

STATE OF MICHIGAN
BEFORE THE MICHIGAN PUBLIC SERVICE COMMISSION

In the matter of the Commission's own motion)
ordering **THE DETROIT EDISON COMPANY**)
to show cause why its retail rates for the sale)
and distribution of electric energy should not)
be decreased.)

Case No. U-14838

QUALIFICATIONS
AND
DIRECT TESTIMONY
OF
GARY E. LAPPLANDER

THE DETROIT EDISON COMPANY
QUALIFICATIONS OF GARY E. LAPPLANDER

Line
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1 **Q. Would you please state your name and business address?**

2 A. My name is Gary E. Lapplander. I am the Director - Fuel Supply for The
3 Detroit Edison Company. My business address is 2000 Second Avenue,
4 Detroit, Michigan 48226.

5

6 **Q. Would you please summarize your educational background?**

7 A. I received a Bachelor of Science Degree in Mechanical Engineering in 1975
8 from Western Michigan University (WMU). In 1978 I also received from
9 WMU a Bachelor of Science Degree in Automotive Engineering Technology.
10 In 1982 I received a Masters Degree in Business Administration from
11 Wayne State University, with a major in Finance. I have completed many
12 Company-sponsored courses and have attended numerous seminars to
13 further my development with Detroit Edison.

14

15 **Q. Would you please describe your professional experience?**

16 A. I began working for Detroit Edison in 1975, and for the period 1975 through
17 1981 I held various positions within the Special Projects Group of the
18 Mechanical Engineering Division of the Generation Engineering
19 Department. My primary responsibilities focused on engineering economic
20 analysis, thermodynamic analysis of power plant cycles, cost/benefit
21 analysis of new capital additions and various regulatory matters. While I
22 was a member of the Special Projects Group, I cross-trained with Strategic
23 Planning, the Greenwood Project Management Organization and the
24 Greenwood Production Organization.

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2 In 1982 I joined the Planning and Development Division of the Fuel Supply
3 Department as a Fuel Resources Engineer.

4

5 In 1985 I undertook a one-year management training assignment as the
6 Assistant Maintenance Engineer at the Company's River Rouge Power
7 Plant. Upon my return to Fuel Supply in 1986 I was promoted to Senior Fuel
8 Resources Engineer and had responsibility for the preparation of short and
9 long-term fuel plans. A fuel plan considers all aspects of the fuel supply
10 function including fuel consumption, fuel requirements, etc. Fuel plans form
11 the basis for the development of fuel expense and fuel requirement
12 forecasts. In addition, I assisted in, or was responsible for, the initial
13 negotiations for long-term procurement of fuels and related transportation.
14 Also, I was involved with the development of fuel specifications for individual
15 electric power plants operated by the Company.

16

17 In 1991 I was appointed to the position of Director - Planning & Contracts,
18 Fuel Supply. My responsibilities included planning, development and
19 procurement of fossil fuels to meet the Company's electric generating
20 needs. In addition, I was responsible for the renegotiation and
21 administration of the Company's long-term fossil fuel and related
22 transportation contracts.

23

24 In 1994 I was appointed Director - Power Supply Initiatives/Business

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1 Planning. My responsibilities included development and implementation of
2 a management and control system for Power Supply, assessment of utility
3 deregulation and its impact on the electric generating business and the
4 introduction of risk management in Power Supply.

5

6 In 1997 I was promoted to Director - Fuel Supply (the title for this position
7 changed from Manager in 2002 in conjunction with the reversal of the
8 naming convention that took place with the merger with Michigan
9 Consolidated Gas) the position I currently hold.

10

11 **Q. What are your specific responsibilities as Director - Fuel Supply?**

12 A. As Director I am responsible for fossil fuel supply and transportation
13 requirements for Detroit Edison's fossil fueled electric generating assets, as
14 well as the Company's coal transshipment facility, Midwest Energy
15 Resources Company (MERC).

16

17 **Q. Are you a registered professional engineer?**

18 A. Yes. I became registered as a professional engineer with the State of
19 Michigan in 1980 by examination.

20

21 **Q. Are you a member of any professional societies or organizations?**

22 A. Yes. I am a member of the American Society of Mechanical Engineers and
23 Beta Gamma Sigma, the National Scholastic Honorary Society for students
24 of Business and Management.

