graduate degree), I joined The Detroit Edison Company
6 (Detroit Edison) in its Professional Opportunity Program -- a two year developmental
7 program with a variety of assignments, including Transmission Planning. In 1994, I was
8 assigned to the Demand Side Management section of the Marketing Department where I
9 analyzed demand side management options. In 1995, I returned to Transmission Planning
10 where I performed studies of Detroit Edison's transmission system. In 1998, I was
11 promoted to Principal Engineer in Transmission Projects.

12 When *ITCTransmission* was formed as a Detroit Edison subsidiary, I was appointed
13 Principal Engineer in Transmission Projects. When *ITCTransmission* became
14 independent of Detroit Edison in 2003, I joined *ITCTransmission* and was promoted to
15 Director – Transmission Planning. I was promoted to my current position as Director –
16 Reliability Planning in 2006.

17 In my current position as Director – Reliability Planning, I oversee both short and long
18 term planning of *ITCTransmission's* system. The short term planning area (known as
19 Operations Engineering) provides engineering support to real-time operations by
20 performing operating studies, developing mitigation strategies to transmission
21 congestion, analyzing requests to shut down equipment, developing operating practices
22 and developing network transmission models. The long term planning area (known as

1 System Planning) includes planning and expanding the transmission system by
2 development of planning models, performing assessments of expected future system
3 performance, studying requests to interconnect load and generation.

4 I serve on a variety of industry working groups and panels. With respect to the Regional
5 and North American Reliability Councils, I am past chair of the East Central Area
6 Reliability (ECAR) Council's Future System Study Group as well as ECAR's
7 Transmission System Performance Panel Working Group. I also participated in ECAR's
8 Transmission System Performance Panel. I am current chair of the MAAC-ECAR-
9 NPCC ("MEN") Study Committee. These functions are being transitioned to the new
10 ReliabilityFirst organization. I am on the Reliability Committee for ReliabilityFirst and
11 am also on its Transmission Assessments Task Force. I also served on the North
12 American Electric Reliability Council (NERC) Distribution Factors Task Force. With
13 respect to the Midwest Independent System Operator (MISO), I am the current chair of
14 its Expansion Planning Group, an active participant in its Planning Subcommittee and
15 part of its Planning Advisory Committee. Finally, I served as Chairman of the
16 Transmission and Distribution Group for the Michigan Public Service Commission's
17 Capacity Needs Forum.

18 **Q₄ PLEASE DESCRIBE ITCTRANSMISSION.**

19 **A₄** *ITCTransmission* is a Michigan corporation engaged in the Federal Energy Regulatory
20 Commission (FERC) jurisdictional transmission of electricity throughout southeastern
21 Michigan, including the Detroit metropolitan area. *ITCTransmission*, incorporated on
22 December 30, 2002, is the first independently owned and operated electric transmission

1 company in the United States. *ITCTransmission* operates solely in the State of Michigan,
2 and provides open, non-discriminatory access to its transmission facilities.

3 *ITCTransmission* purchased its transmission assets from DTE Energy Company (DTE
4 Energy) on February 28, 2003. The purchase was approved by the FERC on February
5 20, 2003, in Docket Nos. EC03-40-000 and ER03-343-000. *ITCTransmission* is totally
6 independent of DTE Energy, *e.g.*, there are no common directors between the two entities
7 and all *ITCTransmission* employees and their spouses are prohibited from owning DTE
8 Energy stock.

9 *ITCTransmission's* current system footprint mirrors DTE Energy's retail service territory
10 and is located in an approximately 7,600 square mile area having a population of
11 approximately 4.9 million and consists of the following assets: (i) approximately 2,700
12 circuit miles of transmission lines operated at 120 kilovolts (kV) to 345 kV, (ii)
13 approximately 16,000 transmission towers and poles, (iii) 30 stations which connect
14 transmission facilities, (iv) other transmission equipment necessary to safely operate the
15 system (*e.g.*, switching stations, breakers and metering equipment), (v) associated land,
16 rights of way and easements, (vi) assets located in *ITCTransmission's* Novi, Michigan
17 corporate office, which consist of a transmission operations control room, furniture,
18 fixtures, office equipment and other associated facilities, and (vii) the Michigan Electric
19 Power Coordination Center which performs control area services for all of the electrical
20 systems of *ITCTransmission* and the Michigan Electric Transmission Company, LLC.
21 (METC).

22 **Q₅ WHAT IS THE PURPOSE OF YOUR TESTIMONY.**

1 A₅ ITCTransmission intends to construct a transmission line other than a major transmission
2 line running through the following municipalities: Genoa Township, Hartland Township,
3 Oceola Township, Milford Township, and Brighton Township.

4 This testimony is submitted in support of ITCTransmission's May 26, 2006 application
5 requesting a certificate of public convenience and necessity for the construction of a
6 transmission line other than a major transmission line. Counsel advises that this filing is
7 being submitted pursuant to 1995 PA 30, the Electric Transmission Line Certification Act
8 (the Act), §§5 and 9, as amended, MCL 460.565 and 460.569.

9 **Q₆ HOW DOES THE ACT DEFINE A "MAJOR TRANSMISSION LINE"?**

10 A₆ Counsel advises that the Act defines a "major transmission line" in §2(g) as follows:

11 "Major transmission line" means a transmission line of 5 miles or
12 more in length wholly or partially owned by an electric utility,
13 affiliated transmission company, or independent transmission
14 company through which electricity is transferred at system bulk
15 supply voltage of 345 kilovolts or more.
16

17 **Q₇ HOW DOES ITCTRANSMISSION MATCH WITH THE ABOVE DEFINITION**
18 **FROM A FACTUAL PERSPECTIVE?**

19 A₇ The transmission line proposed to run through Genoa Township, Hartland Township,
20 Oceola Township, Milford Township, and Brighton Township is not a major transmission
21 line – in that it is to be a single circuit 120 kV transmission line. However, the proposed
22 transmission line does constitute structures, equipment, and real property necessary to
23 transfer electricity at system bulk supply voltage of 100 kilovolts or more. Counsel
24 advises that §2(k) of the Act includes the following definition of

1 “Transmission line” means all structures, equipment, and real
2 property necessary to transfer electricity at system bulk supply
3 voltage of 100 kilovolts or more.

4
5 Therefore, the proposed line is a “transmission line.”

6 **Q₈ HOW DOES THE ACT DEFINE AN “INDEPENDENT TRANSMISSION**
7 **COMPANY”?**

8 A₈ Counsel advises that the Act defines an “independent transmission company” in §2(f), in
9 pertinent part, as follows:

10 Independent transmission company” means a . . . corporation
11 . . . engaged in this state in the transmission of electricity using
12 facilities it owns that have been divested to the entity by an electric
13 utility that was engaged in the generation, transmission, and
14 distribution of electricity in this state on December 31, 2000, and is
15 independent of an electric utility . . . generating or
16 distributing electricity to retail customers in this state.

17
18 **Q₉ HOW DOES ITCTransmission MATCH WITH THE ABOVE DEFINITION**
19 **FROM A FACTUAL PERSPECTIVE?**

20 A₉ ITC*Transmission* is a Michigan corporation engaged in this state in the transmission of
21 electricity using facilities that ITC*Transmission* owns that have been divested to it by
22 DTE Energy (an electric utility engaged in the generation, transmission and distribution
23 of electricity in Michigan) on December 31, 2000 and ITC*Transmission* is independent of
24 DTE Energy or any of its affiliates.

25 **Q₁₀ WHAT ACTIONS HAS ITCTransmission TAKEN WITH RESPECT TO THE**
26 **PROPOSED TRANSMISSION LINE?**

1 A₁₀ On April 7, 2006, *ITCTransmission* offered in writing to meet with the chief elected
2 official of each affected municipality or his or her designee with respect to the proposed
3 transmission line. Public meetings were held on April 24, 2006.

4 On May 26, 2006, *ITCTransmission* provided a copy of a proposed notice of opportunity
5 to comment on the application in this docket in a newspaper of general circulation in the
6 area to be affected and such notice is to be sent to each affected municipality and each
7 affected landowner on whose property a portion of the proposed transmission line will be
8 constructed. The proposed notice contains a title that includes *ITCTransmission's* name
9 and the words "NOTICE OF INTENT TO CONSTRUCT A TRANSMISSION LINE".

10 **Q₁₁ WHAT IS THE PLANNED DATE FOR BEGINNING CONSTRUCTION OF THE**
11 **PROPOSED TRANSMISSION LINE?**

12 A₁₁ *ITCTransmission* had planned to initiate construction in the Spring of 2006 but the need
13 to submit this filing has delayed the earliest possible construction to Summer of 2006.

14 **Q₁₂ PLEASE PROVIDE A DETAILED DESCRIPTION OF THE PROPOSED**
15 **TRANSMISSION LINE, ITS ROUTE AND ITS EXPECTED CONFIGURATION**
16 **AND USE.**

17 A₁₂ The Durant-Genoa transmission line is a new single circuit 120 kV line installed on
18 galvanized steel poles. The circuit begins at Genoa substation located in Genoa
19 Township and proceeds easterly and northerly on *ITCTransmission*-owned property,
20 referred to as the Genoa-North Corridor, for approximately 3.7 miles. The line continues
21 into Oceola Township for a distance of 1.9 miles intersecting M-59 (Highland Road). The
22 line then proceeds easterly in Oceola Township in a public road right-of-way for an

1 additional 3.8 miles until intersecting Hacker Road. At Hacker Road, the line enters
2 Hartland Township and continues easterly in M-59 road right-of-way for a distance of 5.1
3 miles. The line intersects Pleasant Valley Road in Hartland Township and proceeds
4 southerly in the road right-of-way of Pleasant Valley Road to Commerce Road for a
5 distance of 2.1 miles. The transmission line then enters General Motors Company (GM)
6 property located in Brighton and Milford Townships, on which *ITCTransmission* will be
7 granted a 4.2 mile easement consisting of 2.1 miles of single circuit steel pole
8 configuration and 2.1 miles of double circuit steel poles. A detailed map reflecting the
9 route of the proposed line is attached as Exhibit A-1. The proposed line is shown as
10 Route 4 on Exhibit A-1.

11
12 The new transmission line traverses a total of 20.86 miles and is expected to have a
13 capacity of up to 313 megawatts (MW). The new line will become part of the
14 *ITCTransmission's* system in Livingston County, and will facilitate transmission of
15 power across the northwestern part of the *ITCTransmission's* service territory and feed
16 existing and new electrical load through interconnected distribution substations.
17 Presently, the area is devoid of transmission with power being delivered on 41.6 kV
18 circuits owned by DTE Energy.

19 **Q₁₃ PLEASE PROVIDE A DESCRIPTION AND EVALUATION OF 1 OR MORE**
20 **ALTERNATE TRANSMISSION LINE ROUTES AND A STATEMENT OF WHY**
21 **THE PROPOSED ROUTE WAS SELECTED.**

A₁₃ Four alternate routes were considered in addition to the proposed route. A detailed map showing the alternate routes is attached as Exhibit A-1.

The first alternate, designated with blue-circled numeral 1 on Exhibit A-1, was a line from Selkirk Substation (located just south of Grand River at US-23) to Durant Substation. The line followed US-23 north to Hyne Road and then east to Durant Substation on GM-owned property.

The second alternate, designated with a yellow-circled numeral 2 on Exhibit A-1, was a line from Nolan Substation (located near the intersection of Grand River Avenue and Bendix Road in Genoa Township) to Durant Substation. The line followed Hacker Road north to Hyne Road and then east to Durant Substation on GM-owned property.

The proposed route, designated with a red-circled numeral 4 on Exhibit A-1, was chosen above these first two alternates due to right of way issues along Hyne Road. The route along Hyne road is heavily treed and would require disturbing more private property owners than the proposed route. This would have added significant time to the project and adversely affected meeting projected load needs. *ITCTransmission* chose the proposed route along a major road (M-59) rather than along Hyne Road due to these considerations. Furthermore, neither of these two alternate routes would have been effective in providing for future distribution interconnections. This is important since the affected area requires transmission infrastructure to support load growth.

The third alternate route, designated with a green-circled numeral 3 on Exhibit A-1, followed the *ITCTransmission* Corridor out of Genoa Station to M-59, east along M-59 to Old US-23, south along Old US-23 to Hyne Road and then east to Durant Substation

1 on GM-owned property. Although this alternate would have been effective in providing
2 for future distribution interconnections, the above-discussed right of way issues along
3 Hyne Road as compared to M-59 made the proposed route preferable.

4 The fourth alternate route, designated with a blue-circled numeral 5 on Exhibit A-1,
5 followed the *ITC Transmission* Corridor out of Genoa station to M-59 and then followed
6 M-59 to Hickory Ridge Road. This alternate route anticipated purchasing existing DTE
7 Energy single circuit wood poles lines and upgrading the existing single circuit 120 kV
8 wood poles to double circuit steel wood pole equivalent poles – with replacement on a
9 one-for-one basis where possible.

10 This fourth alternate route was dismissed because of diminished reliability of the new
11 double circuit line built along a road easement as compared to the proposed route and
12 because construction and maintenance of portions of this alternative would be difficult.
13 There is approximately 2 miles of both transmission sources on a single lead that would
14 exist on GM Milford Proving Ground property that would be common to both the
15 proposed route and to the fourth alternative. However, the fourth alternative would place
16 both transmission sources on a single lead for an additional 2.5 miles on Hickory Ridge
17 Road. Not only would the fourth alternative significantly increase the distance for which
18 both transmission sources would be on a single lead, but the additional distance would be
19 along a public road. The 2 miles with both transmission sources on a single lead in the
20 proposed route would be solely within the controlled access confines of GM Milford
21 Proving Ground property. The proposed route keeps to a minimum the amount of line

1 with both transmission sources on a single pole lead thereby reducing the chances of a
2 “common mode” failure of both sources.

3 Double circuit configurations can be used on a full granted easement on private land
4 (typically 45 feet on either side of the center of the pole lead) because there is sufficient
5 space for reliable operations. For the fourth alternative, the portion of the double circuit
6 configuration along Hickory Ridge Road would not be on a full granted easement, but
7 rather on a road easement. With rare exception, road easements are single circuit
8 configurations where the pole lead is placed normally at easement’s edge. Routing
9 double circuit configurations in road easements presents considerable obstacles when
10 trying to access the lines. For work that would need to be performed on the wires on the
11 side of the structure away from the street, access might require working from or over
12 private property for which land owner’s approval would be needed. Any trimming of
13 trees beyond the edge of the road easement edge could lead to disputes with property
14 owners.

15 Finally, the fourth alternative would require long shutdowns of the strongest of the two
16 sources into the GM Milford Proving Grounds. Construction of the fourth alternative
17 would be restricted to off-peak periods when the weaker of the two sources into the GM
18 Milford Proving Grounds could support the load of the facility. In addition, the
19 shutdowns related to this alternative would involve leaving only one source into the GM
20 Milford Proving Grounds for long periods and raises the prospect that one event on the
21 system (the outage of the single source) could result in the loss of the entire load at the
22 GM Milford Proving Ground until one of the two sources could be restored. Reasonable

1 levels of redundancy are designed into the transmission system, the fourth alternative
2 would result in a reduction of redundancy by putting more of the circuits on common
3 structures along a public road and would eliminate the redundancy for the periods of time
4 during the long construction shutdowns.

5 **Q₁₄ DOES ANY ZONING ORDINANCE PROHIBIT OR REGULATE THE**
6 **LOCATION OR DEVELOPMENT OF ANY PORTION OF A PROPOSED**
7 **ROUTE AND, IF SO, PLEASE DESCRIBE THE LOCATION AND MANNER IN**
8 **WHICH THAT ZONING ORDINANCE PROHIBITS OR REGULATES THE**
9 **LOCATION OR CONSTRUCTION OF THE PROPOSED ROUTE?**

10 **A₁₄** At its March 21, 2006 meeting, the Hartland Township Board went into closed session at
11 6:12 p.m. and upon coming out of closed session 29 minutes later unanimously and
12 without notice to the general public adopted Resolution 06-03-03 adopting Underground
13 Construction of Utility Line Ordinance No. 59. A copy of the minutes and ordinance are
14 attached as Exhibits A-2 and A-3, respectively. Counsel advises that the substance of the
15 Hartland Township Ordinance is contained in Section 3, which provides, in pertinent
16 part, as follows:

17 Upon the adoption of this Ordinance, all public utilities . . .
18 who seek to construct utility lines, wires and related equipment and
19 facilities along, across, over and/or adjacent to streets in the
20 Township, intersections, and to private property adjacent to same,
21 are hereby directed and ordered that . . . all of the lines, wires
22 and/or related facilities and equipment must be constructed
23 underground at their sole cost and expense and at no cost or
24 expense to the Township.

