

DIRECT TESTIMONY  
OF  
DONALD L. DUBOIS

1 Q. Please state your name and business address.

2 A. My name is Donald L. DuBois, Jr. and my business address is 284 South  
3 Avenue, Poughkeepsie, NY 12601.

4

5 Q. By whom are you employed and in what capacity?

6 A. I am employed by Central Hudson Gas & Electric Corporation, as the  
7 Manager of Electric T & D and Quality/Productivity Initiatives.

8

9 Q. What are your responsibilities in your current position?

10 A. I have several responsibilities related to the electric transmission and  
11 distribution system. I have responsibility for Electric Transmission &  
12 Distribution Maintenance, Construction and Operations. I have overall  
13 responsibility for matters pertaining to stray voltage testing, standby, and  
14 mitigation activities at Central Hudson as well as responsibility for  
15 vegetation management activities at Central Hudson including electric  
16 transmission and distribution, and gas transmission. I am also responsible  
17 for implementing the corporate Quality and Productivity Initiative.

18

19 Q. Please summarize your educational background and professional  
20 experience.

21 A. I received a Bachelor of Science Degree in Mechanical Engineering from  
22 Union College in 1986. Since 1986, I have been continuously employed

DONALD L. DUBOIS

1 by Central Hudson, with assignments in its Production, Mechanical  
2 Engineering, Gas & Mechanical Engineering, Fuels Resources, Operation  
3 Services, and Customer Services Groups. Prior to my current assignment  
4 I served as the Manager of System Construction.

5

6 Q. Have you previously testified before this Commission?

7 A. Yes, I testified in Central Hudson Cases 00-E-1273 and 00-G-1274, as the  
8 Director of Fuels Resources and in Central Hudson Cases 05-E-0934 and  
9 05-G-0935, as the Manager of System Construction. Most recently I  
10 testified in Central Hudson Cases 08-E-0887 and 08-G-0888, as the  
11 Manager of Electric T & D and Quality/Productivity Initiatives.

12

13 Q. What is the purpose of your testimony in this proceeding?

14 A. My testimony will address the actual expenditures for the twelve months  
15 ended March 31, 2008, and the projected expenditures for the rate year  
16 for Central Hudson's 1) Stray Voltage Program, 2) Electric Transmission  
17 Right of Way ("ROW") Management Program, 3) Electric Distribution Line  
18 Clearance Program, and 4) Transmission Enhanced Infrastructure  
19 Maintenance.

20 Stray Voltage Testing Program

21 Q. Please describe generally what you will address concerning stray  
22 voltage?

23 A. I will discuss Central Hudson's implementation of the annual stray voltage

DONALD L. DUBOIS

1 testing program which was required by the Commission in its Order  
2 Instituting Safety Standards (issued and effective January 5, 2005) and  
3 the Order Adopting Changes to Electric Safety Standards (issued and  
4 effective December 15, 2008). I will describe the magnitude of Central  
5 Hudson's stray voltage program, what facilities have been tested, and the  
6 results of those tests. Additionally, and I will address the actual  
7 expenditures for the twelve months ended March 31, 2009, and the  
8 projected expenditures for the rate year.

9 Q. Please describe the magnitude of the stray voltage testing program at  
10 Central Hudson.

11 A. The Commission's Order issued January 5, 2005, requires that stray  
12 voltage testing be performed on all electric facilities that are capable of  
13 conducting electricity and are publicly accessible. The testing is required  
14 on distribution and transmission poles that have a down ground, guy wire  
15 or metal riser pipe, pad-mounted transformers and switchgear,  
16 underground equipment including manhole and pull-box covers,  
17 substation fences, metal streetlight poles, whether they are Company-  
18 owned or not, and metal traffic signal poles and devices.

19 The Commission's Order issued December 15, 2008, changed the  
20 definition of "finding" and "mitigation" and instituted requirements to  
21 perform additional testing to determine the extent of stray voltage and  
22 these changes in scope have increased the costs of the stray voltage  
23 program.