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1

2 **Q. Have you testified or been involved in any hearings before the MPSC**
3 **while employed with Detroit Edison?**

4 A. Yes. I have testified in the Steam Heating Fuel Cost Recovery Case No. U-
5 7906, the 1984 and 1986 Power Supply Cost Reconciliation Case Nos. U-
6 7775-R and U-8291-R, respectively, the 1987 and 1988 Power Supply Cost
7 Recovery Plan Case Nos. U-8578 and U-8880, respectively, and Main
8 Electric Rate Case Nos. U-8789, U-10102 and U-13808. Also, I presented
9 Supplemental and Rebuttal testimony in Case Nos. U-7775-R and U-8020-
10 R. In addition, I assisted in the development of testimony and/or provided
11 support for Company witnesses in other Main Electric Rate and Power
12 Supply Cost Recovery cases.

THE DETROIT EDISON COMPANY
DIRECT TESTIMONY OF GARY E. LAPPLANDER

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1 **Q. Mr. Lapplander, what is the purpose of your testimony in this case?**

2 A. The purpose of my testimony is to support the Company's 2005 – 2011
3 fossil fuel prices and expense, fossil fuel inventory, Fuel Supply and MERC
4 O&M expenses, and MERC capital expenditures.

5

6 **Q. Which exhibits are you supporting?**

7 A. I am supporting information on the following Exhibits:

8	<u>Exhibit</u>	<u>Schedule</u>	
9	DE-3	C11	MERC Operating Income – 2005
10	DE-14	B6	Fossil Fuel Inventory
11	DE-16	F3-3	MERC Capital Expenditures
12	DE-16	F5-2	Pages 4, 5 and 6 O&M
13	DE-16	F8	Electric Generation and Fuel Expense by
14			Plant and Fuel Type 2005 – 2011
15	DE-16	F10	Projected Fuel Price and Escalation Rates,
16			Years 2005 - 2011
17	DE-16	F11	Projected Fuel, and Net Purchased Power,
18			2005 – 2011

19

20 **Q. Were these exhibits prepared by you or under your direction?**

21 A. Yes, they were.

22

23 **Q. What was the method used to develop the fuel forecast for 2007?**

24 A. The 2 month actual, 10 month forecast "2&10 Outlook" for 2006 is the basis

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1 for the 2007 forecast. The 2&10 Outlook uses actual March 1, 2006
2 inventory quantities and costs and forecasts the remaining ten months of
3 2006. The forecasted December 31, 2006 inventory quantities and costs
4 are inputs to the 2007 forecast.

5

6 The forecasted delivered coal costs for the last ten months in 2006 and for
7 2007 were determined using existing contract coal prices and transportation
8 rates, forecasted spot market coal prices, and forecasted transportation
9 rates. The forecasted spot market coal prices were based upon information
10 obtained from market sources such as forward prices obtained from an
11 over-the-counter (OTC) coal broker. The forecasted transportation rates
12 were calculated by applying forecasted rail cost adjustment factors (RCAF)
13 obtained from Global Insights to existing and forecasted transportation
14 rates.

15

16 The forecasted delivered No. 2 and No. 6 oil and natural gas costs were
17 determined by using the New York Mercantile Exchange (NYMEX) futures
18 prices adjusted for basis and local distribution company (LDC) charges.

19

20 The composite monthly delivered coal cost for each plant was determined
21 by using Fuel Supply's Fuel Price Estimating (FPE) model for the balance of
22 2006 and 2007. The FPE applies existing and forecasted coal prices and
23 transportation rates to the monthly delivery requirements. The coal delivery
24 requirements are determined by subtracting actual coal pile inventory levels

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1 from the coal pile inventory level targets and adding the coal consumption
2 requirements calculated by utilizing the PROMOD IV System computer
3 software (coal consumption requirements are provided by Mr. Byron).
4 Delivery requirements for oil and gas are determined in a similar manner.
5 The FPE output and delivered oil and gas delivery requirements and costs
6 are used as inputs to Corporate Accounting's Forecasting Information and
7 Budgeting System (FIBS) model. Fossil fuel expense was calculated in
8 FIBS by multiplying the average cost of inventory by fuel consumed.