25
26 Counsel advises that the ordinance broadly defines utility lines as follows:

1 . . . "utility lines, wires and related equipment and facilities"
2 shall include, but not be limited to, lines, wires, equipment and
3 facilities used for electric transmission and distribution,
4 telecommunications, cable television, internet service and other
5 similar purposes. . .
6

7 The proposed line before the Commission in this docket is an *overhead* line. The
8 Hartland Township ordinance would require ITCTransmission to construct the proposed
9 line *underground* at ITCTransmission's sole cost and expense and at no cost or expense
10 to Hartland Township. If ITCTransmission is forced to construct the proposed line
11 *underground* the cost of the section of the line in Hartland Township would increase
12 approximately five-fold, *i.e.*, from approximately \$6 million to an estimated \$30 million.
13 The actual construction costs for underground can vary significantly based on route. The
14 five-fold cost estimate increase for underground versus overhead construction is based on
15 typical conditions for the underground route. If the ordinance requires the underground
16 line to be constructed at ITCTransmission's sole cost and expense, Counsel advises that
17 under the current regulatory regime, this increased cost and expense would be included in
18 ITCTransmission's FERC-approved transmission rates paid by transmission customers,
19 such as Detroit Edison, and ultimately recovered from its customer base.

20 *Underground* transmission lines that operate at the same voltage as the proposed
21 *overhead* line have only about one-half the capacity of an *overhead* transmission line.
22 System Planning must also take into consideration the impact of long restoration times,
23 usually several weeks, for underground transmission if a line failure occurs.
24 *Underground* transmission lines have different characteristics than *overhead* lines, like
25 lower impedance and greater charging current. Mandated widespread use of
26 *underground* transmission presents serious technical issues and would be impractical to

1 implement. In summary, underground transmission is reserved for specific circumstances
2 where the installation of overhead construction would not be physically or technically
3 possible, *e.g.*, urban areas, downtown urban centers, airports or major freeway crossings.

4 **Q₁₅ PLEASE PROVIDE THE ESTIMATED OVERALL COST OF THE PROPOSED**
5 **TRANSMISSION LINE.**

6 A₁₅ The cost of the proposed overhead line is estimated at \$15 million with a resulting
7 increased cost to Michigan consumers of approximately \$3 million annually.

8 **Q₁₆ PLEASE ADDRESS THE NEED FOR THE PROPOSED TRANSMISSION LINE,**
9 **INCLUDING IDENTIFICATION OF KNOWN FUTURE WHOLESALE USERS**
10 **OF THE PROPOSED TRANSMISSION LINE.**

11 A₁₆ The proposed transmission line is being constructed by ITC*Transmission*, in part, in
12 response to DTE Energy's September 28, 2005 *LDC Interconnection Request with ITC* to
13 provide a second 120 kV feed to a new substation (Durant) at GM's Milford Proving
14 Grounds with a December 31, 2006 desired in-service date. DTE Energy's September 28,
15 2005 *LDC Interconnection Request with ITC* is attached as Exhibit A-4. The Milford
16 Proving Grounds is currently fed by a two transformer substation (Prizm.) One of the
17 transformers is fed by a ten mile long DTE Energy owned 120 kV tap off of
18 ITC*Transmission's* Placid-Proud transmission line (the only customer being fed off of
19 this tap is GM). The 120 kV feed to the existing Prizm Substation would be purchased
20 from DTE Energy and extended to the new substation site as part of this project. The
21 second transformer is fed from a DTE Energy-owned 41.6 kV sub-transmission line out
22 of Milford Substation (Trunk 3107). This feed provides standby where the 120 kV

1 source needs to be shutdown for maintenance or where the 120 kV source sustains an
2 outage, *etc.* The *Project Justification* section on page 2 of Exhibit A-4 includes a
3 discussion of “Overloads Identified” and “Loading after project built.” The overloads
4 identified in the Exhibit would force GM to curtail loads to avoid equipment damage or,
5 worse yet, cause voltage collapse due to the load and voltage drop across the lines
6 feeding the load. Furthermore, the thermal capabilities of the 41.6 kV system could not
7 be upgraded to a level sufficient to meet the expected Milford Proving Grounds load.

8 ITCTransmission’s System Planning Department looked for the best alternative to fulfill
9 this request while also providing for other system needs. Of the alternatives considered,
10 the Genoa-Durant line was deemed the best route to feed the Milford Proving Grounds
11 load and to provide for future system expansion in Michigan’s Livingston County.

12 In addition to meeting GM’s needs, the route selected traverses a rapidly growing area in
13 Livingston County – and we foresee that DTE Energy will make use of this new
14 transmission line to feed other distribution transformers to meet projected load growth.
15 In fact, through our quarterly Planning Committee meetings with DTE Energy,
16 ITCTransmission had already received verbal inquiries regarding the feasibility of
17 connecting other distribution load to the new line. Those discussions have materialized
18 in the form of a formal interconnection request received on May 25, 2006. This request
19 is for ITCTransmission to provide a transmission interconnection to allow for the
20 addition of a new 120 to 41.6 kV distribution transformer at Hurst Substation which is
21 located near the intersection of M-59 and US-23. DTE Energy’s May 25, 2006 LDC
22 Interconnection Request with ITC is attached as Exhibit A-5.

1 **Q₁₇ PLEASE ADDRESS THE ESTIMATED QUANTIFIABLE AND**
2 **NONQUANTIFIABLE BENEFITS OF THE PROPOSED TRANSMISSION LINE.**

3 A₁₇ The transmission line will benefit the Livingston County area by providing a source of
4 power to serve the growing population. The present infrastructure is not capable of
5 reliably serving the long term expected load in the area. The new line will provide this
6 capacity, increase reliability, and at the same time unload the existing infrastructure,
7 allowing additional loads to be served. The new line will also provide GM with electrical
8 infrastructure capable of serving its current and future loads. The general public will
9 benefit from GM's ability to expand the Milford Proving Grounds through the jobs that
10 are produced. Not allowing the line and thus precluding GM's expansion would only
11 force it to locate new facilities (and the jobs that come along with those facilities)
12 elsewhere.

13 **Q₁₈ PLEASE ADDRESS THE ESTIMATED PRIVATE BENEFITS OF THE**
14 **PROPOSED TRANSMISSION LINE TO ITCTRANSMISSION OR ANY LEGAL**
15 **ENTITY THAT IS AFFILIATED WITH ITCTRANSMISSION.**

16 A₁₈ The proposed line would be added to ITC*Transmission's* investment base and, included
17 in FERC jurisdictional transmission rates charged to jurisdictional transmission
18 customers. In addition, to the extent that reliability and future transmission revenues are
19 improved/increased as a result of the proposed line, ITC*Transmission's* reliability of
20 service reputation would be enhanced and, presumably, so would the market's evaluation
21 of ITC*Transmission*. Finally, to the extent that the proposed transmission line provides

1 economic benefits to the region as a whole, *ITCTransmission* will be the provider to a
2 more robust economic area, which will benefit *ITCTransmission* and the area in general.

3 However, it should be noted that the primary reason for constructing the proposed line is
4 not to provide private benefits to *ITCTransmission* or any legal entity affiliated with
5 *ITCTransmission*. Instead, the driving force behind construction of the proposed line is
6 to meet the needs of *ITCTransmission*'s largest transmission customer, DTE Energy – to
7 meet service and reliability needs in Livingston County.

8 **Q₁₉ PLEASE ADDRESS POTENTIAL EFFECTS OF THE TRANSMISSION LINE**
9 **ON PUBLIC HEALTH AND SAFETY.**

10 A₁₉ *ITCTransmission*'s construction practices meet or exceed all aspects of transmission
11 design, including towers, lines and conductor heights, as prescribed by the National
12 Electric Safety Code (NESC).

13 Health and safety concerns associated with high voltage transmission lines usually focus
14 on the possible effects of electric and magnetic fields (EMFs). *ITCTransmission* has
15 asked Dr. Peter A. Valberg to provide expert testimony as to these concerns.

16 **Q₂₀ PLEASE PROVIDE A SUMMARY OF ALL COMMENTS RECEIVED AT EACH**
17 **PUBLIC MEETING AND ITCTRANSMISSION'S RESPONSE TO THOSE**
18 **COMMENTS.**

19 A₂₀ Attached as Exhibit A-6 is a summary of comments received at each public meeting and
20 *ITCTransmission*'s response to those comments.

1 **Q₂₁ PLEASE ADDRESS WHETHER THE PROPOSED TRANSMISSION LINE**
2 **WILL COMPLY WITH ALL APPLICABLE STATE AND FEDERAL**
3 **ENVIRONMENTAL STANDARDS, LAWS AND RULES.**

4 A₂₁ The proposed transmission line will comply with all applicable state and federal
5 environmental standards, laws and rules.

6 **Q₂₂ HAS THE COMMISSION ISSUED ANY RULES REQUIRING OTHER**
7 **INFORMATION IN SUPPORT OF THIS APPLICATION?**

8 A₂₂ Upon inquiry to the Commission, *ITCTransmission* was advised that the Commission has
9 not issued any rules requiring other information in support of the application.

10 **Q₂₃ PLEASE SUMMARIZE YOUR TESTIMONY.**

11 A₂₃ *ITCTransmission* seeks a certificate of public convenience and necessity to build the
12 proposed line. The proposed overhead line is described in response to Q₁₂. The proposed
13 overhead line is preferred to alternate routes for the reasons addressed in response to Q₁₃.
14 The proposed overhead line is anticipated to cost approximately \$15 million. If the
15 Hartland ordinance addressed in response to Q₁₄ is successful in forcing *ITCTransmission*
16 to locate the transmission line underground, the proposed cost would increase
17 approximately 167% to about \$40 million. If other communities adopt resolutions
18 similar to the one adopted by Hartland Township, the cost of the proposed transmission
19 line would further sky rocket, as would the costs of any other transmission lines as may
20 be needed to serve the growing and moving load or to accommodate shifting generation
21 patterns. In addition to higher cost, other limitations and unique characteristics of
22 *underground* transmission make it acceptable only in special circumstances—not in

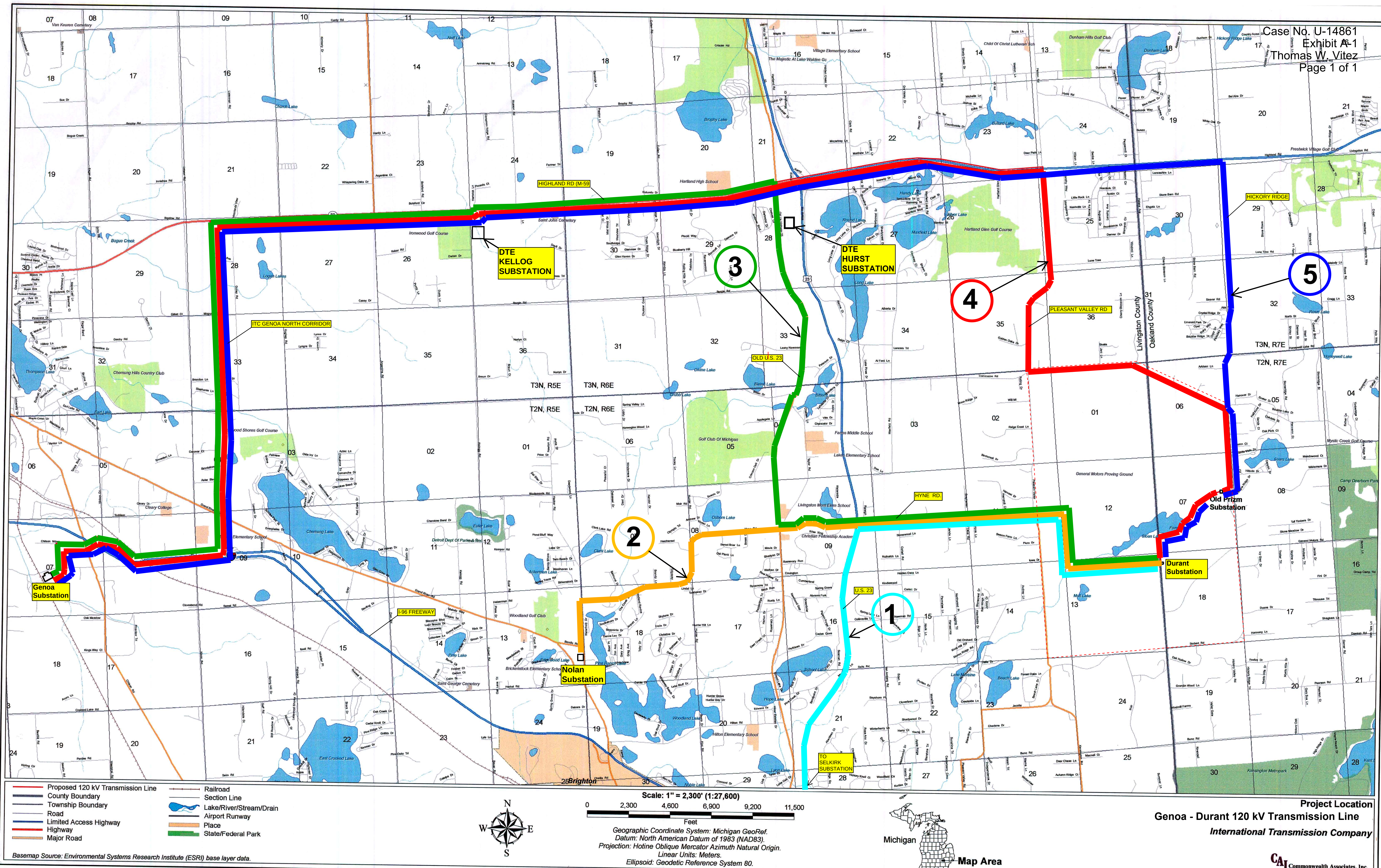
1 widespread application. The proposed transmission line is necessary to meet DTE
2 Energy's needs, GM's needs, and Livingston County growth needs. The proposed
3 transmission line is necessary for system integrity reasons. The proposed transmission
4 line meets or exceeds all applicable NESC requirements and should not pose a threat to
5 the public health and safety.

6 ITC*Transmission* respectfully requests that the Commission issue an expedited order
7 granting the requested certificate of public convenience as soon as possible.

8 **Q₂₄ DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?**

9 A₂₄ Yes, it does.

10
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HARTLAND TOWNSHIP BOARD
MARCH 21, 2006 -TOWNSHIP HALL-6:00 P.M.

1. CALL TO ORDER- The meeting was called to order by Supervisor Rhodes.

2. PLEDGE OF ALLEGIANCE

3. ROLL CALL- Members present: Supervisor Rhodes, Clerk Ulrich, Treasurer Horning, Trustee Colaianne, Trustee Hopkins, Trustee Fountain and Trustee Petrucci. Also present: Attorney Homier, Director Olney, and Susan Dryden-Hogan.

4. BUDGET PUBLIC HEARING

Open Public Hearing at 6:05 P.M.

-No one came forward

Move to close the public hearing at 6:07 P.M. Motion Ulrich. Second Horning. Voice Vote. Motion Carried 7-0-0.

5. APPROVAL OF CONSENT AGENDA

a. Budget Amendment-Hartland Township Board 101

b. Bills- 3/21/06

c. Meeting Minutes- 3/7/06 & 3/13/06 (3/7/06 minutes removed)

d. Sewer Expansion Fees to be paid by the County

e. Motion to allow any Board member to participate in the MTA Capitol Conference

4/26/06

f. Sports Page Bar and Grill, LLC License letter (removed)

g. Motion to add an exit interview to our policies and procedures (Personnel

Committee)

h. Passport acceptance agent training class (Susan, Pat F. & Nancy)

i. Hosting and Spam filtering

j. Substitute Secretary (move to become item 13d.)

Move to approve the consent agenda as amended. Motion Ulrich. Second Fountain. Voice Vote Motion Carried 7-0-0. Corrections: Remove 4f. Move 4j. to 13d. Remove 3/7/06 minutes.