DONALD L. DUBOIS

1 With regard to the number of facilities that require testing in the Central  
2 Hudson service territory, the approximate numbers of pieces of equipment  
3 that are part of the annual testing program are summarized in Table 1  
4 below:

5 **Table 1**

6	Distribution Poles	209,148
7	Transmission Structures	8,663
8	Padmounted Transformers/Switchgear	13,133
9	Manholes/ Pullboxes	1,236
10	Substation Fences	104
11	Company Owned Metal Streetlight Poles	185
12	Municipal Owned Metal Streetlight Poles	5,306
13	Traffic Signal Poles/ Devices	827

14 Q. How is the Company executing this annual testing program?

15 A. Central Hudson manages a group of contractors to meet the annual  
16 testing requirements. Since 2007, the stray voltage testing program had  
17 operated on a designated twelve-month term, beginning on December 1,  
18 and ending November 30. The 2008 program began December 2, 2007  
19 and was completed on November 11, 2008. The Order Adopting Changes  
20 to the Electric Safety Standards established the twelve-month term  
21 coincident with the calendar year beginning with the 2009 program.

22 Contractors are currently performing all phases of testing which include  
23 distribution poles, transmission poles, and pad-mounted equipment,  
streetlights and traffic signal poles, manhole/pullboxes, and substation

DONALD L. DUBOIS

1 fences. In 2007, Central Hudson transitioned the Stray Voltage Testing  
2 Program from the previous circuit-based data collection methodology to a  
3 geographical “grid” based method. This decreased the amount of  
4 overlapping with multiple field testers, since now each field tester became  
5 responsible for a specific geographical area. Field testers utilize a PDA  
6 (hand held data collection unit) that has a built in GPS based interactive  
7 map showing the individual field tester’s real time location as well as each  
8 facility to be tested within their geographic “grid.”

9 Although the 2005 Order only required mitigation of stray voltage findings  
10 greater than or equal to 8 volts, Central Hudson has mitigated any stray  
11 voltage finding of 4.5 volts or greater during the 2005, 2006, 2007, and  
12 2008 testing cycles. The stray voltage testing contractor has been  
13 required to standby or guard any finding of 4.5 volts or greater until a crew  
14 arrives to eliminate the stray voltage or make the area safe. It is not  
15 uncommon to have the testing contractor on standby for a period of two  
16 hours. The cases that have required mitigation on average have taken  
17 approximately four hours to remedy.

18 Central Hudson is utilizing a separate contractor to perform the data  
19 management function, which includes the uploading and downloading of  
20 test records from the field data collection devices, addressing issues  
21 related to the field data collection hardware and software and reporting on  
22 test results and progress.

DONALD L. DUBOIS

1 An independent contractor is responsible for implementing the Quality  
2 Assurance program that is required by the Order.

3 Q. How has the Order Adopting Changes to Electric Safety Standards  
4 affected the annual testing program?

5 A. The December 15, 2008 Order changed the definition of “finding” to be  
6 any confirmed voltage reading on an electric facility greater than or equal  
7 to 1 volt measured using a volt meter and a 500 ohm shunt resistor. The  
8 change in threshold voltage from 8 Volts to 1 Volt has increased  
9 contractor standby costs.

10 The Order Adopting Changes has also changed the testing protocols by  
11 requiring the additional testing for stray voltage on all metallic structures  
12 within 30 feet of an electric facility where stray voltage was measured.  
13 This subtle change has the potential to significantly increase the cost of  
14 performing the stray voltage testing depending on the number of locations  
15 where stray voltage is identified.

16 An additional change, to the definition of “mitigation”, now requires Central  
17 Hudson to take the necessary actions to effectively eliminate the stray  
18 voltage findings (repair and test until less than 1 volt is observed). This  
19 change has increased the number of locations that require mitigation as  
20 well as the extent of the mitigation.

21 Q. Could you provide a summary of the results and actual expenditures by  
22 category for the stray voltage testing program since 2005?

23 A. The results are summarized in Table 2 below:

DONALD L. DUBOIS

**Table 2**

	2005/2006			2007			2008		
	Visits	Between 1V and 8V	8V and Over	Visits	Between 1V and 8V	8V and Over	Visits	Between 1V and 8V	8V and Over
Distribution Poles	214,319	324	0	205,870	627	2	209,148	507	1
Transmission Structures	8,566	179	0	8,594	343	2	8,663	6	0
Padmounted Transformers/Switchgear	12,669	0	0	12,508	8	0	13,133	11	0
Manholes/ Pullboxes	2,483	0	0	1,220	0	0	1,236	0	0
Substation Fences	219	4	0	107	0	0	104	0	0
Company Owned Metal Streetlight Poles	370	1	0	185	0	0	185	0	0
Municipal Owned Metal Streetlight Poles	10,705	14	7	5,278	1	4	5,306	6	2
Traffic Signal Poles	1,582	0	0	811	0	0	827	0	0
Totals	250,913	522	7	234,573	979	8	238,602	530	3