9

10 **Q. What was the method used to develop the forecast for years 2008 and**
11 **beyond?**

12 A. Existing and forecasted coal prices and transportation rates were applied to
13 the monthly delivery requirements in individual FPEs for 2008-2011, similar
14 to the methodology used for 2007. The average annual unit cost of coal
15 delivered to each plant was calculated in each year's FPE. The percentage
16 change from the 2007 to the 2008 plant unit cost of coal delivered was
17 applied to the 2007 plant unit cost of coal expense determined in FIBS to
18 forecast the 2008 plant unit cost of coal expense. Similarly, the percentage
19 change from the 2007 to the 2009 plant unit cost of coal delivered was
20 applied to the 2007 plant unit cost of coal expense to forecast the 2009
21 plant unit cost of coal expense. The same methodology was used to
22 forecast the 2010-2011 plant unit cost of coal expense. Each year's unit
23 cost of coal expense so determined was applied to the coal consumption
24 requirements calculated in PROMOD to develop the coal expense forecast.

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2 The forecasted spot market coal prices for 2008 and 2009 were determined
3 in the same manner as the 2007 forecast. In 2010 and 2011, western and
4 eastern coal prices were deescalated annually by 2%.

5

6 The forecasted delivered gas and oil costs for 2008-2011 were determined
7 in the same manner as the 2007 forecast. The delivered oil and gas costs
8 were applied to the oil and gas consumption requirements calculated in
9 PROMOD to develop the oil and gas expense forecast.

10

11 **Q. What are your thoughts regarding this method of forecasting?**

12 A. When preparing long-term fuel forecasts, it is reasonable to assume delivery
13 requirements equal consumption. Only minor differences in total annual fuel
14 expense would be expected if monthly inventory changes were considered.
15 This method of forecasting is reasonable, prudent and consistent with the
16 methodology used in previous general rate and PCSR plan cases.

17

18 **Q. Can you explain Exhibit DE-16, Schedule F8?**

19 A. Exhibit DE-16, Schedule F8 is composed of ten separate schedules
20 identified as Schedule F8-1 through F8-10 inclusive. First, I will discuss
21 Schedules F8-1 through F8-7. Schedule F8-1 shows actual data for the
22 year 2005. The other six schedules, ending with Schedule F8-7, show data
23 for the following years through 2011 inclusive. Each schedule shows plant
24 name, primary fuel type, annual electric energy generation, total unit fuel

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1 price, total unit generation cost and fuel expense. Schedule F8-3 shows
2 data for the 2007 test year.

3

4 **Q. Mr. Lapplander, are you supporting all of the information present on**
5 **Schedule F8?**

6 A. No. I am supporting total unit fuel cost and fuel expense for fossil fuel
7 plants as set forth in columns (d) and (f), Lines 1-4, 8-22, 28, 32 and 34-35.
8 Mr. Colonnello is supporting the nuclear fuel expense and generation and
9 Mr. Byron is supporting the balance of Schedule F8.

10

11 **Q. Can you explain Exhibit DE-16, Schedule F10?**

12 A. Exhibit DE-16, Schedule F10, presents the forecast of unit fuel expense by
13 fuel type, and the annual escalation rate for the period 2005 through 2011.

14

15 **Q. Who is supporting the nuclear fuel expense and its percent change**
16 **over the forecast period as shown on Schedule F10?**

17 A. Mr. Colonnello.

18

19 **Q. What are the Company's expectations for fossil fuel escalation rates?**

20 A. As shown on Exhibit DE-16, Schedule F10, the Company expects coal
21 expense to increase on average 4.3% per year during the forecast period.
22 Oil expense is expected to increase in the near term but then decline in the
23 latter years of the forecast and finally natural gas expense is expected to
24 remain volatile but generally decline during the forecast period except for an

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1 increase in 2007.