6. APPROVAL OF MEETING AGENDA

Move to approve the meeting agenda as amended. Motion Horning. Second Colaianne. Voice Vote. Motion Carried 7-0-0. Corrections: Move item 10a. to 6a. Add approval of budget to 13e. Move 13c. to 10b.

a. Closed Session

Move to adjourn to closed session at 6:12 P.M. Motion Petrucci. Second Ulrich. Roll Call Vote.

Trustee Colaianne- Yes

Trustee Hopkins- Yes

Treasurer Horning- Yes

Supervisor Rhodes- Yes

Clerk Ulrich- Yes

Trustee Fountain- Yes

Hartland Township Board Meeting March 21, 2006

Trustee Petrucci- Yes
Motion Carried 7-0-0

Move to come out of closed session at 6:41 P.M. Motion Horning. Second Colaianne.
Voice Vote. Motion Carried. 7-0-0.

Move to adopt Resolution 06-03-03 adopting underground construction of utility line ordinance #59. Motion Ulrich. Second. Hopkins. Roll Call Vote.

Trustee Petrucci- Yes
Trustee Hopkins- Yes
Treasurer Horning- Yes
Supervisor Rhodes- Yes
Clerk Ulrich- Yes
Trustee Fountian- Yes
Trustee Petrucci- Yes
Motion Carried. 7-0-0.

Chief Adam Carrol- Stated that existing above ground power lines cause interference with the emergency system radios. To erect additional high voltage power lines, will cause more interference, and may cause a drop in reliability. To put the utility lines underground would not create more interference.

For The Record:

Whereas, the Township General Ordinance Statute, Michigan Public Act 246 of 1945, as amended, authorizes the Township Board to adopt ordinances regulating the public health, safety and general welfare of persons and property; and

Whereas, the Township has additional power and authority to enact this Ordinance pursuant to, among other sources, the Michigan Constitution (Art 7, Sec 29), Michigan statutes (including MCL 247.183 and 460.553), various ordinances and franchise agreements, existing legal precedent, and applicable agency rules; and

Whereas, the governmental functions and purposes of this Ordinance requiring the underground construction of new utility lines, wires and related equipment and facilities include, but are not limited to, the following public health, safety and welfare concerns of the Township:

To prevent and relieve the utility, transportation and infrastructural burden on streets serving hundreds of businesses and accommodating thousands of vehicles daily traveling at high rates of speed along streets into and out of these businesses.

To preserve and improve the Township's aesthetic environment by avoiding the increase of unsightly aboveground and overhead poles, lines, wires and related equipment and facilities, which instead would be out of view of the public.

To preserve and enhance traffic operational safety in the Township by avoiding construction of new poles and overhead lines, wires and related equipment and facilities in order to preserve and improve visibility and sight lines, and avoid and eliminate vehicular accident impacts on poles, overhead lines and wires and other overhead facilities equipment.

Hartland Township Board Meeting March 21, 2006

To better protect utility lines, wires, and related equipment facilities from weather damage, vehicle accident damage and other causes, in order to prevent and reduce service interruptions and accompanying hazards.

To preserve and enhance the safety of Township residents living in residential dwellings and areas adjacent to and in close proximity to streets, as well as persons traveling on streets from falling or down poles and overhead lines, wires, and related equipment and facilities.

To preserve and improve operational reliability of utility services as compared to what would be provided by overhead lines, wires and related equipment and facilities.

To preserve and enhance existing and potential residential dwellings and areas, as well as businesses and business development and other land uses along streets, recognizing the historical pattern of development including different (a) physical location of buildings and curb cuts, (b) setbacks, (c) location of and limits to rights-of-way, and (d) potential location of poles and overhead lines, wires, and related equipment and facilities; and

Whereas, the Township has determined that, unless new utility lines, wires and other related equipment and facilities can be located on existing utility poles, it is necessary for the public health, safety and welfare that all new utility lines, wires and other related equipment and facilities be constructed underground instead of along, across, adjacent to and/or over streets, intersections, and private property adjacent to streets; and

Whereas, the Township board has determined that it is in the best interest of the public health, safety and general welfare of persons and property to enact an Underground Construction of Utility Line Ordinance to carry out the purpose and intent of the foregoing; and

Whereas, the Township desires to adopt the *Underground Construction of Utility Line Ordinance*; and

Therefore, be it resolved by the Board of the Township of Hartland Township, Livingston County, Michigan, the *Underground Construction of Utility Line Ordinance*, attached as an exhibit to this Resolution, is hereby enacted.

The *Underground Utility Line Ordinance* will be available online as well as published in the *Brighton Argus* for public viewing.

5-minute recess

7. CALL TO THE PUBLIC

Mike Kinzel, 554 Golden Oaks- Thanked the Board for their support and implementing the underground utility ordinance. He offered his assistance, and stated that Dave Domas was also very helpful.

John-Piere Koudalka, 9020 Rotondo- Stated that he has worked with developers all of his life. He suggested that the best of intentions might change when the digging starts. He also suggested that the Township get a return on their investment and require an escrow.

Diane Petronio- Stated that the residents are concerned that the detention areas at Hartland Crossings may be effected with power outages because of the pumping systems and suggested backup power to prevent flooding. She also stated the concern that the development will end up being just big box stores because of the intention of the

Hartland Township Board Meeting March 21, 2006

developers to build as they lease. She is concerned that the development will become an abandoned eyesore.

Vince, Pleasant Valley Association- Stated that it is great that the Township passed the ordinance but asked who will pay to widen the highway with the integration of projects? Lynn Dodson, 2376 Lorraine- was concerned with the purchase of Township property as well as the 30 acre easement "given" by the Township to Hartland Crossings for detention and retention.

Robert Wisniewski, 2325 Lorraine- Is concerned that the mall will not be able to sustain business and end up something other than proposed.

Ken Pierzynski, 11024 Matthew lane- Stated that hartland is a rural community and is afraid that Hartland Crossings will bring more crime and increase traffic problems.

Steve Drabozal, 11217 Anya- Is disappointed at the hartland Crossings Mall. He stated that the population base will not support a development of its size.

Vince Sieczkowski, 440 Deign Court- Stated that the Hartland Crossings development will ruin the rural character and it will cause more problems than benefits.

8. FIRE AUTHORITY: Budget 2006-2007

Move to approve the draft Fire Authority Budget for 2006-2007. Motion Horning. Second Colaianna. Voice Vote. Motion Carried. 7-0-0.

9. APPLICANTS:

Applicant: Metro PCS/R.C. Riley & Associates LLC Special Use Application #228 in conjunction with Site Plan Application #402

Move to approve Site Plan Application #402 in conjunction with Special Use Application #228 for Metro PCS Tax Id #08-33-100-011 for co-location of a wireless antenna on an existing cell tower and an equipment cabinet plans dated March 10, 2006. Motion Hopkins. Second Petrucci. Voice Vote. Motion Carried. 7-0-0.

10. REPORTS

Attorney Homier, Foster Swift, Collins & Smith

a. Information to residents on sale of sewer property to Hartland Crossings

The target price for sale was around 50 thousand per acre. The reasons for the price is that the developer will have to go through the PD process decommission and move the Waste Water Treatment plant, move the cell tower, and will be transferred the environmental obligation of the salt plume on the property. The purchase agreement also allows a 30-acre easement to be used as a drainage easement to retain as much water on the property as possible. If the Township decides to sell, the township must find other means to deal with drainage. The agreement will be valid only if the entire PD goes through.

Director of Township Services

a. Earth Tech O & M Contract

Move to approve the Earth Tech O & M Agreement for the Water and Waste Water Treatment Facilities and to authorize the Supervisor to sign the contract. Motion Ulrich. Second Colaianna. Voice Vote. Motion Carried. 7-0-0.

Move to approve the amended budget for 2006-2007. Motion Horning. Second Ulrich. Voice Vote. Motion Carried. 7-0-0.

Hartland Township Board Meeting March 21, 2006

11. REPORTS AND COMMENTS FROM THE BOARD

Trustee Hopkins- The task force for the Hartland Crossings development has met. It consists of MDOT, LCDC, LCRC, Landmark LLC, the potential developer on the South side of M59, staff, Planning Commission members, and Board members. There were also residents present.

He also suggested forming a cost-cutting committee to look at cutting costs for the next years budget.

Trustee Fountain- We do not have closure to some of the questions that were raised at the meeting on March 20, 2006. He requested that the Supervisor delegate a few Board members to investigate the issues and report to the Board.

Trustee Petrucci- Asked if there had been a letter written to MDOT for a guard rail on US23. He is concerned about the dangerous situation. He also stated that the State Soccer Association is interested in 6 acres of property owned by the Township to be used for an office and soccer fields for State Tournaments. He believes it would be a very good asset for the Township.

Treasurer Horning- Tax Roll has been closed and the Township has a low delinquency rate of 6 percent.

Clerk Ulrich- I have talked to Bob Bezotte and he will be attending our May 3, 2006.

Trustee Colaianne- Believes that the process should start sooner. He noticed some historical trends and agrees with the creation of the cost-cutting committee.

12. UNFINISHED BUSINESS

a. Jackie Taylor

The representative for Jackie Taylor has stated that she should be allowed another split. It is not the proper channel to come to the Board.

b. Public Road SAD Policy (Joe Colaianne)

Move to approve the Public Road Improvement and Maintenance Policy dated March 21, 2006. Motion Hopkins. Second Horning. Voice Vote. Motion Carried. 7-0-0.

c. Update Township Hall

Ideas or changes for the construction of the Township Hall should be submitted to the committee to be put on the April 13, 2006 Planning Commission agenda.

13. NEW BUSINESS

a. Lease Optimization Term Sheet and Sample Amendment

Move to table. Motion Colaianne. Second Fountain. Voice Vote. Motion Carried. 7-0-0.

b. Fee Estimate from McKenna- Large Building Site Development

Standards (Larry Hopkins)

Move to approve McKenna to undertake Large Building Site Development Standards not to exceed \$2000.00 with execution by the Supervisor. Motion Hopkins. Second Petrucci. Voice Vote. Motion Carried. 7-0-0.

c. Information to residents on sale of sewer property to Hartland Crossings (Ann Ulrich)

d. Recording Secretary

Hartland Township Board Meeting March 21, 2006

Move to approve the Recording Secretary per the Independent Contract agreement presented by the Clerk dated March 21, 2006. Motion Fountain. Second Horning. Voice Vote. Motion Carried. 7-0-0.

c. Approval of Budget

Moved under item #10

14. ADJOURNMENT

Move to adjourn at 9:50 P.M. Motion Fountain. Second Horning. Voice Vote. Motion Carried. 7-0-0.

This is a Draft until final approval.

Submitted by,

Jennifer Rardon
Recording Secretary

Ann Ulrich, CMC
Hartland Township Clerk

TOWNSHIP OF HARTLAND
NOTICE OF ADOPTION
ORDINANCE NO. 59

UNDERGROUND CONSTRUCTION OF UTILITY LINE ORDINANCE

ADOPTED: March 21, 2006
EFFECTIVE: March 24, 2006

An Ordinance to require the underground construction of all utility lines, wires and related equipment and facilities in the rights of way of driveways, alleys, streets, roads, and highways (collectively hereinafter "streets") in the Township of Hartland, Michigan.

HARTLAND TOWNSHIP ORDAINS:

Section 1. Title. This Ordinance shall be known and may be cited as the Underground Construction of Utility Lines Ordinance.

Section 2. Legislative Findings and Purpose.

(a) The Township of Hartland ("Township") encompasses residential areas and business districts in which the Township's citizens reside and conduct business. Various streets, with utility rights of way, are also located in the Township, often in close proximity to residential areas, business districts, residences and businesses.

(b) The Township has determined that, except as provided by Section 2(c), it is necessary for the public health, safety and welfare that all new utility lines, wires and other related equipment and facilities be constructed underground instead of along, across, adjacent to and/or over streets, intersections, and private property adjacent to streets.

(c) The Township recognizes the present existence of utility poles and attachments. New utility lines, wires and other related equipment and facilities may be attached to existing utility poles, if and to the extent that the existing poles can accommodate the new attachments.

Existing utility poles and attachments may be maintained, replaced and upgraded only with poles and attachments of the same essential characteristics and size.

(d) The governmental functions and purposes of this Ordinance requiring the underground construction of new utility lines, wires and related equipment and facilities include, but are not limited to, the following public health, safety and welfare concerns of the Township:

(1) To prevent and relieve the utility, transportation and infrastructural burden on streets serving hundreds of businesses and accommodating thousands of vehicles daily traveling at high rates of speed along streets into and out of these businesses.

(2) To preserve and improve the Township's aesthetic environment by avoiding the increase of unsightly above-ground and overhead poles, lines, wires and related equipment and facilities, which instead would be out of view of the public.

(3) To preserve and enhance traffic operational safety in the Township by avoiding the construction of new poles and overhead lines, wires and related equipment and facilities in order to preserve and improve visibility and sight lines, and avoid and eliminate vehicular accident impacts on poles, overhead lines and wires and other overhead facilities and equipment.

(4) To better protect utility lines, wires, and related equipment and facilities from weather damage, vehicle accident damage and other causes, in order to prevent and reduce service interruptions and accompanying hazards.

(5) To preserve and enhance the safety of Township residents living in residential dwellings and areas adjacent to and in close proximity to streets, as well as persons traveling on streets from falling or down poles and overhead lines, wires, and related equipment and facilities.

(6) To preserve and improve operational reliability of utility services as compared to what would be provided by overhead lines, wires and related equipment and facilities.

(7) To preserve and enhance existing and potential residential dwellings and areas, as well as businesses and business development and other land uses along streets, recognizing the historical pattern of development including different (a) physical location of buildings and curb cuts, (b) setbacks, (c) location of and limits to rights-of-way, and (d) potential location of poles and overhead lines, wires, and related equipment and facilities.

(e) The Township has the power and authority to enact this Ordinance pursuant to, among other sources, the Michigan Constitution (Art 7, Sec 29), Michigan statutes (including MCL 247.183 and 460.553), various ordinances and franchise agreements, existing legal precedent, applicable agency rules and the Township's general police power to protect the public health, safety and general welfare.

Section 3. Construction. Upon the adoption of this Ordinance, all public utilities and other companies (collectively the "Companies"), state and county agencies ("Agencies") and all other individuals, firms, partnerships, associations, companies, corporations or entities ("Persons") who seek to construct utility lines, wires and related equipment and facilities along, across, over and/or adjacent to streets in the Township, intersections, and to private property adjacent to same, are hereby directed and ordered that, except as provided in Section 2 (c) above, all of the lines, wires and/or related facilities and equipment must be constructed underground at their sole cost and expense and at no cost or expense to the Township. For purposes of this Ordinance, "utility lines, wires and related equipment and facilities" shall include, but not be limited to, lines, wires, equipment and facilities used for electric transmission and distribution,

telecommunications, cable television, internet service and other similar purposes. All Companies, Agencies and Persons must notify the Township, in writing, of all new construction of utility lines, wires and related equipment and facilities, including a general description of the route or the location (e.g., along "blank" road from "blank" to "blank"), and nature of the construction at least 60 days before any planned or proposed construction activities begin.

Section 4. Cooperation Directed. In connection with compliance with the requirements of Section 3 above, all Companies, Agencies, Persons and representatives of the Township shall cooperate fully and in good faith with each other in the timely coordination and implementation of planning, design, construction and completion of utility lines, wires, and related equipment and facilities.

Section 5. Township Contribution. The Township may, in its sole discretion, make contributions to the work required in Sections 3 and 4 above, including acquiring necessary easements and rights-of-way. In order to facilitate this property acquisition, the Township may, in its sole discretion, exercise its powers of eminent domain.

Section 6. Retention of Control of Public Places. Nothing contained herein shall be construed to alienate the title of the public in and to any public rights-of-way or any portion thereof, nor shall anything herein be construed in any manner as constituting a surrender by the Township of its general powers with respect to the subject matter hereof or with respect to any matter, whatsoever, or in any manner be construed as limiting the right of the Township to regulate the use of and access to any public rights-of-way within its exclusive or concurrent jurisdiction and to otherwise exercise its police powers to protect the public health, safety and welfare.

Section 7. Enforcement. This Ordinance may be enforced by injunction and/or abatement in the Livingston County Circuit Court or other court of suitable jurisdiction.

Section 8. Severability. Should any portion of this Ordinance be held invalid for any reason, such holding shall not be construed as affecting the validity of any of the remaining portions.

Section 9. Repeal. All ordinances or parts of ordinances in conflict with this Ordinance are hereby repealed only to the extent necessary to give this Ordinance full force and effect.