DONALD L. DUBOIS

- 1 The actual expenditures for each category by calendar year are summarized in
- 2 Table 3 below:

3 **Table 3**

Category	2005/2006 Cycle 2005 Actual Expenditures	2005/2006 Cycle 2006 Actual Expenditures	2007 Cycle Actual Expenditures	2008 Cycle Actual Expenditures
Distribution Overhead & Underground Testing	\$915,831	\$449,720	\$1,772,866	\$1,247,811
Street Lights/Traffic Signals Testing	\$51,985	\$41,365	\$22,608	\$30,561
Transmission Testing	\$51,528	\$116,778	\$87,903	\$100,518
QA/QC	\$21,723	\$25,855	\$37,619	\$43,113
Stand-By			\$11,362	\$1,257
Mitigation				
Total	\$1,041,067	\$633,718	\$1,932,358	\$1,423,260

DONALD L. DUBOIS

1 Q. What were the actual costs for the stray voltage program during the  
2 twelve-month period ending March 31, 2009?

3 A. Actual costs were \$1,044,717 as shown on Exhibit DLD-1. Please note  
4 that the costs for the twelve months ending March 31, 2009 do not  
5 represent the annual costs for performing the required testing due to the  
6 changes in the designated twelve month term as described above. In  
7 addition, the standby and mitigation costs during the historical period do  
8 not reflect the increased costs associated with the compliance with the  
9 Order Adopting Changes to Electric Safety Standards that were  
10 implemented by Central Hudson following December 15, 2008.

11 Q. Please describe the activities that comprise the Stray Voltage Testing  
12 Program and how the rate year forecast was developed for each activity  
13 as reflected in Exhibit DLD-1.

14 A. There are six activities that comprise Central Hudson's stray voltage  
15 testing program as reflected in Exhibit DLD-1.  
16 Stray Voltage – Distribution Overhead and Underground includes the  
17 testing of the electric distribution system to include the manhole and pull  
18 box covers that comprise our network systems. The forecasted  
19 expenditures for this activity were developed based on the contractor bid  
20 pricing for this testing and adjusted for the anticipated testing to be  
21 completed during the period from January 1, 2010 through June 30, 2010.  
22 The cost of testing equipment and data management associated with the  
23 distribution system is also included in this forecast.

DONALD L. DUBOIS

1 Stray Voltage – Streetlights/Traffic Signals was broken out as a separate  
2 activity because in many cases the locations to be tested are either  
3 comprised of facilities not owned by Central Hudson or, as in the case of  
4 streetlights, require special testing protocols. The testing of streetlights  
5 must be performed when the fixture is energized which requires the work  
6 to be performed after normal working hours which is slightly more  
7 expensive. Since the number of locations is fairly consistent from year to  
8 year, the forecast for this activity reflects the application of the average  
9 yearly escalation factor to the forecasted expenditures for this activity from  
10 the prior rate period.

11 Stray Voltage - Transmission includes the testing of all electric  
12 transmission facilities. The forecast for this activity reflects the application  
13 of the average yearly escalation factor to the forecasted expenditures for  
14 this activity from the prior rate period.

15 Quality Assurance/Quality Control is performed by an independent  
16 contractor and covers all three activities outlined above. The same  
17 methodology utilized to forecast the cost for streetlights/ traffic signals and  
18 transmission was used to forecast the cost for this activity.

19 Stray Voltage Standby is required whenever there is a stray voltage  
20 finding. Typically the contractor performing the testing guards or  
21 barricades the location until someone can respond to evaluate and  
22 mitigate the finding. A period of two hours per standby has been used to  
23 forecast the cost for this item. The estimated number of findings utilized in

DONALD L. DUBOIS

1 the prior rate period forecast was based on the average number of  
2 findings during 2007 and 2008 above 1 volt. In recognition of the impact  
3 associated with the mitigation work that will be completed within the next  
4 year, the expected number of findings for the forecasted rate period  
5 reflects a significant reduction from the prior rate period.