2

3 **Q. Can you explain Exhibit DE-16, Schedule F11?**

4 A. Exhibit DE-16, Schedule F11 is a summary of total actual and projected fuel
5 and purchased power GWH and costs for the years 2005-2011. I am
6 supporting the fossil fuel expense for electric generation and Industrial
7 Steam expense as set forth on Lines 4 and 27. Mr. Colonnello will be
8 supporting the nuclear fuel expense included in the total electric fuel
9 expense and Mr. Byron will support the balance of Schedule F11.

10

11 **Q. Would you please explain Exhibit DE-3, Schedule C11?**

12 A. Yes. Exhibit DE-3, Schedule C11 is the MERC Operating Income for the
13 year 2005. I'm sponsoring column (b) of this exhibit. Mr. VanHaerents is
14 sponsoring columns (c) and (d).

15

16 **Q. Can you explain Exhibit DE-14, Schedule B6?**

17 A. Exhibit DE-14, Schedule B6 presents the year end Fossil Fuel Inventory in
18 dollars and quantity for the years 2005 through 2011. The 2005 figures are
19 actual and the 2006-2011 figures are forecasts. The year end 2007 fuel
20 inventory of \$140.7 million is some \$18 million higher than actual 2005 fuel
21 inventory. The drivers for this change are increased coal inventory quantity
22 and higher unit cost (see Exhibit DE-16 Schedule F10) resulting in a coal
23 inventory cost increase of \$24.5 million. This coal inventory increase is in
24 part offset by a reduction in inventory cost for both oil and gas for a net

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1 increase in fuel inventory of \$18 million.

2

3 The actual coal inventory quantity for 2005 was lower than reasonably
4 required for reliable operations at our plant due to the transportation
5 problems experienced in the Powder River Basin during 2005. The 2007
6 coal inventory quantity shown on Line No. 5 column (e) is a reasonable and
7 prudent quantity to maintain reliable operations at our plants.

8

9 **Q. Can you explain Exhibit DE-16, Schedule F5-2, page 4 of 6?**

10 A. This Schedule shows the expenses associated with corporate Fuel Supply
11 including Unit Train expenses but excluding railcar lease expense, MERC
12 Administrative and General expenses and MERC third party revenues that
13 are booked as fossil fuel handling expenses on the consolidated books of
14 Detroit Edison.

15

16 The 2005 figures are actual and the 2006-2011 figures are forecasts. The
17 Fuel Supply expenses for 2006-2011 have been adjusted for inflation and
18 Performance Excellence Plan (PEP) savings. The 2005 level of
19 expenditures for Fuel Supply and the forecasted 2006-2011 amounts are
20 reasonable to support the maintenance of the Detroit Edison railcar fleet
21 and to support the many functions performed by Fuel Supply to provide an
22 economic and reliable supply of fuel for Detroit Edison's plants.

23

24 Line No. 28, MERC shows a forecasted increase in third party revenues

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1 from 2005 to 2007 of \$6.4 million and represents a majority of the Known
2 and Measurable increase shown on line No. 32 column (d).

3

4 **Q. Can you explain Exhibit DE-16, Schedule F5-2, Page 5 of 6?**

5 A. The Schedule shows that portion of corporate Fuel Supply and MERC
6 expenses booked to account 501, fossil fuel handling. Line No.1 breaks out
7 that portion of corporate Fuel Supply expense booked to account 501 and
8 Line No. 3 is the balance of Fuel Supply expense booked to various other
9 accounts. Line No. 7 is that portion of MERC expenses recorded in account
10 501 and Line No. 9 is an accounting adjustment to set fuel handling
11 expenses on the consolidated Detroit Edison books equal to MERC third
12 party revenue. Line No. 11 represents MERC's third party revenue booked
13 as a fuel handling expense on the consolidated Detroit Edison books.

14

15 **Q. Can you explain Exhibit DE-16, Schedule F5-2, Page 6 of 6?**

16 A. This schedule summarizes the fossil fuel handling expenses. Line No. 11 is
17 that portion of fuel handling expenses booked to account 501 and Line No.
18 15 is total fuel handling expenses including MERC. I support Line No. 7,
19 Fuel Supply, Line No. 9, MERC and Line No. 13 MERC Fuel Handling
20 Adjustment. These values are the same as Line No. 1, 7 and 9 respectively
21 from Schedule F5-2 Page 5 of 6.