Section 10. Publication and Effective Date. This Ordinance shall become effective one day after publication in accordance with the statutes of the State of Michigan.

I, the duly qualified and acting Township Clerk of the Township of Hartland, Livingston County, Michigan, do hereby certify that the foregoing is a true copy of certain proceedings taken by the Township Board of said Township at a regular meeting held on the 21st day of March, 2006.

Ann Ulrich, CMC
Hartland Township Clerk
3191 Hartland Road
Hartland, MI 48353
(810) 632-7498

LDC Interconnection Request with ITC

Note: A one-line drawing showing all distribution equipment must be supplied with this completed form.

General Information

Project Name: General Motors Milford Proving Grounds Darlington Hills

Date of Request: 9/28/2006

DTE Planning Group: Please Check Appropriate Box

- ☐ Southwest Distribution Planning
☐ Southeast Distribution Planning
☐ Northwest Distribution Planning
☐ Northeast Distribution Planning
☒ Power Delivery Planning

☐ Other

Please Specify:

Planning Engineer: Robert M. Ray

phone number: 313-235-7996

email: rayr@dteenergy.com

Special Comments:

Project Information

Requested in-service date: 12/31/2006

ITC work completion

Provide second 120kV circuit from either Genoa or Nolan. Install 120kV section breaker, forming the Placid - Darlington Hills and Genoa (Nolan) - Darlington Hills 120kV circuits. Detroit Edison to relocate the existing Prism Substation to the Darlington Hills site.

Brief Project Description:

Project Location

City or Township: Milford

Address: General Motors Milford Proving Grounds

Nearest Cross Streets: General Motors Road and North Hickory Ridge Road

Proposed Interconnection Point

Station: Genoa or Nolan

or

Transmission Line: _____

Transformer(s) Size

MVA Rating: 24/32/40

% Impedance 8

Year	New Load (MW, PF)	Relocated Load (MW, PF)	Relocated from where?
2003			
2004			
2005		Existing load at site 32 MVA, 95% PF	
2006	4 MVA, 95% PF		new load, approved project
2007	3 MVA, 95% PF		new load, approved project
2008	3 MVA, 95% PF		new load, approved project
2009	4 MVA, 95% PF		new load, approved project
2010		(Assume 90% PF for all years)	
2011			
2012			
2013			
2014			

(needed for MISO approval)

**Overloads Identified
(without project):**

Loading after project built:

	(circuit #, transformer #,...)	% Loading
Existing 40kV (Trunk 3107, Prizm transformer 1) standby feed can only support approximately 43 MVA site load. Presently, customer can not start more than two chillers when served from the standby feed (voltage at motor terminals drops to less than 83%).		
A two transformer 120kV substation at the Darlington Hills site would result in a substation summer firm rating of approximately 60 MVA. Customer projects 10% load growth over the next 5 years.	(circuit #, transformer #,...)	% Loading

List alternatives considered and reasons rejected.

Trunk 3107 is currently constructed to maximum conductor size at 40kV. No feasible 40kV option available. Second 120kV feed to the Darlington Hills site would locate the substation near the customer's load center and eliminate the voltage problems experienced by the customer.

LDC Interconnection Request with ITC

Note: A one-line drawing showing all distribution equipment must be supplied with this completed form.

General Information

Project Name: Hurst Station

Date of Request: 5/25/2006

DTE Planning Group: Please Check Appropriate Box

- ☐ Southwest Distribution Planning
☐ Southeast Distribution Planning
☐ Northwest Distribution Planning
☐ Northeast Distribution Planning
☒ Power Delivery Planning

☐ Other

Please Specify:

Planning Engineer: Adrian Raducea

phone number: 313-235-5288

email: raduceaa@dteenergy.com

Special Comments:

Project Information

Requested in-service date: 5/1/2008

ITC work completion

Tap the 120 kV Genoa - Durant Line in the proximity of Hurst Substation. Install a 120 kV bus and breaker at Hurst Substation. Connect the tap to the new 120 kV bus.

Brief Project Description:

Project Location

City or Township: Hartland

Address: 1536 N. OLD U.S. 23

Nearest Cross Streets: OLD U.S. 23 and M-59

Proposed Interconnection Point

Station: Hurst

or

Transmission Line: 120 kV Genoa - Durant

Transformer(s) Size

MVA Rating: 45/60/75 MVA

% Impedance 8% on a 45 MVA base

The MISO OATT requires the party 10 years worth of forecasted load information

Year	New Load (MW, PF)	Relocated Load (MW, PF)	Relocated from where?
2008	11.0	Note. All new load at Hurst Substation	
2009	11.2		
2010	11.4		
2011	11.7		
2012	12.0		
2013	12.2		
2014	12.5		
2015	12.7		
2016	13.0		
2017	13.3		
2018	13.5		
2019	13.8		

Project Justification

(needed for MISO approval)

Overloads Identified (without project):

(circuit #, transformer #,...)	% Loading
Transformer #102 at Proud	111% Day To Day
Genoa end of Tie 5831 for loss of Proud Transformer #102	109% Day to Day
Proud end of Tie 2819 for loss of Tie 8623	102% Emergency

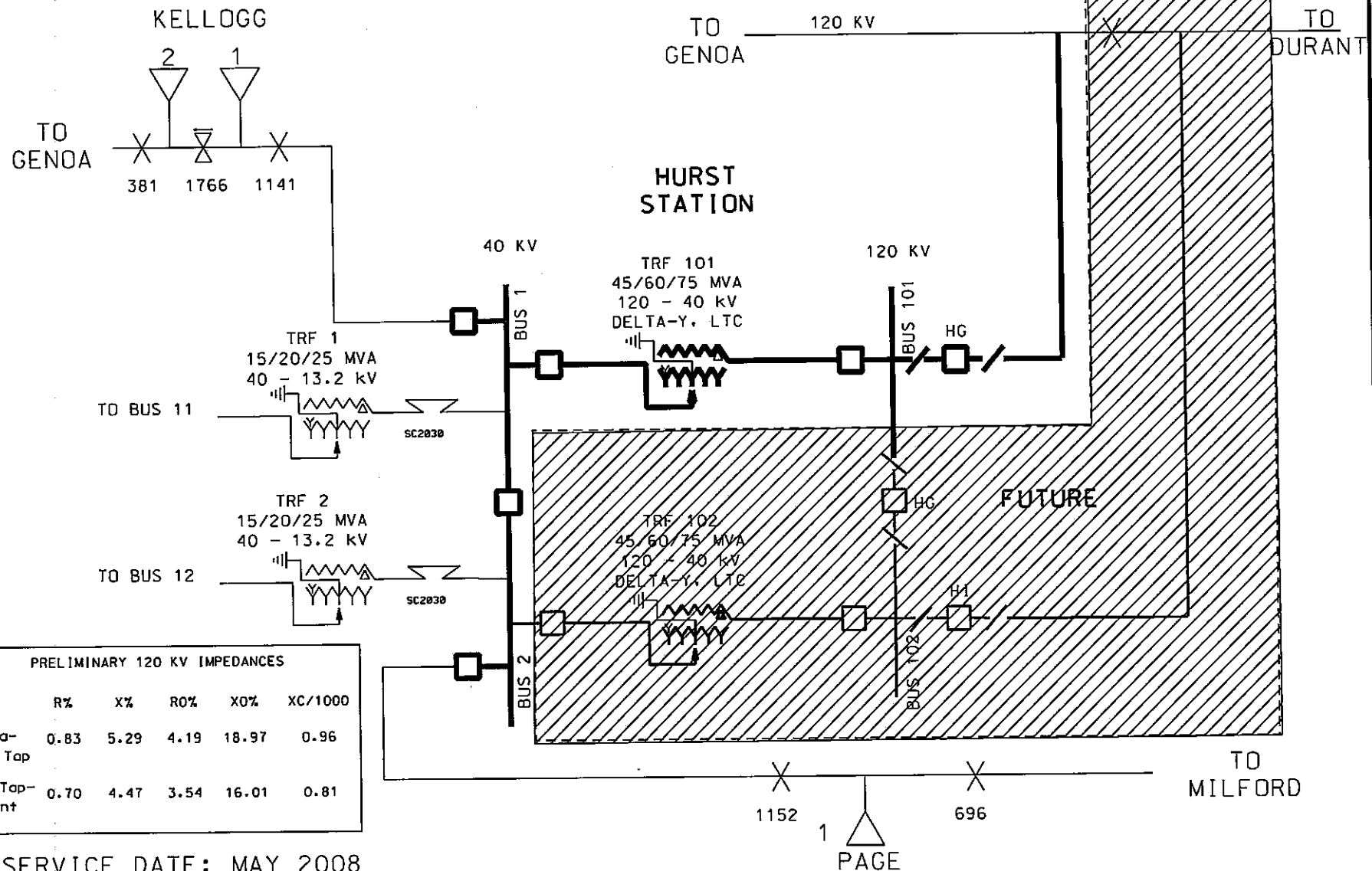
Loading after project built:

(circuit #, transformer #,...)	% Loading
Transformer #102 at Proud	92% Day To Day
Genoa end of Tie 5831 for loss of Proud Transformer #102	35% Day To Day
Proud end of Tie 2819 for loss of Tie 8623	76% Emergency

List alternatives considered and reasons rejected.

New Transformer at Proud. Has been rejected because of the higher cost, due to additional cable work.
It is solving less problems than the proposed project.

Replace the 40 -13.2 kV transformers at Hurst with 120 - 13.2 kV transformers. Has been rejected because an additional 120 -40 kV transformer at Proud will be needed, and the cost will be higher.



APPROVED BY		DATE	<u>HURST SUBSTATION</u> 1. TAP 120 KV GENOA-DURANT LINE NEAR HURST SUBSTATION. 2. INSTALL 120 KV BUS 101 AND 120 KV BREAKER AT HURST SUBSTATION. 3. INSTALL 120-40 KV, 45/60/75 MVA TRANSFORMER, 120 KV AND 40 KV BREAKERS. 4. EXPAND THE STATION FENCE TO ACCOMODATE THE NEW EQUIPMENT.	DETROIT EDISON COMPANY SPE-POWER DELIVERY PLANNING	
A/C/T/UG				LAYOUT BY ADRIAN RADUCEA	DRAWN BY ADRIAN RADUCEA
PDP					
ORA				DATE 5/23/2006	DRAWING NUMBER EI-S6-13
SUB DES					
RELAY				SCALE NONE	
SE REG					
PROJ MGMT					

Genoa Township Comments

Comment 1 – Question as to whether copies of the slide presentation would be made available.

Response to Comment 1 – E-Mail copies to be provided to any requesting person.

Comment 2 – Question as to whether developers consult with DTE or ITC to determine whether sufficient electric capacity will be available to meet anticipated electric load.

Response to Comment 2 – While developers are not required to consult with DTE or ITC to determine whether sufficient electric capacity will be available to meet anticipated electric load, it is believed that most do consult with DTE.

Comment 3 – Question as to why the proposed route is from Genoa to Prizm as opposed to from Farmington or Novi.

Response to Comment 3 – There is a need to consider the location of current transmission facilities, location of DTE distribution facilities, and a need to maximize benefits from the route taken – including redundancy – so if one transmission line is out of service, overall service is maintained.

Comment 4 – Will Genoa Station be increased in size?

Response to Comment 4 – ITC has no plans to increase its investment at the Genoa Station.

Comment 5 – Question as to whether existing poles and structures will be removed when new towers are installed?

Response to Comment 5 – There is no planned removal of existing structures – only the addition of one single steel pole circuit going up the corridor.

Comment 6 – Question as to why proposed transmission line will not be placed on existing poles.

Response to Comment 6 – There is not sufficient room on existing poles for the proposed transmission line.

Comment 7 – Question as to how proposed pole placement would affect the Latson Road interchange.

Response to Comment 7 – Uncertain at this time because no specific decision yet made on where the poles will actually be set. ITC will work through the County Road Commission on where the actual poles and fixtures would be located – and goal is to not have pole placement interfere with any plans at that intersection.

Comment 8 – Questions as to size of poles, spacing of poles, and landscaping around poles.

Response to Comment 8 – Average pole height is 95 feet. Approximately 36 inches to 48 inches at the bottom. Not large transmission towers that many people envision. About 500 feet distance between the poles.

Comment 9 – Question as to health and safety concerns.

Response to Comment 9 – 95 foot pole height largely eliminates health and safety concerns. ITC currently owns over 2,700 miles of high voltage transmission lines in Southeast Michigan, and no health or safety issues, concerns or complaints have been raised with respect to these other facilities.

Comment 10 – Question as to impact on property values.

Response to Comment 10 – There are conflicting studies as to the impact on property values. There are areas where a transmission corridor on property is highly desirable. Some very expensive homes back up to transmission lines throughout Southeastern Michigan.

Comment 11 – Question as to interference with television and radio signals.

Response to Comment 11 – In general, there should be no interference.

Comment 12 – Question as to whether cables or wires on transmission lines will be insulated.

Response to Comment 12 – The conductors are bare and are attached to the arms of the steel pole with insulators.

Comment 13 – Question as to reasonable distance for obstacles from a 120 kV line.

Response to Comment 13 – ITC would comply with National Electric Safety Code. 20 to 30 feet is a good approximation.

Comment 14 – Question as to the proximity of trees under transmission lines.

Response to Comment 14 – Trees may not be under transmission line but brush less than 15 feet in height may be under transmission line.

Comment 15 – Question as to health impact of lowering the transmission line.

Response to Comment 15 – The height of the transmission line is a function of safety considerations, not health considerations. Also, the height is required to allow electromagnetic fields to dissipate.

Comment 16 – Question as to room needed on side-to-side basis.

Response to Comment 16 – Wind blowing could cause line to sway 30 feet in either direction. ITC's corridor is approximately 180 feet wide – and the new poles are anticipated to be about 50 feet from the center of the existing one. Thus, it is anticipated that there will be 30 or 40 feet from the pole to the end of ITC's property line.

Comment 17 – Question as to how much further the residents' trees will be trimmed.

Response to Comment 17 – The trees are actually in ITC's corridor.

Comment 18 – Question as to footings for installing the transmission poles.

Response to Comment 18 – For straight placement poles, merely drill a hole and direct-plant pole in hole. However, where soil conditions direct to the contrary, adjustments will have to be made. Also, where the line turns, a foundation may be necessary to support the pole. The line will straddle wetlands to avoid DEQ issues. Excess soil will be hauled off-site.

Comment 19 – Question as to the distribution of soil in wetlands.

Response to Comment 19 – ITC is not allowed to drill and put holes in wetlands. ITC does not believe that there are any wetlands in the area.

Comment 20 – Question as to impact on and treatment of private roads.

Response to Comment 20 – Every attempt is made to minimize interference with the residents' use of the private road and to return and restore private property to its original condition.

Comment 21 – Question as to electromagnetic field (EMF) concerns especially as relates to childhood cancer.

Response to Comment 21 – There are studies which have been by the National Institute of Environmental Health Sciences, National Institutes of Health – and published detail on EMF exposure. Affirmative response to provide copy of such published information to the Genoa Township Board.

Comment 22 – Question as to allocation of incremental costs for underground transmission lines if ITC forced to go underground.

Response to Comment 22 – If, as a result of a municipal ordinance, ITC is forced to go underground, ITC will pursue actions with appropriate regulatory agencies to allocate incremental costs to the municipalities causing the increase in incremental costs.

Comment 23 – Question as to whether ITC believes that a Michigan Public Service Commission approval order under 1995 PA 30 preempts a local ordinance.

Response to Comment 23 – ITC believes that a Michigan Public Service Commission approval order under 1995 PA 30 preempts a local ordinance

Comment 24– Question as to expected timing of a Michigan Public Service Commission decision under 1995 PA 30.

Response to Comment 24 – Expected timing of a Michigan Public Service Commission decision under 1995 PA 30 is within one year.

Comment 25 – Question as to experience or precedent under 1995 PA 30.

Response to Comment 25 – This is the first case in which it appears that an application will be filed under 1995 PA 30.

Comment 26– Question as to height of existing transmission poles on other parts of ITC system.

Response to Comment 26 – It is estimated that height of existing transmission tower lattices on other parts of ITC system approaches 120 feet.

Comment 27 – Question as to planned upgrade of Flint Substation.

Response to Comment 27 – The Flint Substation is almost exclusively a DTE substation – and ITC plans little, if any, upgrades to the substation.

Comment 28 – Question as to timing of the proposed project.

Response to Comment 28 – It is anticipated that the project will take 6 to 9 months to complete.