6 Stray Voltage Mitigation is required whenever there is a confirmed stray  
7 voltage finding. The cases that have required mitigation on average have  
8 taken four hours to remedy. The estimated number of locations requiring  
9 mitigation utilized in the prior rate period forecast was based on the  
10 average number of findings during 2007 and 2008 above 1 volt. The  
11 estimated number of locations requiring mitigation for this rate period  
12 reflects a significant reduction from the prior rate period in recognition of  
13 the mitigation work that will be completed prior to the rate year.

14  
15 Electric Transmission ROW Management Program

16 Q. Have you developed the actual costs of Central Hudson's Electric  
17 Transmission ROW management in the twelve-month period ending  
18 March 31, 2008?

19 A. Yes. The costs of the Electric ROW Management Plan for the period  
20 ending March 31, 2009 are summarized on Exhibit DLD-2.

21 Q. Please describe the scope of Electric Transmission ROW Maintenance  
22 activity for the future rate year that is reflected in Exhibit DLD-2.

23 A. Central Hudson's Long Range Transmission ROW Management Plan as

DONALD L. DUBOIS

1 revised and filed on December 12, 2007 outlines the work to be performed  
2 and is the basis for the forecasted expenditures reflected in Exhibit DLD-2.  
3 The Staff of the Department of Public Service reviewed and approved the  
4 Plan revisions as indicated by letter dated January 7, 2008, from  
5 Secretary, Jaclyn A. Brillong. This Plan identifies a total of 587 miles and  
6 9,485 acres of electric transmission ROW to be maintained on a five-year  
7 cycle (equating to approximately 118 miles and 1,897 acres per year).

8 Q. Please describe the activities that comprise the Company's Electric  
9 Transmission ROW Maintenance and how the rate year forecast was  
10 developed for each activity as reflected in Exhibit DLD-2.

11 A. There are six activities that comprise Central Hudson's Electric  
12 Transmission ROW Maintenance as reflected in Exhibit DLD-2.  
13 Routine ROW Maintenance – Electric Transmission includes a number of  
14 cost components that need to be discussed independently to understand  
15 the proposed rate year expenditures. Most of these cost components are  
16 being dictated and impacted by the PSC Order Requiring Enhanced  
17 Transmission Right – of- Way Management Practices by Electric Utilities  
18 in Case 04-E-0822 (Transmission ROW Order). The side trimming  
19 operations which are required to maintain the edge of the electric  
20 transmission ROW were suspended for the last maintenance cycle and  
21 replaced by the ROW Edge Reclamation initiative which was just recently  
22 completed in June of 2009. Reinstating the side trimming operations  
23 significantly increases the Routine ROW Maintenance cost forecast

DONALD L. DUBOIS

1 compared to the period when ROW Edge Reclamation was taking place.  
2 To develop the forecast for side trimming, it is estimated that 10% of the  
3 ROW on an annual basis can be considered clear and that the remainder  
4 will require side trimming.

5 Although mowing and access roads was a separate activity for the last  
6 rate filing, this work is actually performed in conjunction with the routine  
7 ROW floor work and as such should be included as a component of  
8 Routine ROW Maintenance.

9 The projected cost to complete the Routine Electric Transmission ROW  
10 Maintenance, which includes maintaining the ROW floor, performing  
11 limited mowing and access road work, completing the required side  
12 trimming, and applying the appropriate herbicide to 20% of the total ROW  
13 miles and acres each year (5 year cycle) will require annual expenditures  
14 of \$1,355,867 for rate year ending June 30, 2011 based on recent bids to  
15 complete this work.

16 The Electric Transmission ROW Edge Encroachment Reclamation work  
17 was completed in June 2009 and I have assumed that further edge  
18 reclamation work will not be required in the rate year (ending June 2011).  
19 Since the danger trees are by definition located outside of the ROW,  
20 removal from private property requires Central Hudson in most cases to  
21 negotiate permission to remove the identified trees. Although this could  
22 result in higher costs for the Danger Tree Removal activity, the number of  
23 danger trees identified for removal has been decreasing resulting in a