22

23 **Q. Mr. Lapplander, can you explain the MERC Capital Expenditure**
24 **Forecast as presented in Schedule F3-3?**

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1 A. The actual 2005 expenditures of \$2.136 million includes \$1.4 million for the
2 final phase of the Coal Unloading System Upgrade Project. This project
3 was required to support the continued large volumes of third party business
4 at the facility. By way of example, the MERC facility has increased third
5 party business from 3.8 million tons in 1996 to 11.7 million tons in 2005.
6 Third party revenues more than tripled from \$10.9 million to \$36.6 million
7 during the same timeframe. It is expected that the third party revenues will
8 increase to over \$42 million in 2007. The entire amount of third party
9 revenues is booked as a credit to inventory, reducing the fuel expense for
10 the Company and its retail electric customers. Clearly, expenditures
11 facilitating increased and increasing credits to retail electric customers fuel
12 costs are reasonable and prudent.

13

14 **Q. What other capital projects were completed in 2005 and included in the**
15 **actual expenditures of \$2.136 million?**

16 A. MERC exercised a fair market buyout option for a dozer under lease for
17 \$215,000, completed a dock vacuum line installation for \$115,000,
18 completed engineering for their office/shop expansion scheduled for 2006
19 for \$103,000 and completed numerous other projects for less than
20 \$100,000. All of these expenditures are due to either increasing MERC
21 business, safety, environmental requirements and/or aging
22 equipment/reliability issues. These expenditures were reasonable and
23 prudent and necessary to maintain and/or improve MERC's coal
24 transshipment capabilities.

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1

2 **Q. Why is there an increase in capital expenditures for MERC in 2006**
3 **compared to 2005?**

4 A. The primary reason for an increase in capital expenditures in 2006
5 compared to 2005 and the largest project for 2006 is the mobile equipment
6 shop/office expansion at \$1.69 million. This project is required to support
7 the safe and efficient servicing and maintenance of the current fleet of
8 equipment. For example, MERC currently uses 7 D-11 dozers to handle
9 over 22 million tons of coal compared to the original maintenance shop
10 design for 3 of the smaller D-9 dozers. MERC's present office space was
11 designed for 18 administrative, supervisory and staff employees. The
12 current complement has increased to 27 necessitated by its business
13 growth and activities over the last 15 years, requiring increased office
14 space.

15

16 MERC also plans to spend \$400,000 on dock piling repairs to restore the
17 integrity of 40-50 of the steel pilings supporting the 1200 foot dock. This is a
18 continuation of a project where MERC repaired 30 pilings in 2000 and 96
19 pilings in 2001. MERC did not spend any capital to repair dock pilings in
20 2005.

21

22 The cost of the shop/office expansion and the dock piling repairs are in part
23 offset by a reduction in expenses for the Coal Unloading System Upgrade
24 Project and generally explain the increased capital expenditures for 2006.

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1

2 **Q. Why are the 2007 capital expenditures for MERC higher than the**
3 **inflation adjusted amount for 2005?**

4 A. The reason for the higher 2007 expenditures is related to the purchase of a
5 replacement railcar dumper barrel for \$1.8 million. A catastrophic failure of
6 the dumper barrel would result in a shut down of approximately 11 months
7 (10 months for the production and delivery of a new barrel and 3 weeks to
8 change out the barrel). Use of alternate terminal facilities or alternative
9 delivery modes in the event of a catastrophic failure is not economical or
10 operationally feasible for the entire 11 month period. The current dumper
11 barrel was replaced in 1995 and is projected to have 35% of its life
12 remaining when we replace it in 2008. The remaining life of the current
13 dumper barrel will allow for it to be stored on site as a spare unit in the event
14 of a catastrophic failure of the operating dumper barrel. The resultant 3
15 week shut down could be managed by alternatives that are economic and
16 operationally feasible.

17
18 If the 2007 projected capital expenditures for MERC are adjusted for the
19 \$1.8 million dumper barrel project then the amount shown on Schedule 3-3,
20 Line No. 8 for 2007 would be within \$125,000 of the 2005 inflation adjusted
21 value.