Comment 29 – Question as to change in size of Genoa Station.

Response to Comment 29 – ITC has no plans to change the size of its investment in Genoa Station.

Comment 30 – Comment criticizing Hartland Township underground resolution. The full text of the comment is reproduced below:

My name is George Neack. I live in Genoa Township out in Oak Pointe, and I've got about 34 years in the business. I've been retired for 23 or so. Been a long while ago, but nothing's really changed outside of some of the materials that are being used today. And typically a township or municipality has statutory authority to amend or create subdivision regulations.

They can create a typical situation where a developer has to put buried plant, distribution plant: telephone, perhaps cable, electric, always electric and telephone in a buried situation throughout the subdivision. And that's not at the expense of the utilities. The

developer enters into a contract with the utility companies, and the incremental cost differences between typical aerial construction on 36-foot poles versus burying those wires underground, the developer pays, and he takes it right back on a per-lot basis back out to people like us, and we pay that much more. If it's \$3,000 a lot, \$4,000 a lot, the utility company is not paying that. The developer is and then eventually the homeowner is because he buys it and those costs are built into the cost of the house.

What Hartland is doing is trying to mandate everything underground, and I don't think--my personal opinion of having dealt with the Public Service Commission in Kentucky, the Public Utilities Commission of Ohio, and I forget all the letters for Indiana; but I've dealt with three different states. And no governmental entity has the ability to create a situation where you are mandated to spend additional dollars; particular in existing situations where you already have plant facilities there, and if they say they want 'em buried, they're going to pay for it. I've been involved in projects like that. You get a little town like Montgomery, Ohio, who had money coming out of their ears and they wanted their downtown area, they wanted all the electric and telephone cleared out; and we entered into legally binding contracts with the city. And the city reimbursed us, in those cases, 100 percent; not any incremental difference in cost, but 100 percent of the cost for taking our aerial facilities and putting 'em underground.

I've read some statements in the paper again today--or I guess it was yesterday--attributed to an attorney, I guess for the township board. All I can say is I think in my 34 years I have more than nuts and bolts of what happens and what you can do and what you can't do than what he's telling that board up there. So I'm outta here.

Response to Comment 30 – Comments received.

Comment 31 – Question as to precedent for underground transmission lines.

Response to Comment 31 – Underground transmission lines ordinarily reserved for urban areas such as in Detroit.

Comment 32 – Question as to whether proposed 120 kV transmission line will have to be upgraded to higher voltage in the foreseeable future.

Response to Comment 32 – It is not anticipated that further upgrades to the proposed 120 kV line will be required in the foreseeable future.

Brighton Township Comments

Comment 33 – Question as to why public meetings like this were not held earlier in the planning process.

Response to Comment 33 – Meetings were held well before April 24, 2006 with public officials throughout the affected area. The voluntary public meetings on April 24, 2006, only became viable when the Hartland Township ordinance was passed – which only happened within the last month. At that point, it took a couple of weeks to contact public officials, schedule the meetings, reserve locations, etc.

Comment 34 – Comments supporting ITC position in that growth requires the system upgrades and it would be unfair and inappropriate to increase the price of the project by millions and millions of dollars as the Hartland ordinance attempts.

Response to Comment 34 – Appreciation for support.

Comment 35 – Questions as to alternate routes.

Response to Comment 35 – A history of the development of the project was provided – as were reasons for choosing the proposed line as opposed to the alternates.

Comment 36 – Question as to whether the proposed 120 kV line will some day be upgraded to higher voltage.

Response to Comment 36 -- It is not anticipated that further upgrades to the proposed 120 kV line will be required in the foreseeable future.

Comment 37 – Question as to health risks association with transmission lines.

Response to Comment 37 – The proposed transmission line will not have any higher fields under it than those to which residents are currently exposed. Also, a pamphlet from the National Institutes of Health, Department of Energy were provided – as it addresses the subject in detail. ITC designs its lines so as to not have the field exceed anything that is currently in existence. The higher the voltage, the higher ITC places the lines, so as to dissipate the field.

Comment 38 – Questions as to General Motors position on the impact of the proposed line on the Milford Proving Grounds.

Response to Comment 38 – General Motors is cooperating on the project by allowing access to its private property. However, this project is not intended to benefit any specific customer. Instead, it is necessary to upgrade service to the entire growing area.

Hartland Township

Comment 39 – Question as to when ITC will file with the MPSC.

Response to Comment 39 – ITC is in the process of preparing the application, but does not know the exact date. ITC expects to file the application soon.

Comment 40 – Question as to why underground utility lines are not as reliable as above ground utility lines.

Response to Comment 40 – ITC did not intend to convey that underground lines are not reliable. Underground cables are in a small space and are subject to a lot of electrical forces, which may cause the cables to fail.

Comment 41 – Request for comment on the failure and maintenance issues for an ITC line that is both above and underground.

Response to Comment 41 – Not positive which line individual is referring to, but it is true that underground lines have fewer failures than overhead lines. When an underground line does fail, it takes longer to restore the line.

Comment 42 – Request to define what the term “minimum impact” means when related to poles to be installed on Pleasant Valley Road.

Response to Comment 42 – Minimal impact refers to all individuals throughout the entire route considered by ITC, not just Pleasant Valley Road. The entire tree canopy will not be removed on Pleasant Valley Road. ITC is willing to discuss exact plans with individual.

Comment 43 – Question as to why new developments in Livingston County use underground utilities, but ITC wants to use above ground facilities.

Response to Comment 43 – New developments pass costs of underground facilities on to the purchaser of the lots. Significant costs are related to placing transmission lines underground.

Comment 44– Question as to whether Hartland Crossings has sold any property to ITC on which ITC’s lines are located.

Response to Comment 44 – ITC is unclear what the question is referring to, but believes the answer is no.

Comment 45 – Question as to whether siting above ground lines violates Governor Granholm’s April 6th 2006 Executive Order by damaging the environment and visual impairment.

Response to Comment 45 – Executive Order did not mention what is visible. An individual must consider several factors when designing and building a transmission line.

Comment 46 – Comment stating that ITC’s presentation is a result of the ordinance, and statement that the “facts can change,” and Hartland residents own this property.

Response to Comment 46 – Comments received.

Comment 47 – Question regarding whether Pleasant Valley homeowners had given up any property rights.

Response to Comment 47 – ITC does not need property rights to build a line on Pleasant Valley because ITC is building lines in the road-right-of-way. ITC has received rights to clear tree overhang from about 80% of the residents living on Pleasant Valley.

Comment 48 — Comment that people were originally told that ITC did not need to go to MPSC.

Response to Comment 48 – It is true that ITC does not need to go to MPSC in this instance. Statute does allow ITC to seek certificate, and ITC understands that several people are concerned about the process. If ITC receives a certificate from MPSC, it will preempt a local ordinance.

Comment 49 – Question as to who will pay for the project.

Response to Comment 49 – Normally the cost is spread across the entire service territory, but if one municipality forces ITC to build underground, ITC believes that such a municipality should bear the responsibility for the increased cost.

Comment 50 – Comment illustrating frustration with cost allocation.

Response to Comment 50 – ITC is pursuing all available options. People in other municipalities might not agree with spreading the cost to all ratepayers.

Comment 51 – Comment regarding number of ITC customers.

Response to Comment 51 – Putting lines underground is based on a cost-benefit analysis, the ordinance does not consider this.

Comment 52 – Question regarding address of ITC legal counsel, and whether legal counsel would want a pole in his back yard.

Response to Comment 52 – Counsel lives in Brighton Township, and it is fine to put pole in his back yard. He understands that individuals want to make comments to illustrate their frustrations. ITC is here to give information.

Comment 53– Comment regarding new substation on General Motors property.

Response to Comment 53 – The substation’s name is Durant, and it is located on General Motors property.

Comment 54 – Question as to what percentage of power General Motors would use, and whether General Motors initiated this process.

Response to Comment 54 – General Motors made an interconnection request, which starts the process for ITC. In addition to General Motors, others customers will be served by substations that DTE will connect to the lines.

Comment 55 – Question as to why ITC did not choose a route using all General Motors’s land from I-96 to proving grounds.

Response to Comment 55 – ITC is not aware of General Motors owning that land.

Comment 56 – Comment stating that Oceola and Hartland townships are zoned for commercial and residential properties, that developers are now contacting the individual, and that the individual helped pay for lines that are underground in other areas of Michigan.

Response to Comment 56 – Comments received.

Comment 57 – Comment regarding franchise rights and article 7, section 29 of the Michigan Constitution.

Response to Comment 57 – ITC is here to receive factual information. ITC's legal position is correct, but ITC respects the comment.

Comment 58 – Comment regarding reasons for not placing line on Hyne Road, concerns over homes located on M-59, distribution of costs, and destroying trees.

Response to Comment 58 – Comments received.

Comment 59 – Comment regarding safety issues of sending children to park located by transmission lines, and question as to whether ITC will combine project with MDOT's planned project along M-59.

Response to Comment 59 – Starting dates for ITC and MDOT projects do not coincide, but ITC will work with MDOT to ensure that poles are placed in road right-of-way.

Comment 60 – Question as to how much EMF is currently coming off wires on the south side of M-59.

Response to Comment 60 – Cannot answer question because ITC does not have any lines on M-59.

Comment 61 – Question as to how much more EMF will come off the wires on the north side of M-59 if lines are at 120,000 volts.

Response to Comment 61 – ITC can show calculations answering this question.

Comment 62 – Comments regarding EMF's relation to cancer, specifically EMF's ability to promote cancer by interfering with the cell's ability to function properly.

Response to Comment 62 – Thirty years of research have failed to prove that EMF causes cancer. Due to the design of the line, the exposure to EMF is so little that it is not a risk.

Comment 63 – Question as to whether property values will decrease.

Response to Comment 63 – Several factors affect property value.

Comment 64 – Question as to who from ITC lives nearest to lines.

Response to Comment 64 – ITC cannot specifically answer that question.

Comment 65 – Comment regarding property values in Hartland Estates, and question as to whether ITC can bury lines near residents, and have above ground lines in commercial and industrial sites.

Response to Comment 65 – It is possible to place lines underground and above ground, but the ordinance states that all lines must be underground. Placing lines underground costs three to five times more than placing lines above ground.

Comment 66 – Question as to what the results were for the ITC employee conducting EMF studies.

Response to Comment 66 – ITC has that information. Due to the technical nature, individuals may inspect the information after the question period, and ITC can explain the information.

Comment 67 – Question as to whether there is an immediate benefit to Hartland Township.

Response to Comment 67 – The fact that the General Motors plant in Durant will always be fed by the 120 kv line results in immediate benefits of greater electrical reliability to Hartland Township.

Comment 68 – Comment stating that not all lines going through Hartland Township must be underground—lines may be placed on existing poles. Question as to whether the MPSC hearing would be open to the public for questions and comments.

Response to Comment 68 – Individuals may participate in the MPSC hearing. The date is still unknown, but ITC is required to publish a public notice.

Comment 69 – Comment stating that people of Hartland are upset, and they will fight this. Comment stating that Hartland is not opposed to a line, but such a line must go underground.

Response to Comment 69 – Comments received.

Comment 70 – Question as to whether ITC has considered an alternate route down I-96.

Response to Comment 70 – ITC is trying to use the route as a platform for DTE to leverage off of in order to increase electrical capacity—an alternate route would not make that possible.

Comment 71 – Question as to the average maintenance costs for above and below ground wires for both long and short terms.

Response to Comment 71 – The maintenance in general for underground lines is more. A transmission system cannot be completely underground. ITC only uses underground lines when it is absolutely necessary because of physical limitations.

Comment 72 – Comment regarding coordination with MDOT.

Response to Comment 72 – ITC will coordinate with MDOT to be in MDOT's right-of-way, having to move lines is a risk ITC takes when building in a road right-of-way.

Comment 73 – Question as to whether the EMF from lines can block out emergency cell phone calls.

Response to Comment 73 – Transmission lines do not cause interference for modern digital communications.

Comment 74 – Comments regarding the wealth of Hartland Township residents, blackouts, the widening of M-59, and the Genoa Prizim project in general.

Response to Comment 74 – ITC is focused on maintaining and upgrading the system. The system is built on redundancy.

Comment 75 – Question as to whether Lisa Aragon can comment on a statement published in the April 7, 2006 issue of LCP.

Response to Comment 75 – Linda Blair made the comment. She did not accuse anyone of illegal activity, she only stated that if other municipalities did what Hartford Township did, it could raise costs significantly. ITC wants to provide energy at the lowest cost possible.

Comment 76 – Comments regarding ITC executive salaries, and the business manner of Common Wealth Associates.

Response to Comment 76 – No response.

Comment 77 – Rhetorical question as to whether there is a definitive answer for a link between EMF exposure and leukemia.

Response to Comment 77 – No response (individual did not request a response).

Comment 78 – Question as to the amount of power that is scheduled to go down the lines.

Response to Comment 78 – Power does not get scheduled to “go down” lines. This particular line will not carry a lot of power.

Comment 79 – Question as to exact number for initial power on the line.

Response to Comment 79 – The line is built for 120 kv, and will likely stay at that amount.

Comment 80 – Question as to whether there will ever be any more lines.

Response to Comment 80 – There will only be one line for the foreseeable future. ITC cannot speak to lines put in by DTE.

Comment 81– Question as to the capacity of current poles.

Response to Comment 81 – One line can go on the pole.

Comment 82 – Question as to how many kilovolts can be ran underground.

Response to Comment 82 – Some underground cables can go as high as 345 kv.

Comment 83 – Question as to why ITC previously stated that it can run more power above ground as opposed to below ground.

Response to Comment 83 – If ITC runs the operating cable system at a higher voltage it would have to put transformers in on both ends in order to increase from 120 kv to 345 kv, and then decrease it to 120 kv.

Comment 84 – Question as to whether ITC can project the status of the lines in five years.

Response to Comment 84 – If ITC uses underground lines, and ITC has additional capacity needs in the future, ITC will have to add an additional line to make up for capacity.

Comment 85 – Comment stating that ITC can put in multiple underground lines.

Response to Comment 85 – Putting more lines and circuits underground would add to the cost.

Comment 86 – Question as to why high density areas require underground lines.

Response to Comment 86 – ITC installs underground lines when it physically cannot put in overhead lines.

Comment 87 – Question as to how many poles similar to the proposed poles for this project currently go through Birmingham business district.

Response to Comment 87 – ITC does not have an exact number, but there is a railroad track with several lines running alongside it. If the individual writes the question down on a card, ITC will get the exact number.

Comment 88 – Question as to whether underground lines avoid problems of car accidents and tree fallings.

Response to Comment 88 – A transmission system cannot be operated completely underground.

Comment 89 – Comment regarding availability of information related to EMF levels and property value issues.

Response to Comment 89 – ITC has the EMF information with them. Due to the technical nature of the information, it is easier to discuss while looking at it later tonight.

Comment 90 – Question as to whether General Motors initiated the entire process.

Response to Comment 90 – General Motors is not the sole benefactor of this project. Even if General Motors would not have approached ITC, ITC would have considered this project.

Comment 91 – Question as to why certain lines had to be placed underground in Rochester.

Response to Comment 91 – Physical constraints made it impossible to connect to the substation using above ground lines. It is about 500 to 1000 feet of cable.

Comment 92 – Question as to whether there are poles in downtown Rochester Hills.

Response to Comment 92 – There are wooden poles on Rochester Road.

Comment 93 – Question as to why ITC does not want to use wooden poles in Hartland Township.

Response to Comment 93 – Steel poles are more reliable and easier to maintain.

Comment 94 – Question as to whether the poles in Rochester look the same as the proposed poles for Hartland.

Response to Comment 94 – The poles are approximately the same height, but a different color.

Comment 95 – Comment stating that Connecticut requires all transmission lines be buried, that lines will be within 150 feet of preschools, and a question as to what would happen if a power line fell near those preschools.

Response to Comment 95 – If a line falls, it will cause an electric arc. The line will de-energize in about 24 milliseconds.

Comment 96 – Question as to what the cost will be for putting a line in.

Response to Comment 96 – About \$15,000,000 for the entire project.

Comment 97 – Question as to who pays for the cost of the project.

Response to Comment 97 – The cost is passed on to retail utilities, who then pass it on to retail customers.

Comment 98 – Question as to what the reasons are for not going underground besides cost.

Response to Comment 98 – Cost, capacity, and technical limitations—it is physically impossible to have the entire system underground.