DONALD L. DUBOIS

1 slightly lower forecast than the historical period expenditures.  
2 Work to be performed as part of the Hot Spot Trimming activity is  
3 identified through routine inspection as well as during the stray voltage  
4 testing program. The comprehensive ground inspections and quarterly  
5 aerial patrols are utilized to identify maintenance items associated with the  
6 infrastructure and to identify mid-cycle vegetation clearance issues that  
7 are addressed as part of the Hot Spot Trimming Program. To take  
8 advantage of the synergies associated with performing the required stray  
9 voltage testing of the transmission structures not scheduled for  
10 comprehensive inspection in a given year, hot spot trimming crews are  
11 trained to perform the required stray voltage testing as part of their  
12 substation – to - substation vegetation patrols. The costs associated with  
13 this patrol are allocated to either the stray voltage testing program or the  
14 hot spot trimming program based on the extent of the mid – cycle hot spot  
15 trimming required. The forecasted expenditures for the Hot Spot  
16 Trimming activity reflect the application of the average yearly escalation  
17 factor to the forecasted expenditures for this activity from the prior rate  
18 period.

19 As indicated above, the Mowing and Access Road activity has been  
20 incorporated into the Routine ROW Maintenance activity.

21 Q. How did you determine the costs for the Legal and Environmental  
22 category?

23 A. Based on my experience with our current clearing programs the

DONALD L. DUBOIS

1 acquisition of additional ROW width and danger tree removals as  
2 mandated by the Commission involve the potential for impacts to  
3 residential properties along our ROWs, and resolving homeowner  
4 concerns is generally time consuming and expensive. The number of  
5 areas that have been identified on the 115 kV lines where there are ROW  
6 easement restrictions will necessitate the use of contractors to assist in  
7 the survey and property assessments. The areas where additional ROW  
8 width is successfully acquired can be capitalized but the areas where  
9 easements cannot be obtained will be charged to this activity. The work  
10 plan for completing the survey and property assessment work associated  
11 with the 115 kV line ROW easement restrictions will extend through 2013.  
12 Based on this work plan it has been forecasted that expenditures will be  
13 \$16,000 per quarter beginning January 1, 2010.

14  
15 Distribution Line Clearance Program

16 Q. Please describe the scope of Electric Distribution Line Clearance Program  
17 for the future rate year that is reflected in Exhibit DLD-3.

18 A. Central Hudson retained an independent consulting firm to analyze  
19 distribution line clearance practices from an electric reliability perspective.

20 Based on a review of Central Hudson's tree related outage data it was  
21 determined that most of the outages were being caused by tree or limb  
22 failure not growth contact and the consultant recommended that Central  
23 Hudson establish greater clearances by reducing the overhang and

DONALD L. DUBOIS

1 removal of tall growing species from within the ROW (Modified Enhanced  
2 Trimming). This methodology was implemented in March of 2007 and has  
3 become the standard for our routine line clearance program on single-  
4 phase as well as three-phase lines. It was also confirmed that  
5 continuation of the Enhanced Line Clearance Program on the worst  
6 performing (prioritized by tree-caused customer interruptions) three-phase  
7 lines to include expanding the hazard/danger tree removal initiative on a  
8 system basis would improve reliability.

9 The time required to provide increased side clearances, reduce the  
10 overhang, and remove the tall growing species from within the ROW was  
11 initially estimated to take twenty-five percent longer to complete than  
12 standard box trimming. Based on the consultant's conclusions that only a  
13 small percentage of Central Hudson's tree related outages are caused by  
14 growth contacts, the decision was made to extend the trimming cycle from  
15 3 years to 4 years in order to offset the increased costs associated with  
16 performing this additional work. The increase in tree density associated  
17 with transitioning to a four - year cycle is beginning to impact the cost per  
18 mile for both on-road and off-road line clearance.

19 The consultant also concluded that performing Enhanced Line Clearance  
20 on three-phase lines would reduce tree-related interruptions compared to  
21 standard three-phase box trimming. It was recommended that Enhanced  
22 Trimming be conducted on an additional 760 miles of three-phase lines.

23 Through June 30, 2009, Central Hudson has completed 339 miles of

DONALD L. DUBOIS

1 enhanced line clearance and is required to complete an additional 150  
2 miles by June 30, 2010. Exhibit DLD-3 includes the forecasted funding to  
3 complete an additional 100 miles of enhanced line clearance during the  
4 rate period. The reason for this reduction from 150 miles to 100 miles will  
5 be discussed later in this testimony but will result in completing the  
6 remaining 300 enhanced line clearance miles over three years instead of  
7 two.