22
23 **Q. What are the 2008 through 2011 capital expenditures for MERC?**

24 A. The longer term capital forecast includes a dozer in 2008, 2010 and 2011, a

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1 scraper in 2009 and a front end loader in 2009 and 2011. Also included is
2 the installation of the replacement dumper barrel in 2008 and the
3 replacement of the indexer in 2010. All of these expenditures are due to
4 either increasing MERC business, safety, environmental requirements
5 and/or aging equipment/reliability issues. These expenditures are
6 reasonable and prudent.

7

8 **Q. How does the Company intend to supply the coal that will be**
9 **consumed during the forecast period?**

10 A. The Company expects to supply its projected coal requirements for the
11 forecast period through a combination of long-term and spot market
12 purchases. This mix of purchases provides reliability of supply with
13 sufficient flexibility to meet the needs of the electric generating plants.

14

15 **Q. How does the Company intend to supply the No. 2 oil that will be**
16 **consumed during the forecast period?**

17 A. The estimated requirements for No. 2 oil are expected to be supplied under
18 agreements that are one year in duration.

19

20 **Q. How does the Company intend to supply the No. 6 oil that will be**
21 **consumed during the forecast period?**

22 A. The No. 6 oil requirements are expected to be supplied under agreements
23 that are one year or less in duration and through monthly spot market
24 purchases. This would also include the purchase of used oil, which is

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1 generally less expensive, when available. In addition, the Company expects
2 to consume its internally generated waste oil.

3

4 **Q. How does the Company intend to supply the natural gas that will be**
5 **consumed during the forecast period?**

6 A. The Company's natural gas supply requirements are expected to be
7 supplied through both MPSC approved tariffs with the local distribution
8 companies (LDC) and spot market purchases.

9

10 **Q. What are some of the major assumptions supporting the coal forecast**
11 **presented on Exhibit DE-16, Schedule F10?**

12 A. The long-term forecast of coal prices assumes the Company's continued
13 reliance on low sulfur western (LSW) coal. For 2007, over 70% of all coal
14 consumed is projected to be LSW coal. The LSW coal is procured from the
15 Powder River Basin, which is located in southern Montana and northeastern
16 Wyoming. The balance of the Company's coal is purchased from Central
17 and Northern Appalachia. Coals from this region include low sulfur southern
18 (LSS), mid sulfur eastern (MSE) and high sulfur eastern (HSE).

19

20 **Q. What are your thoughts regarding the fuel supply plan that you are**
21 **presenting?**

22 A. I believe that we have developed a fuel supply plan that meets Edison's
23 requirements, is consistent with both the Company's policy and objectives,
24 delivers electric generation to customers at a reasonable price consistent

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1 with reliable supply and is both reasonable and prudent.

2

3 The Company has aggressively tested and burned LSW coal at various
4 Company electric power plants. This supply option is not only economic but
5 also among the cleanest coals available and reduces the number of SO₂
6 emission allowances that will be needed.

7

8 The Company has also continued to expand the “arena of competition” for
9 both eastern and western coals. The ability to blend and burn coals from
10 several coal supply regions along with utilizing multiple transportation
11 options has provided the Company with the leverage to negotiate some of
12 the most competitive delivered fuel prices available.

13

14 The Company maintains one of the largest utility railcar fleets, not only to
15 facilitate control over delivery of coal but also to optimize the cost savings
16 associated with rail moves in private equipment.

17

18 The Company continues to aggressively market coal and transshipment
19 services to third parties through its subsidiary, MERC. Third party revenues
20 and the equity received from MERC’s joint venture contribute to a significant
21 reduction in Detroit Edison fuel expense and thus, ultimately, the electric
22 rates for Detroit Edison electric customers.

23

24 The Company is also determined to pursue all reasonable avenues to

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1 resolve disputes with its suppliers, including negotiation, arbitration and
2 litigation, if necessary and prudent.

3

4 Considering the above as well as the actions the Company has taken to
5 minimize fuel costs, and given that the Company expects to cover a majority
6 of its fossil fuel requirements with coal, I believe that Detroit Edison's
7 present fuel supply policy, objectives, and strategies (as set forth in my
8 testimony and exhibits) are reasonable and prudent and I recommend that
9 the Commission so find.

10

11 **Q. Does this conclude your testimony?**

12 A. Yes, it does.