Comment 99 – Question as to whether this hearing had any meaning to ITC.

Response to Comment 99 – ITC will take into account the issues and questions raised at the hearing.

Comment 100 – Question as to whether the presentation is available.

Response to Comment 100 – The presentation is available to individuals.

Comment 101 – Question as to how much General Motors will pay for the project.

Response to Comment 101 – General Motors will pay the same rate as everyone else. Because it will use more electricity, it will presumably have a bigger bill.

Oceola Township

Comment 102 – Question as to how the MPSC's certification will take precedence over a local ordinance.

Response to Comment 102 – The state legislature recognized that transmission lines are a statewide issue. The statute says that if there is a conflict between what the MPSC determines is reasonable and what the local ordinance states is reasonable, the MPSC's decision takes precedence.

Comment 103 – Question as to the difference in pole heights.

Response to Comment 103 – ITC does not have that information with it, but the old poles are probably about 70 to 75 feet tall, and the new poles will be 95 feet tall.

Comment 104 – Question as to why two lines cannot be placed on one poll.

Response to Comment 104 – There are reliability problems with two lines on one poll.

Comment 105 – Comment that a \$25,000,000 charge would only cost each customer \$5, and question as to whether ITC has 5,000,000 customers.

Response to Comment 105 – ITC's service territory includes roughly 5,000,000 DTE customers.

Comment 106 – Question as to whether cost will be passed on to all customers.

Response to Comment 106 – The cost will be passed on to all customers. Other individuals will pay for a decision made in one geographic location.

Comment 107 – Comment stating that individuals already pay for federal welfare and everything else.

Response to Comment 107 – Just realize that if every locality passed such an ordinance, it would affect everyone.

Comment 108 – Question as to how many poles will be in each township and whether the poles will be next to existing poles.

Response to Comment 108 – The pole is actually the structure holding the wires up. The poles will be next to lattice towers, but not next to wooden poles, because the span is larger for the new lines.

Comment 109 – Question as to how far apart the poles will.

Response to Comment 109 – The span capability is about 600 feet.

Comment 110 – Question as to where the poles will be placed.

Response to Comment 110 – the poles will be next to the lattice tower in the existing corridor.

Comment 111 – Question as to how big the poles will be.

Response to Comment 111 – Poles are 95 feet tall. They will be taller than the existing lattice towers. Exactly how tall the old towers are depends on several factors. ITC will research this issue and get back with the individual.

Comment 112 – Question as to meaning of the term “Route Three, geographical reason,” as used in the presentation.

Response to Comment 112 – There were geographical interferences with the new line construction.

Comment 113 – Comment stating that ITC cannot legally pass the cost along to customers.

Response to Comment 113 – The federal government regulates our rates, terms, and conditions of service. The state regulates retail rates. ITC may seek an action so that one municipality’s actions do not place burdens on other customers.

Comment 114 – Question as to whether the FERC and the MPSC are two different organizations.

Response to Comment 114 – Yes.

Comment 115 – Comment stating that the poles have a five or six foot base.

Response to Comment 115 – ITC's poles have a 36 to 38 inch base.

Comment 116 – Question as to when it is appropriate to use underground lines.

Response to Comment 116 – ITC must provide cost effective electricity. It would be expensive to purchase land in Detroit to install above ground lines. Therefore, in urban areas, ITC uses underground lines.

Comment 117 – Comment stating that it seems easier to put lines underground outside of the city, and question as to whether there are any reasons besides price that lines should not go underground.

Response to Comment 117 – Cost is the biggest concern.

Comment 118 – Question as to whether the lines are good for an individual's health.

Response to Comment 118 – The lines normally do not hurt people unless he or she comes into direct contact with them.

Comment 119 – Question as to what the span of the poles will be for this particular project.

Response to Comment 119 – The span will be maximized as much as possible.

Comment 120 – Question as to what will occur when M-59 is expanded.

Response to Comment 120 – ITC will probably relocate the poles within the MDOT right of way.

Comment 121 – Question as to whether ITC will pay for the project twice, and comment stating that ITC could place the lines once underground.

Response to Comment 121 – ITC may have to move underground lines as well.

Comment 122 – Question as to why the route cannot go directly down I-96.

Response to Comment 122 – If ITC used a different route, it would not pass the Hurst and Kellogg substations, which are needed for interconnections.

Comment 123 – Question as to whether ITC needs to connect to the Nolan and Selkirk substations.

Response to Comment 123 – No—those stations are already being fed. We are trying to take power where it is needed. It does not make sense to run a line where there are no loads.

Comment 124 – Question as to whether ITC plans to replace the tree line in Hidden Creek Subdivision.

Response to Comment 124 – ITC will leave the land directly under the lines in a meadow condition. ITC's intent is to leave enough clearance to ensure that it will not ever again have to clear trees in the area.

Comment 125 – Questions and comments as to whether ITC will supplement homeowners for decrease in property value, and whether ITC notified individuals before cutting down trees.

Response to Comment 125 – Crowd persisted in interrupting so that comment not responded to fully.

Comment 126 – Question as to whether ITC will replant any trees.

Response to Comment 126 – ITC intends to leave a meadow area so that it will not have to cut trees again. Please inform ITC if there is still debris in the area so that ITC can clean it up.

Comment 127 – Comment that ITC went out of its area, and that ITC's lines are too high.

Response to Comment 127 – The trees that came down were probably where the new line is going in.

Comment 128 – Comment stating that the trees were 100 feet from the new line.

Response to Comment 128 – ITC will follow up with individual.

Comment 129 – Comment stating that putting in a meadow is not returning the land to its natural condition.

Response to Comment 129 – ITC will follow up with individual.

Comment 130 – Question as to how far the new poles will be from ITC's existing towers.

Response to Comment 130 – Approximately 40 feet.

Comment 131 – Question as to what direction the transmission line will run in relation to the other towers.

Response to Comment 131 – Parallel.

Comment 132 – Question as to which side of the pole the conductor will be located.

Response to Comment 132 – The conductors will face the existing lines.

Comment 133 – Question as to the distance between the property line where trees were cut down and where the new poles will be located.

Response to Comment 133 – 30 feet.

Comment 134 – Question as to why ITC cut down trees more than 30 feet away from where the lines will be located.

Response to Comment 134 – The National Electric Safety Code has certain requirements. ITC must consider the lines in 40 mile an hour winds.

Comment 135 – Comment stating that ITC should plant pine trees because pine trees do not take up 35 feet.

Response to Comment 135 – To be considered.

Comment 136 – Comment stating that ITC needs to provide residents with something for cutting down the trees.

Response to Comment 136 – The panelists will take these ideas back to ITC management.

Comment 137 – Question as to why the Oceola meeting is in Brighton.

Response to Comment 137 – ITC could not find anywhere in Oceola. The township hall was reserved.

Comment 138 – Question as to what approvals are need from Oceola Township or its residents to site poles.

Response to Comment 138 – ITC only needs approval from state entities.

Comment 139 – Comment stating that ITC cleared everything before the project is ready to begin, question as to why trees need to be cut if lines will be 95 feet tall.

Response to Comment 139 – The pole is 95 feet, but the lines will be below the pole.

Comment 140 – Comment stating that ITC and DTE could have agreed to put the lines on the same pole, question as to what will happen when M-59 expands.

Response to Comment 140 – ITC will be in MDOT's right-of-way after the expansion.

Comment 141 – Question as to why ITC does not place the poles along M-59 in the spot where they will later be moved to.

Response to Comment 141 – MDOT does not own the property yet.

Comment 142 – Question as to why ITC rushed into the project, and as to whether ITC will replace trees.

Response to Comment 142 – ITC did not rush ahead. The Hartland ordinance is holding the process up.

Comment 143 – Comment that all other townships should adopt a similar ordinance.

Response to Comment 143 – No response.

Comment 144 – Question as to whether ITC has ordered the poles and wires for the project.

Response to Comment 144 – The poles and conductors are on order.

Comment 145 – Question as to whether the poles for this particular project are on order.

Response to Comment 145 – Yes.

Comment 146 – Question as to how close the poles will be to M-59 and where will the wire cross M-59.

Response to Comment 146 – It crosses over at Kellogg Road. The distance from the road varies from between 25 to 40 feet.

Comment 147 – Question as to whether there are guide wires on the lines and whether there is a free fall area.

Response to Comment 147 – There are no guide wires or free fall requirements.

Comment 148 – Question as to whether the poles may fall on houses.

Response to Comment 148 – Historically, poles only fall if a line breaks, and a line usually only breaks when trees fall on them. Poles will fall longitudinally.

Comment 149 – Question as to how putting wires underground can cost \$25,000,000.

Response to Comment 149 – The construction cost is much greater for underground lines.

Comment 150 – Comment stating that ITC would not have to move underground lines when M-59 expands or worry about underground lines breaking.

Response to Comment 150 – The lines would probably still need to be moved.

Comment 151 – Question as to how deep underground lines are installed.

Response to Comment 151 – Usually five feet, but it depends on several factors.

Comment 152 – Question as to whether MDOT will ask ITC to wait until M-59 expansion is complete.

Response to Comment 152 – ITC cannot wait ten years. The area needs electric improvements.

Comment 153 – Question as to whether ITC can wait five years.

Response to Comment 153 – That is a question more appropriate for DTE.

Comment 154 – Question as to how many panelists live near power lines.

Response to Comment 154 – One panelist lives near lines.

Comment 155 – Question as to whether the panelists have trees in their yards.

Response to Comment 155 – No response. (Interrupted by residents.)

Comment 156 – Comment stating that some residences have lines within 50 feet, and some have poles in driveways.

Response to Comment 156 – There will be no poles in driveways.

Comment 157 – Comment stating that Livingston County is the fastest growing county in Michigan.

Response to Comment 157 – Absolutely.

Comment 158 – What choice to individuals have to fight this project.

Response to Comment 158 – There will be public hearings in front of the DEQ and MPSC.

Comment 159 – Question as to when the hearings will be and how notice of the meetings will be distributed.

Response to Comment 159 – The meetings are not scheduled yet. The MPSC will send out notices for its hearing. ITC suggests calling the MPSC directly to ensure that individuals are notified of the meetings.

Comment 160 – Question as to whether ITC can provide contact information for the DEQ and Michigan Electric Transmission Company.

Response to Comment 160 – Yes.

Comment 161 – Question as to what health studies are available.

Response to Comment 161 – Look at the National Institute of Health website and the Department of Energy website. We also have a book, and the book's information is available at www.niehs.nih.gov/emfrapid.

Comment 162 – Question as to what constitutes an “unreasonable health risk,” as used in ITC's presentation.

Response to Comment 162 – The MPSC determines what is unreasonable. ITC follows the National Electric Safety Code guidelines and exceeds or meets every guideline.

Comment 163 – Question as to whether there is an existing power line running along this project's chosen route.

Response to Comment 163 – No. The line down M-59 will be a new construction.

Comment 164 – Comment stating that the growth in the area is causing all of these problems.

Response to Comment 164 – Growth in load requires the transmission and other upgrades. The development in the area is causing a need for more power.

Comment 165 – Question as to whether Hartland's actions of hiring an attorney and passing an ordinance slowed the process down for ITC.

Response to Comment 165 – Passing the ordinance did slow the process down.

Comment 166 – Question as to how close a transmission line may be to a house, and how many feet will be between each pole.

Response to Comment 166 – Technically, some lines may go over houses. The distance between poles is 600 feet. ITC will check the exact distance to the resident's house.

Comment 167 – Question as to what it means to file for a certificate with the MPSC.

Response to Comment 167 – ITC prepares a regulatory filing that answers several questions. The MPSC issues a notice and has a hearing to determine whether or not public convenience and necessity is warranted. There are three conditions to satisfy.

Comment 168 – Question as to whether ITC has filed with the MPSC.

Response to Comment 168 – No application has been filed yet.

Comment 169 – Question as to whether ITC cut the trees before getting approve to install lines.

Response to Comment 169 – The trees were cut for vegetation management reasons. No MPSC approval was needed until Hartland Township passed the ordinance.

Comment 170 – Question as to the size of the easement.

Response to Comment 170 – ITC is using the minimum requirement.

Comment 171 – Comment stating that DTE does not take out trees when it installs lines.

Response to Comment 171 – The ITC lines are a different voltage, which can cause fires. FERC has different rules for transmission lines. A tree actually caused the 2003 blackout.

Comment 172 – Comment requesting ITC panelists to come back to resident's home.

Response to Comment 172 – ITC will come back and take a look at the oil and debris problems.

Comment 173 – Comment stating that oil on the ground is important, because residents use wells.

Response to Comment 173 – Absolutely. No dispute.

Comment 174 – Question as to whether ITC can email the presentation.

Response to Comment 174 – ITC will drop off at the township hall a copy of the presentation. ITC will mail it out tomorrow.

Comment 175 – Question as to whether ITC continued to cut trees after Hartland Township passed the ordinance.

Response to Comment 175 – No. The trees were cut before.

Comment 176 – Question as to whether there will be two poles side by side along M-59.

Response to Comment 176 – M-59 will have single poles. The side by side poles mentioned are within ITC's corridor.

Comment 177 – Question as to why it is not feasible to have poles side by side or have a second line go up Hickory Ridge, and comment stating that only 350 foot tall trees can take down power lines.

Response to Comment 177 – The wire may be as low as 50 feet. Whenever possible, ITC tries to have lines on separate poles for reliability purposes.

Comment 178 – Question as to the distance from the houses to the lines, and question as to what distance is safe.

Response to Comment 178 – The National Electric Safety Code says around 11 feet for 120 Kv. Somewhere in that range.

Comment 179 – Comment stating that it is easy to repair underground lines. [Oceola, p 100].

Response to Comment 179 – Repairing an underground line takes a long time. Sometimes it takes up to three or four weeks.

Comment 180 – Comment stating that residents are not opposed to growth, but they are concerned about property values.

Response to Comment 180 – Comments received.

Comment 181 – Comment stating that residents understand they cannot stop the line. The Individuals living in this area just want the line underground.

Response to Comment 181 – ITC cannot respond if there is no question.

Comment 182 – Question as to whether an approval from the MPSC would preempt local ordinances.

Response to Comment 182 – Yes, an approval from the MPSC would take precedence over a local ordinance, regardless of when the ordinance was passed.

Comment 183 – Question as to whether the MPSC certificate would preempt an ordinance passed by Oceola Township in the near future.

Response to Comment 183 – Yes.

Comment 184 – Question as to whether ITC has any competitors that could bid on the project.

Response to Comment 184 – There are no competitors.

Comment 185 – Question as to whether there is any oversight to deals between ITC and DTE.

Response to Comment 185 – FERC oversight. FERC regulates ITC's rates using a just and reasonable standard.

Comment 186 – Question as to how ITC will proceed if it must install the lines underground in Hartland.

Response to Comment 186 – That is a question for ITC management. It is likely that construction will begin as soon as a route is approved—either under or above ground. Clarification from attorney. ITC cannot begin until the certificate is approved by MPSC.

Comment 187 – Question as to whether it is possible to complete a project that is both above and below ground.

Response to Comment 187 – Yes.

Comment 188 – Question as to how long until the MPSC makes a decision.

Response to Comment 188 – The statute gives the MPSC one year.

Comment 189 – Question as to how long until the DEQ makes a decision.

Response to Comment 189 – 90 days from the time the application was deemed complete.

Comment 190 – Question as to how franchise was adopted in late 1980's.

Response to Comment 190 – The franchise was granted in July of 1989. It gave DTE and its assigns, which is ITC, the right to do business in Oceola Township.

Comment 191 – Comment regarding dissatisfaction with township officials.

Response to Comment 191 – Comments received.

Comment 192 – Comment stating that in Detroit lines are very close to homes.

Response to Comment 192 – Those are probably distribution lines.

Comment 193 – Question as to whether the MPSC hearing is public.

Response to Comment 193 – Yes.

Milford Township

Comment 194 – Question as to whether township supervisor has any jurisdiction over this project.

Response to Comment 194 – The Federal Government regulates the rating structure, but local input is helpful.

Comment 195 – Question as to the meaning of a “certificate” from the MPSC.

Response to Comment 195 – According to state statute, the certificate from the MPSC will overrule any local ordinance.

Comment 196 – Question as to whether a Milford resident would have to pay for costs of putting lines underground in Hartland.

Response to Comment 196 – Yes. The increase would be seen through a Milford resident’s bill from DTE.

Comment 197 – Question as to what ITC means when referring to the “area.”