8 Q. Please describe the activities that comprise the Company's Electric  
9 Distribution Line Clearance Program as reflected in Exhibit DLD-3.

10 A. As shown on Exhibit DLD-3, I have broken the Distribution Line Clearance  
11 Program costs down into six activities: Trimming – Scheduled On-Road,  
12 Trimming - Scheduled Off-Road, Trimming – Danger Trees, Flagging Line  
13 Clearance, Trimming – Trouble Orders, and Enhanced Line Clearance.

14 Q. Please describe those activities.

15 A. The On - Road and Off - Road trimming is sometimes referred to as the  
16 “routine” portions of the program, and the Trouble Orders and Danger  
17 Tree elements as “off-cycle” portions of the program. The routine portions  
18 are conducted on a four - year cycle basis, which equates to 1,363  
19 (5,452/4) miles of on-road and 426 (1,703/4) miles of off-road clearing per  
20 year.

21 The off-cycle portions depend on the actual number of Trouble Orders  
22 created, and Danger Trees identified during the year. Trouble Orders  
23 identify tree related conditions requiring off-cycle attention and typically

DONALD L. DUBOIS

1 follow a storm event. Localized wind events or lightning strikes can  
2 damage tree limbs that are or will make contact with our electrical  
3 facilities. These would be examples of trouble order conditions.

4 The Enhanced Line Clearance program targets completing a more  
5 aggressive ground to sky line clearance (including tree removals and  
6 complete over-hang removal) on both the on-road and off-road three-  
7 phase mainline sections of the worst performing circuits from a tree-  
8 related outage perspective. Continued funding of the enhanced line  
9 clearance program is desirable from a tree-related outage perspective.

10 Line Clearance Flagging costs are accounted for independently of the on-  
11 road line clearance, enhanced line clearance, danger tree removal, and  
12 trouble order costs, but are directly related to performing these work  
13 functions. Appropriate signage and flagging continue to be required to  
14 meet local town, county, state and federal guidelines for work zone safety  
15 when performing work to include trimming operations along or across any  
16 roadway. Work zone safety continues to be a paramount concern and  
17 providing trained and qualified flagging personnel is an integral part of  
18 performing distribution line clearance activities along state, county, and  
19 town roads. The rate year cost levels for these activities are based on  
20 current market conditions, based on the assumption that the work would  
21 be performed, and staffed as needed, through temporary employment with  
22 compensation paid on an hourly basis.

23

DONALD L. DUBOIS

1 Q. What were the actual costs for the Distribution Line Clearance Program  
2 during the twelve-month period ending March 31, 2009?

3 A. As shown on Exhibit DLD-3 expenditures for the historical period were  
4 \$9,185,910. Please note that the costs for the twelve months ending  
5 March 31, 2009 include the costs of completing 105 miles of Enhanced  
6 Line Clearance during this period.

7 Q. Please describe how the rate year forecast for the Distribution Line  
8 Clearance Program was developed for each activity as reflected in Exhibit  
9 DLD-3.

10 A. The two factors that determined the forecasted cost for the on-road, off-  
11 road, and enhanced line clearance activities were cost per mile and miles  
12 to be completed during the forecasted period.  
13 There are approximately 5,452 total on-road system miles and 2,753.6  
14 miles have been completed since we transitioned to modified enhanced  
15 trimming in March of 2007. Based on the expenditures allocated to the  
16 on-road activity for the rate period ending June 30, 2010, it is projected  
17 that there will be 1,831.8 miles remaining to be completed during the  
18 forecasted rate period. Utilizing the 2009 average cost per mile of \$4,445  
19 and adjusting the cost based on the escalation factors indicated on Exhibit  
20 DLD-3 resulted in the rate year forecasted expenditures of \$8,707,462 for  
21 on-road line clearance.  
22 Using the same methodology for off-road line clearance, there are  
23 approximately 1,703 total off-road system miles and 892.6 miles have

DONALD L. DUBOIS

1           been completed since we transitioned to modified enhanced trimming in  
2           March of 2007. Based on the expenditures allocated to the off-road  
3           activity for the rate period ending June 30, 2010, it is projected that there  
4           will be 501.4 miles remaining to be completed during the forecasted rate  
5           period. Utilizing the 2009 average cost per mile of \$8,307 and adjusting  
6           the cost based on the escalation factors indicated on Exhibit DLD-3  
7           resulted in the rate year forecasted expenditures of \$4,303,516 for off-  
8           road line clearance.