Response to Comment 197 – All the townships—Hartland, Milford, Osceola, Genoa, and Brighton.

Comment 198 – Statement that Milford residents should not have to pay an increased rate for any utilities, because residents do not want more development here.

Response to Comment 198 – ITC’s presentation will address several of those concerns.

Comment 199 – Question as to what percentage of power General Motors will consume.

Response to Comment 199 – The project was not selected just because of General Motors’s projected future growth. General Motors was not the only customer projected to have higher power consumption. The exact percentage is unknown.

Comment 200 – Statement that the old Oasis gas station, 600 new homes, and other developments are the cause of this.

Response to Comment 200 – No response.

Comment 201 – Question as to who exactly will use the new lines.

Response to Comment 201 – ITC has no affiliation with a particular county. ITC actually provides power to DTE, who then sells the power to customers.

Comment 202 – Question as to whether ITC is building the lines for the greater good.

Response to Comment 202 – Yes.

Comment 203 – Question as to whether economic development will be affected if project does not actually occur.

Response to Comment 203 – As a result of not doing anything for 30 years, the system is stretched, and new growth will certainly come to the area. A poor infrastructure may have a detrimental affect on this growth.

Comment 204 – Question as to why ITC proposes to use above ground lines.

Response to Comment 204 – ITC is here to assist DTE. Persons must look at the big picture. Everything is integrated.

Comment 205– Statement that ITC is not only building these lines for the residents.

Response to Comment 205 – The project benefits residents of the area and other individuals.

Comment 206 – Question as to why ITC does not place the line straight down I-96.

Response to Comment 206 – MDOT has certain rules about placing lines along the highway. This is the best option according to all available alternatives.

Comment 207 – Question as to what the cost would be if ITC constructed the lines in a “straight shot.”

Response to Comment 207– ITC is not certain. Must consider several different factors. ITC chose the easiest route.

Comment 208 – Question as to what ITC means by the term “easiest.”

Response to Comment 208 – The easiest to get right-of-way and deal with customers. ITC also looked at DTE’s need to expand the system.

Comment 209 – Question as to the cost of expanding to the Nolan substation.

Response to Comment 209 – ITC cannot expand to the Nolan substation, because the land was purchased.

Comment 210 – Question as to why there are transmission lines along I-96 in Novi.

Response to Comment 210 – People used to welcome utility lines, and now they do not. It is impossible to get a line somewhere without going through any community, especially if the line is 21 miles long.

Comment 211 – Comment stating that individual is not going to convince anyone at ITC that it should change its position.

Response to Comment 211 – ITC is trying to give the community information. ITC will publish notice regarding the MPSC hearing. That hearing is where individuals can make arguments.

Comment 212 – Question as to whether other municipalities such as Novi, Rochester, and Taylor use underground lines.

Response to Comment 212 – Yes, in certain places.

Comment 213– Comment that Hartland residents may have to pay a \$2,000 adjustment.

Response to Comment 213 – That figure is based on if there was a legal framework allowing ITC to charge the Hartford residents. There is precedent for doing that with the distribution system. Federal law sets the rates for transmission service.

Comment 214 – Comments regarding leukemia and health care concerns.

Response to Comment 214 – ITC usually directs individuals to the Department of Energy website and to the National Institute of Health Sciences' website.

Comment 215– Question as to whether any of the ITC panelists live near a transmission line.

Response to Comment 215 – Two of the panelists live near a transmission line.

Comment 216– Question as to whether property value will decrease. Comment that property value may drop as much as twenty percent.

Response to Comment 216 – The real estate developers may be looking to sell the property for twenty percent less and then make a profit. Individuals have conducted studies that indicate that property value may decrease, but some subdivisions have been built next to ITC's lines.

Comment 217 – Comment stating that new construction will cause customer to lose power seven times this summer.

Response to Comment 217 –It takes time for DTE to improve its infrastructure.

Comment 218– Question as to whether Milford Township could pass an ordinance similar to Hartland Township's ordinance.

Response to Comment 218 – The Michigan Constitution allows local governments to impose reasonable regulations on utility lines.

Comment 219 – Comment suggesting that General Motors is the only resident in Milford Township that is actually affected.

Response to Comment 219 – We are holding a meeting in Milford to discuss Milford's issues, and if you would like more information about what is happening in other townships, ITC is also hosting meetings in those townships.

Comment 220 – Comment about General Motors’s property.

Response to Comment 220 – ITC is building on three to four miles of General Motors’s property.

Comment 221 – Comment that General Motors receives an immediate benefit from the lines.

Response to Comment 221 – The “original” General Motors line is in Commerce Township. The problem at General Motors has been growing for almost 10 years.

Comment 222 Question as to how many new poles ITC will place in Milford.

Response to Comment 222 – 21 new poles, all on General Motors’s proving ground.

Comment 223 – Question as to whether independent appraisers have any basis for suggesting that property values will decline.

Response to Comment 223 – ITC has studies stating that, at most, transmission line poles will only cause a drop in value of two percent.

Comment 224 – Question as to whether transmission poles would affect the view of the Grand Canyon.

Response to Comment 224 – Only if the individual notices the poles.

Comment 225 – Comment regarding the canopy of trees that ITC will cut down.

Response to Comment 225 – This was the best choice after studying all options.

Comment 226 – Comment regarding crossing wetlands.

Response to Comment 226 – Underground lines cannot go through wetlands. ITC must go through 41 wetlands for this project. Poles only disturb 35 inches of a wetland. The DEQ has several regulations to follow. ITC must protect several animals.

Comment 227 – Question as to whether ITC has applied to the state with respect to environmental impacts.

Response to Comment 227 – Yes. In addition, ITC has studied the culture, whether there are any Indian burial grounds, and made other inquiries.

Comment 228 – Question as to whether ITC realizes it will have to move its lines when M-59 expands. Question as to what the cost of the move will be.

Response to Comment 228 – Yes. It will cost less than \$25,000,000.

Comment 229 – Question as to whether ITC will have to move its lines.

Response to Comment 229 – If the state widens M-59, ITC will be forced to move the poles.

Comment 230 – Question as to what the liability issues are for underground lines.

Response to Comment 230 – The wire inside is about an inch and a half thick, with a lot of insulation around it. There are heat problems with underground lines. For every one line needed above ground, there must be two lines below ground. The line is heavy, and manholes must be installed every 2000 feet.

Comment 231 – Question as to whether the underground wires are as reliable as the above ground wires.

Response to Comment 231 – It takes about four hours to fix a downed power line. If an underground line breaks, ITC does not know where the break is. This could take a long time.

Comment 232 Question as to what could break an underground line.

Response to Comment 232 – There are many ways to break the line because it is only five feet underground. ITC would have to destroy trees to install underground lines.

Comment 233– Comment that individual would rather know a line is underground than look outside and see poles.

Response to Comment 233 – You would only know if you went thousand feet in each direction. Furthermore, magnetic fields do not disappear when the lines go underground.

Comment 234 – Comment stating that there is no perfect way to get power.

Response to Comment 234 – You must weigh all factors.

Comment 235 – Comment on service quality as opposed to reliability.

Response to Comment 235 – Distribution lines are different from transmission lines. ITC is using steel poles for this project. ITC's poles must withstand 90 mile an hour winds.

Comment 236 – Comment stating that above ground lines are easier to break.

Response to Comment 236 – Both above and below ground lines have problems. Above ground lines are simply easier to fix.

Comment 237 – Comment that ITC is using the worst possible area.

Response to Comment 237– ITC would rather go straight down private property, but that is not an option.

Comment 238 – Comment stating that Milford is the last area to get service, and therefore residents do not like DTE.

Response to Comment 238 – ITC hopes to expand and improve reliability with this line.

Comment 239 – Question as to why the MPSC would not approve ITC's application for a certificate, and whether Michigan law requires ITC to construct the lines in question.

Response to Comment 239 – The MPSC grants the ability to build a line and approves them. There is no legal requirement for this project.

Comment 240 – Question as to why ITC does not use its condemnation powers to build the project in a straight line.

Response to Comment 240 – People usually receive less money for their property when ITC condemns it. ITC does not want to simply "take" everyone's property. It has been done before, and will be done again. ITC cannot please everyone.

Comment 241 – Comment stating that ITC is staking off Hickory Ridge.

Response to Comment 241 – Correct.

Comment 242 – Question as to why ITC is staking off Hickory Ridge.

Response to Comment 242 – Hickory Ridge is an alternative. ITC is always looking for routes. DTE actually owns the line, and ITC will purchase it.

Comment 243 – Question as to the prices of different routes.

Response to Comment 243 – The chosen route is cost-effective. Hickory Ridge would require a double circuit line, which is an extreme reliability problem.

Comment 244 – Question as to whether ITC will use existing poles for the project.

Response to Comment 244 – No. The existing poles will break with a second line.

Comment 245 – Question as to the size of the new poles.

Response to Comment 245 – The poles would have a large diameter and would be 95 feet tall. Some may be 108 feet tall.

Comment 246 – Question as to purchasing easement rights.

Response to Comment 246 – ITC is in the road easement. ITC is currently working on purchasing tree trimming rights.

Comment 247 – Question as to when ITC trims trees.

Response to Comment 247 – When the trees endanger lines. ITC arguably already has the right to trim the trees.

Comment 248– Question as to whether ITC is buying tree trimming rights or a five foot easement.

Response to Comment 248 – No response. (Another individual in the crowd stated it was a five foot easement for tree trimming purposes.)

Comment 249 – Question as to the voltage of the line.

Response to Comment 249 – 120 Kv. There is an existing 138 Kv line that goes to Consumers.

Comment 250 – Question as to whether voltage or lines on the poles would be increased if there is an increase in development.

Response to Comment 250 – ITC will not put another set of transmission lines on the poles used in this project.

Comment 251 – Question as to whether ITC could place three more lines on a pole.

Response to Comment 251 – ITC would have to replace every pole. The poles are not strong enough for more wires.

Comment 252 – Question as to whether these are the same poles with six wires on them on General Motors's property.

Response to Comment 252 – Yes. Almost all poles in Milford are double circuit poles. The existing line and ITC's line will share a pole.

Comment 253 – Question as to whether ITC will sell rights to other utilities.

Response to Comment 253 – Yes, the law requires it. That is why ITC's poles are higher than they need to be.

Comment 254 – Comment that cable television wires must be 24 inches below an electrical line and still 14 feet from the ground.

Response to Comment 254 – ITC must accommodate.

Comment 255 – Comment that cable companies must get permission of property owner to go pole to pole.

Response to Comment 255 – There is less of an impact if a pole already exists, so there would likely be no problem. ITC's poles are 500 feet apart instead of 200.

Comment 256 Question as to whether ITC plans to help Milford with emergency services, because Milford will have a blackout north of M-59 if lines are installed.

Response to Comment 256 – ITC's lines will not interfere. ITC talked to the fire department. Transmission lines do not interfere with FM radio.

Comment 257 – Question as to whether ITC engineer can unequivocally say that the lines will not interfere with emergency communications.

Response to Comment 257 – If they operate at “those” frequencies, they need tall antennas. There will not be interference with emergency services at all.

Comment 258 – Comment stating that Milford can use ITC’s towers for wireless.

Response to Comment 258 – Many times that is offered. Cooperation with public entities is good for projects like that. ITC also does things like create bike paths.

Comment 259 – Comment that individuals will not be happy.

Response to Comment 259 – All ITC can do is give information.

Comment 260– Question as to when the next public forum will be.

Response to Comment 260 – The MPSC hearing is where an individual should make arguments.

Comment 261 – Question as to whether the MPSC will wait for Supreme Court decisions.

Response to Comment 261– Probably not.

Comment 262 – Question as to what happens if ITC misses the December deadline.

Response to Comment 262 – ITC will just push it back. Delay will not stop the project.

Comment 263 – Comment that delay is costly to ITC.

Response to Comment 263 – Causing a delay is costly as well.

Comment 264 – Comment that individual will fight this project.

Response to Comment 264 – ITC will also do what needs to be done in order to complete the project. ITC wants to be accommodating to customers.

Comment 265 – Comment that big ash trees will all be gone.

Response to Comment 265 – Correct. The ash bores are going to kill many trees. Nature will affect that corridor as well.

Comment 266 – Question as to whether it is cost effective to use underground lines that will not require being moved when M-59 expands.

Response to Comment 266 – A pole is one third the price. Moving poles later is still cheaper.

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STATE OF MICHIGAN
BEFORE THE MICHIGAN PUBLIC SERVICE COMMISSION

* * * * *

In the matter of the application of)
International Transmission Company,)
d/b/a *ITCTransmission*, for a certificate)
of public convenience and necessity for)
the construction of a transmission line other)
than a major transmission line, running through)
Genoa Township, Hartland Township, Oceola)
Township, Milford Township, and Brighton)
Township.)
_____)

Case No. U-14861

DIRECT TESTIMONY

OF

DR. PETER A. VALBERG

ON BEHALF OF

ITCTRANSMISSION

S.T.A.T.E O F M I C H I G A N
BEFORE THE MICHIGAN PUBLIC SERVICE COMMISSION

* * * * *

**In the matter of the application of)
International Transmission Company,)
d/b/a ITC*Transmission*, for a certificate)
of public convenience and necessity for)
the construction of a transmission line other)
than a major transmission line, running through)
Genoa Township, Hartland Township, Oceola)
Township, Milford Township, and Brighton)
Township.)**

Case No. U-14861

DIRECT TESTIMONY OF DR. PETER A. VALBERG

1 **Q₁ PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

2 A₁ My name is Peter A. Valberg. My business address is 20 University Road, Cambridge,
3 MA 02138.

4 **Q₂ BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?**

5 A₂ I am a Principal at Gradient Corporation, specializing in the areas of inhalation
6 toxicology, biological modeling of human exposure to environmental agents, and human
7 health risk assessment. I have extensively researched and studied the links between
8 human health and specific agents such as air pollutants, groundwater contaminants, radio
9 wave frequencies (“RF”), and power-line electric and magnetic fields (“EMF”).

10 **Q₃ PLEASE SUMMARIZE YOUR QUALIFICATIONS.**

11 A₃ My training includes an A.B. degree, *summa cum laude*, in Physics and Mathematics
12 from Taylor University, both M.A. and Ph.D. degrees in Physics from Harvard

1 University, and an M.S. degree in Human Physiology from the Harvard University
2 School of Public Health (“Harvard SPH”).

3 For 25 years, I served as a faculty member in the Department of Environmental Health at
4 Harvard SPH, where I researched and taught toxicology, cell biology, environmental
5 health, and public health. One of my research grants that I directed at Harvard SPH was
6 funded by the National Cancer Institute; the research topic was “Magnetic Field Effects
7 on Macrophages” (where ‘macrophages’ are a class of lung cells that clean the lung of
8 particles deposited there from dust present in the air we breathe).

9 I have served on advisory panels for the National Institutes of Health (“NIH”), the Health
10 Effects Institute, and the Environmental Protection Agency (“EPA”). I am a member of
11 the International Society for Environmental Epidemiology, the Health Physics Society,
12 the Bioelectromagnetics Society, and the Committee on Man and Radiation (“COMAR”).
13 I am on the Board of Directors of the Bioelectromagnetics Society.

14 During the period of time when Harvard University (Center for Risk Analysis) had two
15 active committees, namely the “Harvard Advisory Committee on EMF and Human
16 Health” and the “Peer Review Board on Cellular Technology and Human Health,” I
17 served on these committees. I assisted the Health Effects Institute (Boston, MA) in
18 determining the feasibility of launching an EMF research program, and I published a
19 summary document on “EMF Mechanisms” in the journal *Radiation Research*. At the
20 request of the International Congress on Radiation Research (“ICRR”), I organized and
21 chaired a symposium on “Physical aspects of EMF / RF effects on Biological Systems,”
22 at the 11th Annual ICRR meeting in Dublin, Ireland. I helped organize a conference in

1 the Boston area on “Childhood Leukemia: Electric and Magnetic Fields as Possible Risk
2 Factors.” A summary of this workshop was published in the journal *Environmental*
3 *Health Perspectives*. I am currently working with the World Health Organization
4 (“WHO”) (Geneva, Switzerland) on the health effects on EMF as they apply to cellular
5 telephone technology.

6 **Q₄ WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

7 A₄ ITCTransmission has retained me in connection with its request for a certificate of public
8 convenience and necessity in this docket. I am advised that one of the questions that
9 must be addressed in any such filing relates to the potential effect of electric and
10 magnetic fields from the proposed transmission line on public health and safety. I have
11 reviewed relevant portions of the transcripts of the public meetings held on April 24,
12 2006, wherein public health and safety questions and concerns were raised. The purpose
13 of my testimony is to address these public health and safety issues. That is, my testimony
14 assesses the potential health effects of EMF in the vicinity of the proposed Genoa to
15 Durant 120 kV Transmission Line Project (“Project”), which is the subject of this
16 proceeding.

17 **Q₅ PLEASE SUMMARIZE THE RESULT OF YOUR REVIEW AND ANALYSIS IN**
18 **THIS DOCKET.**

19 A₅ In summary, my review of (1) the current status of biological, public health, and medical
20 research on the possible effects of power-line EMF on health, (2) the current scientific
21 consensus documents and regulatory guidelines on allowable EMF levels, and (3) my
22 evaluation of the anticipated EMF associated with this transmission-line Project leads me
23 to conclude that operation of the transmission lines is not likely to lead to adverse effects

on health from EMF exposure to people living, working, or walking in the vicinity of the right-of-way.

Q₆ PLEASE PROVIDE BACKGROUND RELATING TO EMF, SOURCES AND MAGNITUDES.

A₆ All matter contains electrically charged particles. Most objects are electrically neutral because positive and negative charges are present in equal numbers. When the balance of electric charges is altered, we experience electrical effects, such as the static-electricity attraction between a comb and our hair, or drawing sparks after walking on a synthetic rug in the wintertime. Electrical effects occur both in nature and through our society's use of electric power (generation, transmission, consumption).

The electrical tension on transmission lines is expressed in *volts* or *kilovolts* (kV; 1 kV = 1,000 V). Voltage is the "pressure" of the electricity, and can be envisioned as analogous to the pressure of water in a plumbing system. The existence of a voltage difference between the lines and ground results in an *electric field*, usually expressed in units of volts or kilovolts per meter (V/m or kV/m). The size of the electric field depends on the voltage, the separation between lines and ground, and other factors.

Transmission lines convey electric *current* that results in a *magnetic field*. The units for electric current are *amperes* (A) and are a measure of the "flow" of electricity. Electric current can be envisioned as analogous to the flow of water in a plumbing system. The magnetic field produced by an electric current is usually expressed in units of gauss (G) or milligauss (mG), where 1 G =1,000 mG. Another unit for magnetic field levels is the

1 microtesla (μT), where $1 \mu\text{T} = 10 \text{ mG}$. The size of the magnetic field depends on the
2 size of the electric current, the distance to the wire, and other factors.

3 Everyone experiences a wide variety of natural and man-made electric and magnetic
4 fields. EMF can be slowly varying or steady (often called “DC fields”), or can vary in
5 time (often called “AC fields”). When the time variation of interest corresponds to that
6 of power line currents, *i.e.*, 60 changes per second, the fields may be called “60-Hz”
7 EMF.

8 Man-made magnetic fields are common in everyday life. Many childhood toys contain
9 magnets. Such permanent magnets generate strong, steady magnetic fields, or time-
10 varying magnetic fields, when you move the magnet. Typical toy magnets (*e.g.*,
11 “refrigerator-door” magnets) have fields of 100,000 – 500,000 mG. The earth’s core
12 creates magnetic fields that can be easily demonstrated with a compass needle. The size
13 of the earth’s magnetic field in the Northern U.S. is about 570 mG. Knowing the strength
14 of the earth’s field provides a perspective on the size of power-line magnetic fields. The
15 earth’s steady field does not have the 60-cycles-per-second (60-Hz) time variation
16 characteristic of power-line EMF, but is experienced as a changing magnetic field as you
17 move around in it. For example, a magnet spinning at 60 times a second will produce a
18 60-Hz magnetic field indistinguishable from that near electric power lines carrying the
19 appropriate current. Magnetic resonance imaging (“MRI”) is a medical diagnostic
20 procedure that puts humans in much larger fields (20,000,000 mG) and is preferred over
21 an X-ray because, contrary to X-rays, MRI’s have no known adverse health risks.

1 Electric power transmission lines, distribution lines, and electric wiring in buildings carry
2 AC currents and voltages that change size and direction at a frequency of 60 Hz. These
3 60-Hz currents and voltages create 60-Hz EMF nearby. The size of the magnetic field is
4 proportional to the current, and the size of the electric field is proportional to the voltage.
5 The EMF associated with electrical wires and electrical equipment decreases rapidly as
6 the distance away from the electrical wires increases.

7 When EMF derives from different sources (*e.g.*, adjacent wires), the size of the net EMF
8 produced will be somewhere in the range between the sum of EMF from the individual
9 sources and the difference of the EMF from the individual sources. That is, EMF may
10 partially add, or partially cancel. Inside residences, typical baseline 60-Hz magnetic
11 fields (away from appliances) range from 0.5 to 5.0 mG. EMF in the home arise from
12 electric appliances, outdoor distribution wiring, indoor wiring, and grounding currents.
13 The power line magnetic fields add or subtract to the steady field of the earth (570 mG),
14 so that the sum total magnetic field has both a steady part and a time-varying part.

15 Higher 60-Hz magnetic field levels are found near operating appliances. For example,
16 can openers, mixers, blenders, refrigerators, fluorescent lamps, electric ranges, clothes
17 washers, toasters, portable heaters, vacuum cleaners, electric tools, and many other
18 appliances generate magnetic fields of size 40 – 300 mG at distances of 1 foot.¹
19 Magnetic fields from personal-care appliances held within ½ foot (*e.g.*, shavers, hair
20 dryers, massagers) can produce 600 – 700 mG. In the school and work environment,

¹ National Institute of Environmental Health Sciences, Electric and Magnetic Fields Associated with the Use of Electric Power, Questions and Answers, NIH Publication 02-4493 (2002). Research Triangle Park, NC. 64 pp. (<http://www.niehs.nih.gov/emfrapid/booklet/home.htm>)

1 copy machines, vending machines, video-display terminals, electric tools, lights, and
2 motors are all sources of magnetic fields. Even the rotating steel-belted radial tires on
3 your car produce time-varying magnetic fields.

4 **Q₇ PLEASE ADDRESS HEALTH CONCERNS RAISED WITH RESPECT TO EMF**
5 **AND POWER LINE EXPOSURE.**

6 A₇ Concerns regarding potential health risks resulting from exposure to power-line EMF
7 were stimulated by an early (1979)² epidemiological study reporting statistical
8 correlations between indirect measures of residential power-line magnetic fields and
9 childhood cancers. In such studies, the actual EMF levels in the children's homes were
10 unknown, and researchers relied on estimates based on visual inspection. One example
11 of an index that was thought to relate to possible EMF from electric power lines was
12 called a "wire code," which was based on such things as proximity, number, and size of
13 nearby electric-utility distribution and transmission lines. Using this index, some
14 investigators reported that, when comparing children with cancers to other children, a
15 slightly greater fraction of the cancer-case homes had a larger wire-code index than was
16 the case for the group of non-cancer children. This result led the investigators to suggest
17 that EMF may play a role in childhood cancer risk. However, repeat studies showed that
18 the associations between risk of cancer and wire-code-index were weak and inconsistent.
19 Moreover, in some cases, the associations weakened or disappeared when actual,
20 measured magnetic fields were substituted in place of wire codes. Engineering studies
21 showed that, not only was the wire-code index a poor surrogate for actual EMF exposure,

² Wertheimer N.; Leeper E.; *Electrical Wiring Configurations and Childhood Cancer*, Am J. Epidemiology 109:273-284 (1979).

1 but also, the index could act as a marker for non-EMF factors such as traffic density, age
2 of the home, duration of residency, rental vs. ownership, *etc.* Also, the families selected
3 for participation as cancer cases were located in ways completely different from methods
4 used to select “control” families, and any differences in wire code indices between these
5 groups could have resulted from the disparities in the identification procedure, and not
6 the differences in cancer diagnosis. Therefore, considerable doubt existed as to whether
7 the wire-code associations with cancer risk reflected any effect of EMF exposure *per se*.

8 More recent, larger, and well-conducted studies provide an improved knowledge base for
9 assessing the relationship between environmental levels of power-line EMF and potential
10 health effects.³ In particular, these studies incorporated improved methods for assessing
11 exposure to EMF, including measurements of present-day levels of EMF around
12 individual persons. Epidemiology studies have primarily focused on cancer, but other
13 health outcomes studied have included neurodegenerative diseases, suicide, depression,
14 cardiovascular disease, and reproduction.

15 It is important to remember that “epidemiology” is a statistical science that looks for
16 correlations between patterns of disease occurrence and patterns of human lifestyle,
17 demography, diet, behavior, environment, or exposure. Because epidemiological studies
18 can only observe patterns of disease in human populations as they exist, with no control
19 over individual risk factors, associations can arise for a variety of reasons aside from the
20 exposure of interest. Epidemiology studies have not been able to rule out the role of bias
21 and confounders in the reported EMF results. Due to the limitations and uncertainties

³ Ahlbom A.; Cardis E.; Green A.; Linet M.; Savitz D.; Swerdlow A.; *Review of the Epidemiologic Literature on EMF and Health*, Environ Health Perspect 109 (Suppl 6):911-33 (2001).

1 associated with epidemiological studies, such results are not typically relied upon in
2 isolation to infer causal relationships. The likelihood of a causal basis for risk is assessed
3 not only *via* epidemiological results, but also through other lines of evidence that include
4 animal studies, human experimental (clinical) studies, and cellular studies, all of which
5 are better suited for identifying a plausible causal mechanism than is epidemiology. A
6 multitude of in-depth laboratory investigations have been carried out in animals at levels
7 of EMF much greater than typical environmental levels, and these data have not
8 demonstrated support for adverse health effects from power-line EMF exposure.^{4, 5}

9 Some of the most important work was done under the auspices of the National Institute of
10 Environmental Health Sciences (“NIEHS”). NIEHS had a program called “EMF
11 RAPID”⁶ that funded laboratory research to determine what, if any, aspects of EMF
12 interaction with biological systems had the potential to express themselves as a disease
13 outcome. The conclusion of this research program was summarized by NIEHS in 1999
14 as follows:⁷

15 “The NIEHS believes that the probability that ELF-EMF exposure
16 is truly a health hazard is currently small. The weak
17 epidemiological associations and lack of any laboratory support for

4 Boorman G.A., McCormick D.L.; Findlay J.C.; Hailey J.R.; Gauger J.R.; Johnson T.R.; et al.,
Chronic Toxicity Oncogenicity Evaluation of 60 Hz (Power Frequency) Magnetic Fields in F344/N Rats, Toxicology Pathol 27:267-78 (1999).

5 McCormick D.L.; Boorman G.A.; Findlay J.C.; Hailey J.R.; Johnson T.R.; Gauger J.R., et al.
Chronic Toxicity/Oncogenicity Evaluation of 60 Hz (Power Frequency) Magnetic Fields in B6C3F1 Mice, Toxicology Pathol 27:279-85 (1999).

6 “EMF RAPID” = EMF Research and Public Information Dissemination

7 National Institutes of Environmental Health Sciences (NIEHS), *Health Effects From Exposure to Power-Line Frequency Electric and Magnetic Fields*, NIH# 99-4493 (1999). Research Triangle Park, NC (<http://www.niehs.nih.gov/emfrapid/booklet/reviews.htm>).

1 these associations provide only marginal scientific support that
2 exposure to this agent is causing any degree of harm.”
3
4

5 In summary, some epidemiologic studies of EMF and disease have reported associations
6 between selected index parameters of assumed levels of EMF and adverse health effects,
7 *e.g.*, for childhood leukemia. Overall, however, the body of epidemiological results on
8 environmental levels of power-line EMF remains too inconsistent and inconclusive to
9 reliably suggest that power-line EMF is a human health hazard. Moreover, the dramatic
10 lack of laboratory support for the epidemiology has led public health agencies and
11 regulatory agencies (National Institute of Environmental Health Sciences, Environmental
12 Protection Agency, and National Commission on Radiation Protection) to conclude that
13 exposure standards based on EMF epidemiology are not scientifically justified by the
14 available evidence.

15 Based on laboratory evidence, some scientific-consensus agencies have provided
16 guidelines for acceptable, continuous-exposure of the general public to power-line
17 magnetic-field levels, and these values range from about 800 mG⁸ to 9,000 mG⁹. The
18 magnetic field levels that will be produced by the proposed transmission line are far
19 below these safety guidelines.

⁸ 800 mG: International Commission on Non-Ionizing Radiation Protection (ICNIRP).
1998. "Guidelines for limiting exposure to time-varying electric, magnetic and electromagnetic
fields." *Health Physics* 74: 494-522.

⁹ 9000 mG: American National Standards Institute / International Committee on
Electromagnetic Safety / Institute of Electrical and Electronics Engineers. 2002 "ANSI / ICES /
IEEE Standard C95.6-2002 for Safety Levels with Respect to Human Exposure to
Electromagnetic Fields, 0-3 kHz." IEEE, Inc., 3 Park Avenue, NY, NY, 10016, USA.

1 For the proposed Genoa to Prizm 120 kV Transmission Line, project-specific calculations
2 show that 60-Hz magnetic field levels at the nearest right-of-way edge would be about
3 3.5 mG, under the line loading conditions expected at start-up, and could be expected to
4 increase to about 11 mG with the load added in a few years. At the location of the
5 nearest residence, these figures would be about 1.7 mG and 5 mG. These levels are far
6 below state, federal, or international guidelines for public exposure to EMF.

7 **Q₈ IN LIGHT OF YOUR REVIEW, WHAT ARE YOUR CONCLUSIONS AND**
8 **RECOMMENDATIONS TO THE MICHIGAN PUBLIC SERVICE**
9 **COMMISSION IN THIS DOCKET?**

10 A₈ Equipment that generates, transmits or uses electricity has EMF nearby. People
11 experience EMF levels not only when they are close to transmission and distribution
12 lines, but also while at home, and in schools and workplaces. EMF are produced by
13 electric-power lines, transformers, building and house wiring, and by all devices (*e.g.*,
14 appliances) that use electricity. *In spite of large increases in human exposure to EMF*
15 *over time (in comparison to pre-electricity days), national health statistics do not suggest*
16 *the emergence of any disease related to our increase in electricity use.*

17 Studies to investigate the health effects of power-line EMF have been taking place
18 around the world for several decades. Such research was initially triggered by weak
19 statistical associations reported between an indirect index of EMF in the home, and
20 cancer risk in children. Research has expanded to include laboratory studies that apply
21 well-characterized levels of EMF to cells, tissues and animals, and biological molecules.
22 Also, epidemiology of diseases in electrical workers has been studied and related to
23 levels of occupational EMF. Statistics of cancer risk in highly-exposed electrical

1 occupations have not shown an effect of EMF. Thus, the childhood-leukemia
2 associations remain suggestive and inconclusive. Notably, the epidemiology reporting a
3 weak association between increased risk of cancer and presumed exposure to power-line
4 magnetic fields did not yield stronger, more definitive EMF links as the studies improved
5 in design and included greater numbers of cancer cases. Epidemiological studies of
6 diseases other than childhood leukemia are not suggestive of an EMF effect.

7 Because of the epidemiologic reports, extensive, worldwide research programs have
8 undertaken a wide variety of experiments to determine whether scientific evidence does
9 or does not support an EMF health risk. Experiments with animals, cells, and biological
10 molecules show that EMF at sufficiently high levels can interact with biological systems
11 and with cellular chemistry. *These interactions, however, require much greater*
12 *intensities than power-line exposure, and notably, have not been shown to lead to*
13 *adverse health effects.*

14 Laboratory research and biophysical analyses have not identified plausible mechanisms
15 by which EMF at levels encountered near transmission lines or appliances can lead to the
16 creation or stimulation (promotion) of cancer cells. Likewise, scientists have been unable
17 to find mechanisms that could cause low-levels of EMF to lead to other hypothesized
18 adverse health effects.

19 Recommended exposure guidelines protective of EMF health effects have been
20 established by international committees of experts. It is highly unlikely that members of
21 the public would encounter EMF at levels near, let alone above, these EMF guidelines.
22 For the case of the continuous low-level EMF levels that are present near the ITC power

1 lines (and publicly accessible electrical equipment), the science on how EMF may cause
2 biological changes or affect human health does not provide a basis for believing that any
3 adverse health outcomes can be expected.

4 **Q₉ DOES THIS CONCLUDE YOUR TESTIMONY?**

5 **A₉ Yes, it does.**

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