9           There were 33.7 miles (roughly one third of the annual rate case required  
10          miles) of enhanced line clearance completed during the first four months  
11          of 2009 at a cost of \$389,235 resulting in an average cost per mile of  
12          approximately \$11,551. The average cost per mile for 2010 is calculated  
13          by applying the escalation factor indicated on Exhibit DLD-3. Multiplying  
14          this average cost by 50 miles results in forecasted expenditures of  
15          \$580,600 for the July 1, 2010 through December 31, 2010 period.

16          Escalating this forecasted cost by the factor indicated on Exhibit DLD-3  
17          results in forecasted expenditures of \$602,650 for the January 1, 2011  
18          through June 30, 2011 period for Rate Year forecasted expenditures of  
19          \$1,183,250 to complete 100 miles as indicated on Exhibit DLD-3. The  
20          reduction from 150 miles to 100 miles for the rate period is intended to  
21          reduce the incremental line clearance expenditures associated with the  
22          additional on-road and off-road miles proposed to be completed during  
23          this period and reflects consideration relative to crew availability.

DONALD L. DUBOIS

1 Danger Tree forecasted expenditures were developed by escalating the  
2 2009 budget of \$883,410 by the escalation factor indicated on Exhibit  
3 DLD-3 resulting in anticipated expenditures of \$927,139 in 2010 and  
4 \$962,370 in 2011. Subtracting the anticipated expenditures for the period  
5 January 1, 2010 through June 30, 2010 from the total anticipated  
6 expenditures in 2010 resulted in forecasted expenditures of \$480,580 for  
7 the period July 1, 2010 through December 31, 2010. Dividing the  
8 anticipated expenditures for 2011 by 2 resulted in forecasted expenditures  
9 from January 1, 2011 to June 30, 2011 of \$481,185. Total forecasted  
10 expenditures for the rate period are \$961,765 as indicated on Exhibit DLD-  
11 3.

12 Trouble Order forecasted expenditures were developed by escalating the  
13 July 1, 2009 through December 31, 2009 budget of \$35,790 by the  
14 escalation factor indicated on Exhibit DLD-3 resulting in anticipated  
15 expenditures of \$37,562 for the period of July 1, 2010 through December  
16 31, 2010. Subtracting the July 1, 2009 through December 31, 2009  
17 budget from the current rate allowance provides the anticipated  
18 expenditures for the period January 1, 2010 through June 30, 2010 of  
19 \$58,936. Escalating these expenditures by the factor indicated on Exhibit  
20 DLD-3 results in anticipated expenditures of \$61,176 for the period  
21 January 1, 2011 through June 30, 2011 resulting in forecasted  
22 expenditures of \$98,738 for the rate period as indicated on Exhibit DLD-3.  
23 The forecasted expenditures for flagging were developed by calculating an

DONALD L. DUBOIS

1 average flagging cost per mile for the first four months of 2009 for both  
2 On-Road and Enhanced Line Clearance. These average costs per mile  
3 were then escalated by the factors indicated on Exhibit DLD-3 to  
4 determine the average cost per mile for 2010 and 2011 for both Enhanced  
5 and On-Road. Multiplying the average cost by the planned miles resulted  
6 in forecasted expenditures of \$710,483 for the July 1, 2010 through  
7 December 31, 2010 period and \$735,714 for the January 1, 2011 through  
8 June 30, 2011 period. The total forecasted expenditures for flagging  
9 during the rate period are \$1,446,197 based on the assumption that 80%  
10 of the flagging costs are associated with On-Road line clearance program.  
11

12 Transmission Enhanced Infrastructure Maintenance

13 Q. Is the Company continuing its Transmission Enhanced Infrastructure  
14 Maintenance efforts?

15 A. Yes. The four new or expanded programs identified during the last rate  
16 filing include changes to electric transmission survey methods, fund  
17 inspection and repair of transmission towers, additional Osrose pole  
18 treatment, and a transmission tower painting program. These items are  
19 summarized on Exhibit DLD-4 and will require funding of \$700,000, as I  
20 have provided to the Revenue Requirements Panel. These items are  
21 required to adequately assess and maintain our electric transmission  
22 system on an ongoing basis.

23 Q. Does this conclude your pre-filed direct testimony?

1 A. Yes.